



Reform of the Mining Sector in Kazakhstan: Investment, Sustainability, Competitiveness



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The OECD Eurasia Competitiveness Programme

The OECD Eurasia Competitiveness Programme (ECP) aims to accelerate economic reforms and improve the business climate to achieve sustainable economic growth and employment in Central Asia (Afghanistan, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan), and Eastern Europe and South Caucasus (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine).

The objective of the ECP is threefold: (i) to share OECD good practices and experience in policies to improve investment and competitiveness; (ii) to support countries from the region in discussing, sharing and learning from their own reform experience; (iii) to assist governments from the region in developing policies aimed at supporting local businesses and attracting more foreign investors.

The OECD Kazakhstan Mining Competitiveness Project

The Government of Kazakhstan has defined the diversification of economic activity and the competitiveness of its mining industries as national priorities. Kazakhstan plans to promote increased exploration activities, streamline contracting procedures and work on attracting foreign direct investment (FDI). It seeks to increase its share of higher-value added products, improve technology and environmental protection, and foster the discovery of new mineral resources. This project helps Kazakhstan to address these challenges. The aim is to improve the sector's FDI attractiveness and competitiveness by identifying and analysing policy barriers in specific areas; prioritising and implementing policy recommendations, and developing skills and stakeholder capabilities.

The specific objectives of the OECD Kazakhstan Mining Competitiveness Project are:

- i. to assess Kazakhstan's business climate for mining in specific policy areas;
- ii. to advise on policy reforms in the mining sector to better align Kazakhstan with OECD and OECD member country standards and to attract FDI;
- iii. to identify potential opportunities for Kazakhstan's mining sector and leverage these to align more closely with international standards;
- iv. to help Kazakhstan in identify relevant value-added activities in the sector;
- v. to improve the government's ability to design and implement sector-specific reforms, in particular through a systematic transfer of methodology and tools.

The main stakeholder of the initiative is the Ministry for Investments and Development of the Republic of Kazakhstan.

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Executive summary

Since 2014, the need to reform Kazakhstan's mining sector has been very high on the policy agenda. The country has been adversely affected by the downward trend in commodity prices since 2012, with metal prices falling almost 60% over the five years to early 2016. In 2015 and 2016, Kazakhstan real GDP growth slowed to 1.2% and 1%, respectively, the weakest since the 1990s. While 2017 saw growth bounce back to 4%, the recovery still lacks the momentum needed to put Kazakhstan back on the path of rapid convergence with the world's advanced economies.

The extractive sector in Kazakhstan is estimated to generate more than a quarter of GDP. It is dominated by a few large players, with some of the most significant producers of non-fuel mineral commodities being partly state-owned. A great deal of exploration, development, production, processing, and marketing of copper, gold, iron ore and various other solid minerals is carried out by the national mining company Tau-Ken Samruk.

Early-stage and highly risky exploration activities are usually carried out by smaller, junior mining operators. However, exploration in Kazakhstan has been limited during the past 30 years, and the hard minerals sector has been far less successful in attracting foreign investment than the hydrocarbons sector. Kazakhstan's recent reform efforts are aimed in part at closing this gap and creating a much more attractive environment for investment in new exploration and extraction. The government has worked to bring mining legislation into line with competitive international models and to create an environment that favours investment, including from foreign junior mining companies.

The OECD has supported these reform efforts since January 2015 through the OECD Kazakhstan Mining Competitiveness Project. The project has encompassed a range of activities, including expert analysis and policy dialogue with public and private stakeholders. The resulting findings were then used to support Kazakhstan's aim of aligning its legislation with the frameworks found in mining jurisdictions in OECD members. The new *Code on Subsoil and Subsoil Use* (the SSU Code) was adopted in December 2017 and is scheduled to enter into force in July 2018. The SSU Code reflects many of the lessons learned from this work and represents a significant step forward in many areas that could, if effectively implemented, boost investor confidence.

The Code introduces a number of improvements in the regulatory environment for solid minerals. Among the positive developments that the Code provides for is the introduction of a more streamlined licensing process, which follows from the Kazakh government's commitment to adopting Western Australia's standards. Thus, the new Code introduces a "first-come-first-served" model to the licensing process, which should be welcomed by operators seeking exploration opportunities. It also provides exclusivity guarantees to exploration license holders to obtain extraction licenses in relevant areas and offers service commitments to respond to license applications. Although references to the state's pre-emptive rights are maintained (as in mining jurisdictions in the OECD area, like Chile or British Columbia, Canada), these general changes should be broadly welcomed by the sector.

The new legislation also clearly outlines the relevance of the environmental assessment process as part of licensing decisions, granting veto rights to environmental authorities. Provisions are also made for water quality assessments as part of the overall process. Nevertheless, greater clarity would be helpful to understand the interactions between the SSU Code and Environmental Code, and any reforms anticipated as part of this process. The SSU Code also provides no indication of a move away from a fee-based system for controlling mining waste or towards a risk-based approach to waste classification for hazardous materials, which could raise potential liability concerns for operators considering long-term investments.

The new SSU Code also commits authorities to providing free access to geological data, which should be welcomed by mining exploration entities, though it is subject to the information's confidentiality status. At present, geological information seems to be gathered directly from operators, and it is not clear whether the new entity being created to manage geological data, the State Subsoil Fund of Mineral Resources, will conduct exploration activities directly as part of the state's broad mandate to encourage new investments and facilitate access to geological data.

The new legislation re-affirms Kazakhstan's commitment to transparency reporting through Kazakhstan's adherence to the international Extractive Industries Transparency Initiative (EITI) standards, imposing reporting requirements on payments from the sector to all relevant authorities.

Despite this progress, important challenges remain to be addressed, particularly in the areas of taxation and oversight.

- With regards to mining taxation, which is handled separately as part of the Tax Code, the use of mineral reserves as a tax base, as opposed to the more common sales/profit-based mechanism will continue to be a concern for operators, given the potential risk of liability for tax payments irrespective of the commercial viability of reserves at any given moment.
- The new SSU Code also seems to maintain more stringent controls on mining operation activities than are typical of OECD jurisdictions. The scope of oversight activities, for instance, restricts any changes to the mining plan, including methods as well as technologies used by operators, without explicit approval from the authorities, at both the exploration and extraction stages. This may restrict the ability of operators to respond to changing market conditions. Furthermore, there are no references to a risk-based oversight approach.

Even though the reforms are broadly in line with recommendations provided throughout the project, such as the licensing process, which should facilitate Kazakhstan's goal of increasing investment in mining exploration activities, key elements including the relevant oversight or taxation approach could be streamlined further. Further streamlining as well as close co-ordination with tax and environmental reforms should improve the mining sector's attractiveness to foreign direct investment (FDI) and its overall competitiveness.

Of course, the outcome of the recent and upcoming policy reforms in Kazakhstan's mining sector ultimately depends on their effective implementation. Fair, consistent and transparent application of the new rules and procedures will be the surest way to build investor confidence. Regular monitoring and evidence-based adjustments to implementation measures will also contribute to success.

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1. Overview of the mineral sector in Kazakhstan

In the context of broader efforts to improve the country's business climate, Kazakhstan is working to enhance the investment attractiveness of its extractive sector, particularly mining. If effectively implemented, recent legislative reforms should help draw foreign investment to the sector and encourage mineral exploration.

Kazakhstan's economic growth since the end of the initial transition recession in 1998 has been extraordinary. Real GDP has roughly tripled in constant-dollar terms since growth resumed at the end of the last century. However, this period has also been marked by increasing dependence on the extractive sector and, in particular, the oil sector, where Kazakhstan has been far more successful in attracting investment and increasing output and exports than in the hard minerals sector (OECD, 2017^[11]) (World Bank, 2014^[2]). The extractive sector overall generates around 30% of GDP. (OECD, 2018^[3]) Mineral fuels contribute approximately 60% of export earnings, with hard minerals and metals accounting for roughly 22% (World's Top Exports,(n.d.)^[4]) (OECD, 2016^[5]) (Embassy of Kazakhstan to the United States,(n.d.)^[6]) (UN Comtrade , 2016^[7]).

The predominance of the extractive sector in Kazakhstan's economy has made the country vulnerable to commodity price fluctuations and other risks related to resource-dependency. The challenges in the global investment climate resulting from the fall in commodity prices from their peak in 2011-12, as well as decreased demand in Russia and China, Kazakhstan's key export markets, contributed to a sharp downturn in 2015 and 2016, when real GDP growth fell to 1.5 and 1.0%, respectively (World Bank, 2017^[8]) (OECD, 2018^[3]). This downturn led to a number of national initiatives targeted at improving the country's investment climate, diversification, fostering private sector opportunities as well as modernising the extractive sector policy framework. While growth picked up again in 2017 - reaching around 4% on preliminary estimates - the government remains committed to a wide-ranging reform agenda aimed at diversifying economic activity and reducing the country's vulnerability to oil-price shocks.

In addition to the fall in commodity prices, Kazakhstan's hard minerals sector has long suffered from a lack of new exploration activity. Almost all mines in Kazakhstan have been operating for decades. Providing incentives for exploration activities is therefore critical to improving the investment outlook for the sector. A number of challenges in attracting foreign investment into the sector derive in part from issues related to the country's regulatory environment and complex contracting procedures, which have been identified by the authorities as a reform priority (Mining Technology,(n.d.)^[9]).

National mining sector development efforts are not only focused on attracting investment into mining exploration activities but also contain broader policy considerations, including employment and R&D (Trend news agency,(n.d.)^[10]). The new *Code on Subsoil and Subsoil Use* (SSU Code) (Ministry for Investments and Development of the Republic of Kazakhstan, 2017^[11]) adopted in December 2017 and expected to enter into force in July 2018 pinpoints key reforms, many of which have the potential to be successful in

improving the investment climate and aligning the country's policy framework with international standards.

The pick-up in growth observed in 2017 was driven in part by higher revenues from the hydrocarbon and mining sectors (OECD, 2017_[11]) (OECD, 2017_[12]), (Ministry for Foreign Affairs of Finland, 2017_[13]). Sustained growth in the mining sector, however, will depend on the creation of a well-functioning legal and regulatory framework to manage any further upside anticipated in mineral demand. Boosting investors' confidence through an effective regulatory framework can contribute more broadly to resilient and sustainable growth.

1.1. Commodity endowments and solid mineral trade in Kazakhstan's economy

Over 40% of global uranium production originates in Kazakhstan, making it the world's leading uranium producer (OECD, 2017_[12]). According to the United States Geological Survey's 2013 estimates, Kazakhstan produced 13% of the world's chromite, 6% of titanium sponge and 3% of magnesium. Other important mineral production includes copper, ore, slag and ash, precious metals, zinc and aluminium. Aluminium and zinc are among the two fastest-growing export products for the country: aluminium exports have almost doubled since 2009 (+96.8%), while zinc exports have risen 38.3% (USGS, 2016_[14]) (World's Top Exports, (n.d.)_[4]).

Export activity is heavily focused on oil and related products, which accounted for 60% of total exports in 2016, though this figure was down from more than 70% three years earlier. Despite the fall, the shift primarily reflects lower oil prices and a drop in oil production rather than the rapid growth of other export sectors. Hard minerals and metals constitute the largest share of non-oil exports, with these including copper, aluminium, zinc, and uranium. Import patterns likewise revolve largely around the dominant extractive sector, with imports of extractive equipment, particularly from the EU, accounting for a substantial share of intermediate imports, together with refined oil products from CIS countries (OECD, 2014_[15]) (OECD, 2014_[16]).

Kazakhstan's mining industry is dominated by a number of large foreign- and state-owned producers of non-fuel minerals and their subsidiaries. Kazatomprom and Tau-Ken Samruk are among the largest state-owned operators under the Sovereign Wealth Fund Samruk Kazyna, which dominate the sector. In addition, Kazgeology, which carries out exploration activities, is owned by the state and 40% of the Eurasian Resources Group shares are owned by the Ministry of Finance.

Table 1. Main producers of nonfuel minerals in Kazakhstan

Company	Main mineral products	Ownership
Tau-Ken Samruk	Copper, gold, iron ore, etc.	State-owned
Kazatomprom	Uranium, rare metals	State-owned
Eurasian Resources Group S.à r.l. (headquartered in Luxembourg)	Ferroalloys, iron ore, aluminium, copper, cobalt, coal	Partly state-owned (40% ownership by the State Property and Privatisation Committee of the Ministry of Finance of the Republic of Kazakhstan, 60% of shares divided between three founders and members of the board).
ArcelorMittal (headquartered in Luxembourg)	Iron ore, coal	Private company (37.38% of shares held by HSBC Trustee (C.I) Limited, 62.44% by other public shareholders)
Kazakhmys Corporation (headquarters in Kazakhstan)	Copper	Private company
KAZ Minerals (headquartered in Kazakhstan)	Copper	Private company
Kazzinc (headquartered in Kazakhstan)	Zinc and lead	Private company (69.61% of shares held by Glencore International AG, headquartered in Switzerland)

Sources: (ArcelorMittal, 2018_[17]) (Kazatomprom, 2018_[18]) (Kazakhmys, 2018_[19]) (Kazminerals, 2018_[20]) (Kazzinc, 2018_[21]) (ERG, 2018_[22]) (Tau-Ken Samruk, 2018_[23]) (ERG, 2018_[24]) (ArcelorMittal, (n.d.)_[25])

1.2. Approach to foreign investment

Kazakhstan has taken important steps to make its business climate more attractive for foreign investors. This is a critical priority, for while the country has done very well in attracting large-scale foreign investment – it has the highest level of FDI per capita in the former Soviet Union – it has found it difficult to attract investment outside the oil and gas sector. Over 75% of Kazakhstan’s total inward foreign investment is directed towards the extractive sector. However, most of this goes to hydrocarbons: mining and quarrying account for 19% of the inward FDI. The desire to reduce this concentration has prompted a wave of measures to improve the overall investment environment across all sectors. The country’s score in the OECD FDI Regulatory Restrictiveness Index has improved during the past few years, although the level of restrictiveness remains higher than on average in OECD countries (OECD, 2018_[26]).¹

Restrictions on foreign investment are still applied in certain sectors in Kazakhstan, such as security services and telecommunications, due to national security concerns, which are broadly defined in the legislation. As in many countries with a prevalent natural resources sector, local content policies are destined to ensure the usage of domestic products, services and human resources in the extractive sector. However, quantitative requirements for local employment and procurement will be removed in 2021 under commitments made when Kazakhstan entered the WTO in 2015 (local content is further discussed in section 2.8). WTO membership is also expected to lead to the reduction of other investment barriers (OECD, 2017_[27]).

The dominance of state ownership and natural monopolies in a number of sectors, and in particular, in the extractive sector, can create obstacles to market access by foreign investors. While many reforms to improve the reporting activities of state-owned enterprises (SOEs) have already been introduced, further efforts to ensure competitive neutrality between private companies and SOEs, broader improvements of the local SOE

¹ Kazakhstan’s total score was 0.149 in 2011 and 0.112 in 2017; the OECD average was 0.068 in 2011 and 0.066 in 2017.

governance framework, and sufficient regulatory transparency are needed to increase the country's FDI attractiveness (OECD, 2018_[31]).

Investment landscape in the mining sector

Given the importance of the sector to the country's investment structure, the SSU Code will play a significant role in enhancing the country's investment and growth potential. While problems remain, international reaction to the new Code has been broadly positive, as reflected in the assessments of government and business-sector bodies in a number of OECD jurisdictions (Box 1).

Box 1. Kazakhstan's Mining Sector Reforms – Early International Responses

A number of jurisdictions, including Australia, Finland, Germany, and the UK, have acknowledged the improvements made to the new legal and regulatory framework of Kazakhstan's mining sector.

The Australian Trade and Investment Commission and the Australasian Institute of Mining and Metallurgy highlight the benefits brought by the adoption of the new Code on Subsoil and Subsoil Use, such as simplifications to licensing, access to geological data, and tax incentives for investors.

The Ministry of Foreign Affairs of Finland and the business community of eastern Finland emphasise the opportunities for mining related investment and collaboration opened up by the ongoing and upcoming reforms in the regulatory framework of Kazakhstan's mining sector.

Germany's Trade and Invest and the German Committee on Eastern European Economic Relations refer to the positive impact of the new Code on Subsoil and Subsoil Use on the country's investment attractiveness potential.

The UK's diplomatic representation stated the new mining legislation is likely to provide further opportunities for UK-based funding of mining projects in Kazakhstan.

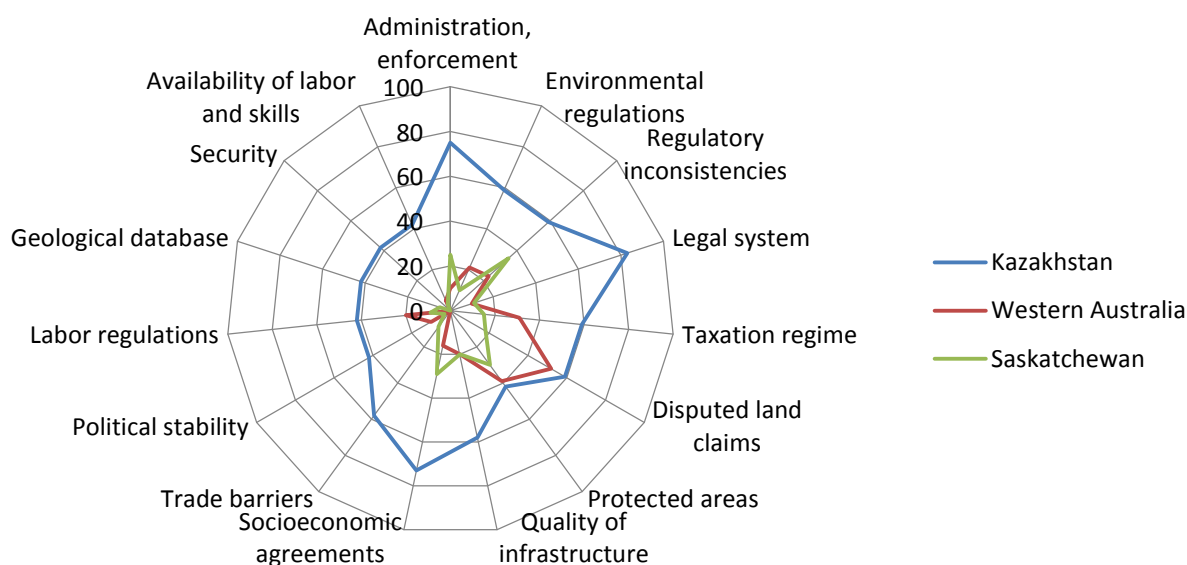
Kazakhstan's efforts to improve the mining sector's legislative framework have also inspired positive responses from business stakeholders. This was expressed by the Global Business Reports (2015), which signalled that Kazakhstan is expected to be well positioned to meet the high demand for its mineral resources.

Sources: (Australasian Institute of Mining and Metallurgy, (n.d.)_[28]) (Australian Trade and Investment Commission, 2017_[29]) (German Committee on Eastern European Economic Relations, 2017_[30]) (Germany Trade & Invest, 2017_[31]) (Global Business Reports, 2015_[32]) (Ministry for Foreign Affairs of Finland, 2017_[13]) (Savonlinnanyrityspalvelut (Enterprise services of Savonlinna), 2017_[33]) (KazWorld, 2017_[34])

The 2016 Fraser Institute's Annual Survey of Mining Companies showcases some of the perception challenges the new reforms will need to address. In the 2016 Investment Attractiveness Index Kazakhstan is ranked 74th out of 104 mining jurisdictions (Fraser Institute, 2017_[35]). While Kazakhstan remains the highest-ranked country in Asia, the results reveal investors' concerns, in particular, regarding the legal system. A comparison between Kazakhstan and two of the top five mining jurisdictions in the 2016 survey,

Saskatchewan and Western Australia, reveals some of the key areas for improvement in Kazakhstan's policy framework (Figure 1). These results, of course, pre-date the new SSU Code and other recent changes, and one key issue will be the extent to which recent reforms map onto these investor concerns.

Figure 1. Investment Climate Perception Gap - Degree of investment disincentives
(0=absence of disincentives; 100=high degree of disincentives)



Source: (Fraser Institute, 2017_[35])

The Fraser Institute survey suggested that nearly all areas of the mining policy framework that was at that time in place in Kazakhstan could potentially have had a negative impact on investment decisions. The most pressing shortcomings concerned the legal system, administration, and socioeconomic agreements (including local content requirements). The results revealed that there was potential for improvement in all policy areas when compared to the highest ranked mining jurisdictions (Saskatchewan, Canada or Western Australia – Kazakhstan's stated reference model). It should be noted Kazakhstan ranks relatively high in its mineral potential perception index which is based on purely geological opportunities, implying that important steps could be taken through targeted policies aimed at increasing investment attractiveness.

1.3. Legal and regulatory framework of Kazakhstan's mining sector

Kazakhstan's mining sector is subject to strong regulation, which is typical of countries the world over. This is because subsoil resources generally belong to the state, even in countries where private ownership of land predominates. Previous legislative documents covering subsoil use were replaced by the Law on Subsoil and Subsoil Use in 2010. This law covered oil, gas, and the mining sector, a combination not typically found in OECD jurisdictions. The current legal and regulatory oversight of the hydrocarbon and mining

sectors is fragmented, with the Ministry of Oil and Gas supervising issues related to hydrocarbons, and the Ministry for Investments and Development overseeing the mining sector, including the Law on Subsoil and Subsoil Use. The Law, however, covers neither the issue of mining taxation, which is instead included in the Tax Code (Ministry of National Economy of the Republic of Kazakhstan, 2018_[36]) - with the responsible government bodies being the Ministry of Finance and the Ministry of National Economy - nor specific environmental aspects, such as hazardous material classification, which is overseen by the Ministry of Energy.

After significant consultation, Kazakhstan is introducing reforms to its mineral sector's legislative framework through the new SSU Code, which will enter into force in July 2018. The objective of the authorities has been to formulate the new Code on the basis of Western Australia's model. Western Australia is among the highest-ranked mining jurisdictions in terms of investment attractiveness (Reuters, 2017_[37]). The new Code represents a significant effort by Kazakhstan towards aligning its mining policy framework with international models. In contrast with the approach of the existing Subsoil Law, the purpose of the Code is to provide targeted guidance regarding various aspects of mining activities and related operations, including exploration, production, environmental questions, and water resource management considerations.

2. Opportunities and challenges in the legislative framework for Kazakhstan's mining sector

The new Code on Subsoil and Subsoil Use contains a number of improvements in the regulatory framework for solid minerals, including in the areas of licensing, environmental assessment and availability of geological data. Certain challenges remain to be addressed, in particular, related to taxation and oversight. The experiences of some OECD jurisdictions suggest possible ways to address these challenges.

2.1. Licensing and subsoil use rights

Under the previous Law on Subsoil Use the government granted rights to subsoil use through tenders, except in certain exceptional cases in which the rights were negotiated. This was the case for national mining companies, such as Kazatomprom, the national mining company Tau-Ken Samruk and KazMunaiGas, which were allowed to extend operations due to the public interest involved. The new Code introduces the first-come-first-served licensing principle, which is closer to the system most commonly used internationally, including in OECD member countries. A significant development has been the decision to move away from the tendering process, which is more common for hydrocarbon extraction. This type of licensing practice is judged to be better suited for solid minerals and, in particular, in unexplored areas where there is a higher risk of exploration not yielding commercially exploitable mineral deposits (Global Witness, 2012_[38]). The new Code also prevents issuing an exploration licence to an area already licenced to another operator. These changes are particularly relevant in terms of Kazakhstan's desire to provide incentives for exploration.

Further involvement of the non-governmental stakeholders in licensing-related decision-making and consultations with industry participants can also contribute to enhancing transparency, and encourage compliance and responsible business conduct. Public consultations are carried out in, for example, Australia so as to collect views on potential projects' social, environmental and economic impact (Box 4).

Kazakhstan has also made progress with subsoil use right guarantees. The new Code specifically guarantees the exclusive right of an exploration license holder to obtain an extraction license in the relevant areas, enabling operators to benefit from production rights should commercially viable deposits be found. The right also extends to mining production license holders, which are guaranteed the exclusive right to use the subsoil in order to carry out mining operations and to the use and further mining of tailings from extraction activities. (ESRI, 2006_[39]) This will allow operators to further maximise the value of their activities and – provided that relevant fee structures are designed according to this objective – encourage the re-use of waste material.

The new Code also confirms the legal framework for the existence of a hold or retention status. This is given for a period of five consecutive years, with a possible extension for up to a further five years, which allows flexibility for license holders in managing their

licensing assets when facing more challenging pricing conditions for the relevant commodity. Moreover, a dispute resolution mechanism is established for mining operators through a Kazakhstan-based court, which could further contribute to building investors' confidence, as well as much-needed confidence in Kazakhstan's judicial system.

Similarly to the previous Law on Subsoil Use, the new SSU Code contains provisions regarding the state's pre-emptive right to acquire in full or in part mineral deposits that are defined as strategically significant by the government. The new Code lists a number of strategic deposits, which also concern common minerals, such as lead, gold, and copper, in addition to uranium. Depending on the amount of minerals present in the mine mouth, a common mineral deposit could be deemed "strategic" and therefore subject to the state's pre-emptive right as such. A prior approval by a competent state authority needs to be obtained prior to a transfer of a licence of or shares in a strategic deposit. By 2014, the state had not yet made use of its pre-emptive right (World Bank, 2014_[2]).

The state's pre-emptive right also exists in other OECD jurisdictions, such as Chile, where it is possible for the state to expropriate a mining licence in the case of a public benefit. The legislation also ensures that an adequate compensation is provided to the operator in the case of expropriation by the state (Getting the deal through, 2017_[40]). No reference to compensation is provided in Kazakhstan's SSU Code.

The new SSU Code differentiates between common minerals and non-common minerals and, in some cases, contains references to specific minerals in each category. Exact lists of minerals and information on how they are defined, however, is not provided, which could potentially raise questions among the mining sector participants.

The inclusion of a list of minerals in each category relevant for the Code's provisions (e.g. common minerals) as well as a glossary to provide definitions of terms (e.g. competent state authority) would facilitate autonomous interpretation by the subsoil users and potential investors of the Code's provisions. In addition, considering Kazakhstan's interests in attracting foreign investment, particularly in the field of exploration, making copies of the Code available in English could draw the attention of a wider range of prospective investors.

Mining plans and mining activity data

The new SSU Code sets out requirements for subsoil use licence applications, which must contain a detailed description of plans for the methods and timelines for exploration, production, and closure of the mine.

The Code also requires subsoil users to report, and seek authorities' approval for, changes to the exploration and mining plans. This requirement can create potential delays and obstacles for subsoil users seeking to carry out exploration and mining with sufficient flexibility and to respond to changing market conditions in their activities. A risk-based approach to modifications in mining plans is more common in other mining jurisdictions, such as Western Australia, where changes to mining plans must be approved by relevant authorities only when a modified mining plan reveals new environmental or safety risks (Department of Mines and Petroleum of Western Australia, 2016_[41]). Further flexibility in reporting requirements would help attract exploration activities and facilitate transition to extraction. It could also help reduce the complexity of the regulatory environment and facilitate administration.

Financial guarantee systems

Environmental safety questions and consequences for communities related to mining activity and, in particular, to mine closure, whether temporary or final, have an essential role in a mining policy framework's sustainability considerations. This section focuses specifically on mine closure and, in particular, related financial aspects. Issues relating to mining and environmental protection are discussed in section 2.6.

The far-reaching consequences of mine closure affect a wide range of stakeholders, which is why most mining jurisdictions require reporting on mine closure plans prior to granting a mining licence (Fraser Institute, 2012_[42]). Successful mine closure eliminates the risks of possible air pollution and contamination of ground and surface water, and ensures adequate restoration of the land after closure to mitigate risks to public health. The accuracy of risk estimations related to mine closure has improved since early 2000s, further highlighting the importance of risk management measures through comprehensive and often costly closure procedures (Center for Science in Public Participation, 2002_[43]).

Given the role that the extractive sector plays in Kazakhstan's economy, minimising closure risks and integrating sustainability considerations in the mining policy framework is a priority. Kazakhstan faces the additional challenge of legacy mines managed under Soviet-era environmental standards, which have led to pervasive pollution and hazardous waste deposits (Radio free Europe, 2007_[44]). In most mining jurisdictions, including Kazakhstan, mining operators are responsible for carrying out the rehabilitation of their sites when relinquishing a mining title. A mine closure plan or rehabilitation programme needs to include earmarked financial commitments prior to the commencement of any significant work on a mining site (Center for Science in Public Participation, 2002_[43]).

In 2004, amendments were introduced to Kazakhstan's Law on Subsoil and Subsoil Use which required mine operators to establish a liquidation fund. The fund would cover liquidation costs, and would be supported by a minimum yearly contribution of 1% of the annual amount of operational costs to the fund. Further changes were introduced to the Law in 2014, obliging subsoil users to cover the remaining costs of liquidation if the fund was insufficient.

Kazakhstan's new SSU Code does not set out requirements for establishing a liquidation fund but requires subsoil users to secure the funding of rehabilitation and closure-related expenses with collateral guarantees or unconditional performance bonds. Similar bond mechanisms are used in other jurisdictions, such as the United States and Canada. In Kazakhstan, collateral guarantees or bonds must cover 40% of the estimated liquidation costs during the first third of the production cycle, 60% during the second and 100% thereafter.

Bonds are in many cases are, however, insufficient to cover the total costs of mine closure, in which case the subsoil users are required to cover the remaining expenses. This requirement increases the financial risks faced by operators and the risks related to mine closures dictated by a lack of resources to carry out adequate rehabilitation works. As a result, the current mechanisms for financing mine closure in Kazakhstan still carry risks for the environment, the economy and communities, as well as for the operators, which could still hamper the sector's investment attractiveness (International Comparative Legal Guides, 2017_[45]) (Faizuldayeva, 2016_[46]).

Western Australia's experience in dealing with legacy mine closures and mine operator defaults through its Mining Rehabilitation Fund (MRF) provides a relevant example of ways to address the issue. The MRF is a tool that has been implemented since 2012 that

addresses significant losses through the state environmental bond system, where the bonds covered less than 25% of total rehabilitation cost obligations. The MRF mechanism directly links tenement disturbance by an operator with a rehabilitation fund contribution, thus linking contributions directly with mining activity, and uses these pooled contributions to earn interest, allowing authorities to address issues pertaining to legacy mines. Moreover, a large amount of data regarding mining activities is compiled through the MRF, as subsoil operators are required to report disturbance data to the Fund. (Government of Western Australia, 2018^[47])

Although Kazakhstan's new legislation continues to use bonds and collateral guarantee requirements, as do some OECD mining jurisdictions, there is no reference to a verification mechanism which could ensure that estimated liquidation costs correspond to the actual costs and that bonds or collateral fully cover specific liquidation costs. The legislation also does not address funding requirements for legacy mines, which may continue to be an issue and potential risk to the sector in the future.

2.2. Mining taxation – an overview

Tax settings for mining remain an important (but not decisive) factor in the investment decisions of mining firms. These settings can be especially difficult to implement, since they require a balance to be struck between ensuring:

- valuable mineral assets are converted into a government revenue that is received in an acceptable timeframe and that shares in price upswings that boost mine profits;
- they encourage exploration and investment in the sector;
- they take into consideration the risk and uncertainty that mining companies face in converting mineral reserves into a profitable mine;
- they are as efficient as possible (i.e. they do not distort investment decisions);
- (for some countries) they contribute to a wider strategy to industrialise the economy and “move up the value chain”;
- they can be administered effectively by tax authorities (and are therefore robust to the tax base erosion strategies of multinational enterprises); and
- they are relatively stable over time.

This means governments must have clear objectives for mining tax reform that evaluate these trade-offs, and reforms need to be considered holistically (that is, how they operate as a package) against those objectives. (World Bank, 2006^[48]) (EITI, 2009^[49]) (OECD, 2018^[50])

Balancing them effectively means those settings have a greater chance of remaining stable over time, which is important to investors: the more uncertain the future fiscal settings, the more investors will discount their estimates of project profitability. With higher uncertainty, more projects that are potentially profitable may not proceed. (EITI, 2009^[49])

Kazakhstan's mining taxation framework and general economic objectives

Prior to 2018, Kazakhstan's taxation regime was regulated by the *Code of the Republic of Kazakhstan on Taxes and Other Obligatory Payments to the Budget* of December 2008 (the Tax Code). As in all jurisdictions, the Tax Code plays an important in investors'

decision-making, with investors closely scrutinising the elements of the fiscal regime and its overall impact on potential investments

Many of Kazakhstan's tax settings, including incentives to attract FDI, have been targeted at the diversification of the economy and to encourage investment into non-extractive sectors. Taxes for subsoil use increased in line with this strategy, while simplifications and cuts were introduced to the taxes applicable more broadly (e.g. cuts in corporate income tax). (OECD, 2017_[12]).

Notwithstanding the country's diversification strategy (implemented in response to the decline in global prices for Kazakhstan's major commodity products), attracting investment to the country's mining sector and encouraging exploration activities has taken on greater importance for the Government since 2014 (OECD, 2017_[12]) (OECD, 2017_[1]) (Index Mundi, 2018_[51]). This renewed emphasis on encouraging investment in mining is reflected in recent mining tax reforms.

The 2018 mining tax reforms

In late-2017, Kazakhstan announced substantial changes to the Tax Code with effect from January 2018, with a mix of generally-applicable changes and measures targeted at mining. These changes are complemented by reforms to the Subsoil Use (SSU) Code, which are expected to be implemented from mid-2018. .

The new Tax Code includes specific mineral taxation provisions and lists special taxes imposed on subsoil use in addition to such general taxes as the corporate income tax and value added tax, as well as import and export related taxes. Notable, several taxes and payments applicable to the mining sector have been removed from the new Tax Code, including the excess profit tax, historical cost payments, and the requirement to pay a commercial discovery bonus. Table 2 showcases the key changes applicable to the mining sector in the Tax Code of January 2018.

Table 2. Mining taxation provisions in Kazakhstan's Tax Code of December 2008 and January 2018

Tax Code of December 2008	Tax Code of January 2018
Requirement for subsoil users to pay excess profit tax.	No requirement for subsoil users to pay excess profit tax.
Requirement for subsoil users to reimburse historical costs (i.e. expenses allocated by the state for exploration purposes in the territory covered by the subsoil use contract).	No requirement for subsoil users to reimburse historical costs.
Requirement for subsoil user to carry out a payment of a commercial discovery bonus when minerals are discovered within the area covered by the contract.	No requirement for subsoil users to carry out a payment of a commercial discovery bonus.
Provisions maintained without amendments in the Tax Code of January 2018	
Tax stability provisions applicable to production sharing agreements only.	
Mineral extraction tax for non-common minerals based on the physical volume of recovered minerals taking into account potential loss deductions.	
Value of the minerals for mineral extraction tax purposes determined according to the average market price during the tax year, and if no sales have been realised, the value is determined according to the average market price of the last tax year during which sales took place.	

Impact of the reforms

While some of the shortcomings of the Tax Code are yet to be addressed, Kazakhstan's efforts to improve the taxation and subsoil use framework are expected to be welcomed by investors.

In particular, the removal of several taxes and payment obligations have reduced the overall tax burden on mining projects, which will improve project economics for many investors. In addition, these changes bring Kazakhstan's mining taxation structure closer to the models of most jurisdictions with substantive mining sectors, including OECD member countries. They also have already led to positive responses in a number of jurisdictions that may be sources of future company FDI into Kazakhstan.²

Removal of excess profit tax, historical costs reimbursements and commercial discovery bonus

The requirement for mining operators to pay excess profit tax was abolished from the new Tax Code so as to encourage exploration and investment in the mining sector. While an excess profit tax can facilitate the state's ability to capture economic rent from the mining sector, its design and administration can be challenging to manage (World Bank, 2014_[21]) (Otto, 2017_[52]). By removing the excess profit tax, Kazakhstan has reduced the tax burden on more profitable projects (which will please investors), and decreased the complexity of the fiscal regime therefore making it more appealing to investors and less burdensome for authorities to administer.

The provisions requiring a reimbursement by the subsoil user of "historical costs" (i.e. expenses incurred by the state for exploration purposes in the territory covered by the subsoil use contract are allocated to investors) have also been removed from the new Tax Code. This also reduces the fiscal burden on investors, with the Kazakhstan Government now becoming a contributor to exploration costs.

In addition, subsoil users are no longer obliged to pay a commercial discovery bonus when a discovery of minerals is made within the area covered by the contract. The removal of these bonuses also reduces the fiscal burden on investors, particularly in the early stages of projects where there is not yet cash flow from the mine. Given it is a "front-loaded" benefit to investors, it could have a significant positive impact on their investment plans.

These reforms are aligned with the SSU Code which will require geological data to be published after a specified period. By expanding the stock of data available to analysts, this should also enhance the climate for exploration.

Future reform considerations

Importance of policy stability

From the perspective of both investors and, stability of the tax regime significantly reduces potential investment risks. This can be achieved either through provisions on stability included in the fiscal legislation or through the creation of inherent stability expectations by a well-functioning process of policy formulation and legislation. Instability in the tax system represents an important risk, creating pressure for the company in terms of return demands and ultimately *reducing* the potential revenues available for government (World Bank, 2006_[48]) (EITI, 2009_[49]).

² Statements from the Australian Trade and Investment Commission, UK Ambassador to Kazakhstan, and the Ministry of Foreign Affairs of Finland. (Australian Trade and Investment Commission, 2017_[29]) (KazWorld, 2017_[34]) (Ministry for Foreign Affairs of Finland, 2017_[13])

Frequent amendments to the Tax Code could undermine investors' confidence, but the need for tax stability has to be balanced against Kazakhstan's willingness to continue to progressively adopt common international standards. Moreover, issues have reportedly arisen from guidance provided to tax payers (which they sometimes find to be insufficient for making expensive investment decisions), and from differences in interpretation of legal provisions by tax authorities. The risk of disputes between tax payers and authorities increases in the context of uncertainty about how provisions are to be applied (OECD, 2017_[12]).

The new SSU Code contains references to tax stability, which are expected to apply as part of mineral processing agreement, but further information on this mechanism or the criteria for granting this is not directly provided and could benefit from further clarifications. Furthermore, while the majority of fiscal stability-related provisions applicable to the mining sector were removed from the Tax Code in 2009 (World Bank, 2014_[2]), certain stability references remain. These state that the production sharing agreements (state-owned minerals' production is shared with the government) that entered into force prior to 1 January 2009 and subsoil use contracts approved by the President of the Republic of Kazakhstan can be granted tax stability (whereby fiscal changes would not apply).³

Adopting a general tax stability strategy for the mining industry, irrespective of what is specified more formally in legislation, and enhancing transparency around fiscal reforms could contribute to reducing investment related risks for the sector. This approach is used, for example, in Australia and Canada, where public consultations are routinely included as a part of the policy and legislative process, objectives of tax policies are clearly defined, and tax provisions are designed to ensure stability of the system (OECD, 2018_[50]).

Further aligning the Mineral Extraction Tax with international models

Kazakhstan's Mineral Extraction Tax (MET) for "non-common" minerals is based on the physical volume of recovered minerals, whilst taking account of potential losses during that recovery. Potential losses are estimated on the basis of a technical assessment carried out by a state authority⁴ at the development stage of the mineral deposit area (rather than by reviewing actual production and mine tailings, for example). For "common" minerals, the MET is applied on the volume of recovered minerals, without references to deductions for losses.

One of the first difficulties with the MET is that the Tax Code contains a number of references to the tax rates on specific types of minerals, but does not provide comprehensive or clear definitions of common and non-common minerals, which would facilitate the understanding of what exactly is covered by the articles discussing the MET obligations. This is critical information for investors, and clarifying the minerals within

³ Production sharing agreements and contracts approved by the President are, however, infrequent and mainly applicable to the oil and gas sector, leaving the mining industry largely outside the scope of these clauses and their potential benefits (Getting the deal through, 2017_[87]).

⁴ Although it is unclear which – it is potentially an entity under the Ministry for Investments and Development.

each category would help simplify the provisions of the Code, enhance compliance by subsoil users, and ultimately provide clarity when considering investment decisions. In addition, applying the MET based on an ex ante technical assessment makes this system unusual internationally, and it is a particular area that could benefit from further alignment with more common international models. In most mining economies, taxes are applied based on actual production (either its value or quantity), on the presumption the miner will work to maximise what can be recovered from the ore body.

While the Tax Code's reference to deducting potential losses in the case of non-common minerals does mitigate the risk of imposing tax liability on nonviable minerals, the deduction is based on estimated losses determined by a state authority, without reference to possible post-processing readjustments so as to reflect actual losses. Moreover, the involvement of a state authority in verifying such information for tax purposes suggests an additional level of oversight (and therefore compliance cost) in areas where most jurisdictions allow for self-assessment (with government verification and audit where needed).

A further difficulty with the MET is that the prices used to determine MET liabilities are inconsistent with the approach taken in many countries. The Tax Code describes the method for determining the value of the minerals for taxation purposes, which is based on the average market price of the mineral in question during the tax year (applicable to common and other minerals). The Code also defines alternative methods to determine the value of minerals for MET purposes in those cases where no sales of mineral reserves after primary processing have been realised. The average market prices for the minerals in question would be based, in this case, on the last fiscal year in which sales were made. Irrespective of the subsequent mechanisms to determine the value of the ore-body, the possibility of tax liabilities in the absence of realised sales suggests an increased risk level for subsoil users, a higher discount rate on Kazakhstan-based projects, and a potentially negative impact on investment decisions.

In comparison to some of its peer mining jurisdictions (see Table 3), Kazakhstan's framework, though substantially improved in recent years, could still create potential disincentives for companies to carry out exploration work. More specifically, the MET system in its current form, with its reference to mining reserves, may reduce investment attractiveness of exploration projects by increasing the perceived risk of tax liability for non-viable reserves and instead encourage mining only in areas with more proven guarantees of profitability, ultimately undermining comprehensive exploitation of the country's mineral potential. The practice of determining the value of the MET according to average market price, regardless of whether sales have been realised would compound the same potential risk.

Examples of commonly used royalty structures

A number of mining jurisdictions apply a unit-based royalty, which is based on the volume or weight of minerals contained at the mine mouth, i.e. extracted minerals prior to processing. This type of royalty is often applied to industrial or bulk sale minerals. The system provides the government with stable revenue, which is not affected by fluctuating market prices. The disadvantage of this type of royalty mechanism is, however, its inability to capture the rents arising from higher prices for the commodity, other than via a broad corporate income tax. It is typically applied to low value minerals (e.g. gravel and sand) (OECD, 2018_[50]).

The more common value-based royalties are influenced by market prices. Like those based on units, value-based royalties are payable by the subsoil user irrespective of the specific mine's profitability. Calculating the royalties according to the value of minerals gives the government an opportunity to capture the rent when market prices are high. In this case, using actual transactions as a basis in the calculation of royalty rates is considered good practice, as it relies on regular financial reporting carried out by companies and thus facilitates compliance. Though not currently being considered under Kazakhstan's new code, they are used commonly in a number of mining jurisdictions in the OECD area, including Western Australia and Canada.

An additional method of determining the basis of royalties takes into consideration *ad valorem* aspects, as well as the profitability of the specific mining activity. In this case, the rate is applied to the profit of the project with allowed costs deducted from those revenues. This type of structure is applied at a project level without considerations of consolidated profits for the company on which corporate income tax is imposed. This method is applied in a number of OECD and non-OECD jurisdictions, including Canada, Australia and Mongolia. The management and audit of this type of royalty system is, however, complex, and some mining jurisdictions have chosen unit-based or value-based royalties instead (World Bank, 2006^[48]), (Guj, 2012^[53]) (Otto, 2017^[52]).

Some jurisdictions have also introduced a hybrid approach to imposing royalties, so as to address the cyclical nature of mining. Different forms of royalties and taxation packages, including tax holidays, may be applied depending on the scale of profitability of the mine and the stage of the cycle.

Table 3 provides a description of the key taxation, fee and royalty mechanisms in Western Australia, Saskatchewan, Manitoba, Nevada and Finland, which are the five highest-ranked mining jurisdictions in terms of mining investment attractiveness in the Fraser Institute Survey 2016 (Fraser Institute, 2017^[35]).

Table 3. Royalties, fees and taxes applicable to the mining sector in selected mining jurisdictions

Jurisdiction	Royalties, fees and taxes
Saskatchewan	<p>The royalty rate for precious metals* is 5% or 10% of the royalty payer's net profit** for the year, depending on the amount of cumulative production from the mine</p> <p>The coal royalty and freehold production tax are ad valorem regimes, and calculated as a percentage of the mine mouth value of coal produced, i.e. the average value of coal sold in the reporting period (calendar quarter).</p> <p>Diamonds are subject to a base royalty of 1% of the value of production after a five year holiday; a stepped royalty on profits is applied subsequently according to the amount of profits.</p> <p>Potash is subject to a royalty of 3 % of the average sale price as well as a production tax made up of two components: a base payment on each tonne of sales as well as a stepped profit tax to a maximum of 35%. Production tax payments are paid quarterly and are calculated on the basis of the companies' estimation of profits for the entire year, which is adjusted at the end of the year to reflect actual profits.</p> <p>The uranium royalty system consists of three components: basic royalty = 5% of gross revenue, profit royalty = rates vary from 10% to 15% depending on net profit, and Saskatchewan Resource Credit = a credit of 0,75% gross revenue which is deducted from the basic royalty.</p>
Manitoba	<p>The Manitoba Mining Tax applies to all subsoil operators mining or processing minerals excluding oil, gas, rock, gravel, peat, clay and gypsum. The tax is applied at graduated rates on mining "profit". An additional 0,5 % special tax on mining "profit" is imposed and is usually fully refundable, based on certain income tax calculations.</p> <p>No Mining Tax is imposed on new mines until the mining operator has recovered its initial investment.</p>
Western Australia	<p>Royalty rates include a specific rate and ad valorem rate. Specific rates are applied to low value construction and industrial minerals, and calculated as a flat rate per tonne produced (current rates 73 cents or 117 cents per tonne; rates will be revised in 2020). Ad valorem rates are based on sales value and applicable to other than construction and industrial minerals (sand, gravel etc.), such as iron ore, gold and nickel. The ad valorem rates vary with 7.5% applied on crushed and screened minerals, 5.0% on concentrate and 2.5% on metal. In total, ad valorem royalties contribute around 81% of the total royalties revenues collected.</p>
Nevada	<p>The Net Proceeds of Minerals Tax is an ad valorem property tax on minerals mined or produced in Nevada when they are sold or removed from the state. The Net Proceeds of Minerals Tax is separate of any property tax on land, equipment or other assets. The taxable value of net proceeds is determined according to the gross proceeds from mineral sales, excluding the costs of extraction, royalties paid to claim holders (taxable to the recipient), equipment repair and maintenance and other operations, which are allowed to be deducted.</p> <p>The Net Proceeds Tax rate varies between 2% and 5% depending on the net proceeds' percentage of gross proceeds.</p> <p>In Nevada, royalties are typically paid to the landowner in the case of private land mining lease or purchase, based on production (percentage of net returns minus allowed deductions).</p> <p>At the Federal level, coal mining companies pay a royalty ranging from 8% to 12,5%. Currently no royalties are imposed on hardrock mining industry, but the Hardrock Mining and Reclamation Act of 2015 and 2017 proposes an introduction of royalties to the sector.</p>
Finland	<p>An annual excavation fee, paid by mining permit holders to the owner of the surface (50 Euros per hectare), also includes a fee consisting of 0,15 % of the average market value of the year of the minerals extracted and used during the year.</p>

Sources:

(Government of Saskatchewan, 2013_[54]) (Government of Saskatchewan, 2018_[55]) (Government of Manitoba, 2018_[56]) (Government of Manitoba,(n.d.)_[57]) (Government of Western Australia, 2018_[58]) (Department of Mines, Industry Regulation and Safety of Western Australia,(n.d.)_[59]) (Government of Western Australia, 2016_[60]) (Nevada Taxpayers Association, 2007-2008_[61]) (PwC, 2012_[62]) (Earthworks, 2015_[63]) (Harris, 2013_[64]) (Finlex, 2011_[65]) (Tukes, 2013_[66]) (OECD, 2018_[50])

Notes: * Gold, silver, platinum, palladium, rhodium, ruthenium, osmium, iridium, of which gold is among Saskatchewan mining products.

** Gross revenue for the year deriving from the royalty payer's share of the minerals extracted, recovered or produced, with a deduction of a number of expenses related to operations, administration, and other functions listed in the Crown Mineral Royalty Regulations (14(1)).

2.3. Transparency and integrity reporting

Transparency and clarity in the mining sector's legal and regulatory framework, including the fiscal regime, are among the key elements that can reduce the risk level perceived by investors. Tax transparency can be particularly complex, as it involves balancing between commercial confidentiality and state accountability for fiscal revenue and usage.

From a global perspective, reporting on transparency issues is addressed through initiatives, such as the Extractive Industries Transparency Initiative (EITI), which promotes accountability and transparency throughout the value chain in the extractive industries, including the distribution of fiscal revenues by the state. The EITI membership consists of 52 countries, including a number of OECD members, such as Mexico, Norway, and the United Kingdom. Members are required to implement the *EITI Standard 2016* outlining, among other things, oversight, legal frameworks, extraction activities, disclosure, social responsibility, and compliance obligations relevant to the extractive sector.

Kazakhstan became compliant with EITI in 2013. Collaborative efforts within the EITI framework include improving the transparency of the National Fund of the Republic of Kazakhstan, a sovereign wealth fund that receives the majority of its revenues from the extractive sector (EITI, 2016_[67]) (OECD, 2017_[68]). Moreover, the adherence status within EITI requires Kazakhstan to report on an annual basis on payments on taxes and other forms of payments to the state budget by the mining sector.

The draft Code on Subsoil and Subsoil Use requires commitment by subsoil users to Kazakhstan's EITI Memorandum of Understanding at both the exploration and production stages. The EITI Standard instructs governments to ensure that an adequate legal, regulatory and administrative framework is in place to enable companies' compliance with the EITI requirements (EITI, 2016_[69]). The overall efforts to promote transparency within the EITI framework help bring Kazakhstan closer to OECD member country standards and contribute to increasing investors' confidence. Going forward, the provision of further guidance on compliance reporting for investors could facilitate companies' compliance efforts.

2.4. Mining sector reporting and oversight

Establishing an effective assessment mechanism to oversee mining activities is essential in order to allow governments to ensure that mining operators comply with the regulatory obligations that come with the rights granted by the state for exploration or production activities. This oversight must be carried out in a way that takes into consideration the specific risks posed by the operator's activities while simultaneously not hampering effective mining operations undergone in good faith, nor creating unnecessarily stringent barriers that discourage investments by the sector. In this regard it is essential that Kazakhstan, like other countries, establish a reporting mechanism that is able to meet both these objectives in order to ensure the long term sustainability of the sector.

A number of recommendations were issued on specific types of reporting that Kazakhstan should consider as part of its new mining legislation. Some address the mechanisms to report specific geological data and how these data are used, while others address the oversight of Kazakhstan's mining sector mineral production estimates and general operations.

Geological Survey Reporting

The new mining code addresses reporting and dissemination of geological data, partly through the creation of a new entity: the *State Subsoil Fund of Mineral Resources* (the Fund). The new legislation states this entity will be responsible for collection, storage, systematisation, and generalisation of geological information. This falls within the scope of activities that are typically ascribed to a geological survey in other mining jurisdictions, such as the Geological Survey of Canada (Box 2).

Box 2. The Role of the Geological Survey of Canada (GSC)

The GSC is part of the Earth Sciences Sector of Natural Resources Canada. It was established to develop a viable Canadian mineral industry by establishing the general geological base on which the industry could plan detailed investigations. It is Canada's national organisation for geoscientific information and research. Through its GEOSCAN system, the GSC provides free on line access to topographic maps and geospatial data. Key GSC priorities include:

- Enhance exploration effectiveness and international competitiveness;
- Improve regulatory efficiency and reduce environmental risks of resource development;
- Reduce economic, social and environmental impacts from natural hazard events in Canada;
- Meet current and future needs of the Government of Canada and stakeholders for open geoscience.

Source: (Natural Resources Canada, 2018_[67]) (Barbolet, 2016_[68])

Through the creation of the Fund, the new legislation establishes the state's role in monitoring, collecting and compiling geological information and furthermore commits the authorities to providing free access to "non-confidential" geological information. This is a mechanism through which the state can facilitate investment decisions by mining operators by mitigating the need to conduct more elaborate scoping of the relevant terrain. It also helps build transparency and trust in government reporting, which is broadly in line with the recommendations to this effect. It should be noted, however, that the concept of confidential information is not directly defined and could be clarified further. As it stands, information about geological data obtained by the subsoil licence owner through exploration and submitted to the competent state authority (the Code does not clarify whether the state authority refers to the Fund) in compliance with the new Code will remain confidential for five years and three months after expiration of the licence. The state authority concerned is responsible for maintaining confidentiality.

Despite the commitment made through the Code to provide open access to geological data, the role of the Fund is not specifically confirmed as that of a Geological Survey in the proper sense. Further clarification would also be useful regarding the Fund's specific mandate with respect to its own collection or mapping activities, storage, systematisation, and standardisation of geological information.

While the current legislation has no provision referring to an electronic inventory of mine facilities, an inventory of mineral deposits and licensing activity is reportedly being prepared.⁵ Provided that active, closed and abandoned mine facilities will be covered by the inventory, it will allow the government to establish on a case-by-case basis a reliable historical record of mining operations throughout the country, to better track progress of specific mines from inception to closure, and to provide comprehensive information to the sector.

Kazakhstan is also introducing a geographic block system throughout the country. This system is equal to one minute in the geographic coordinate structure, a mechanism used by mining jurisdictions in Canada and Australia that allows for territory to be broken down into smaller standard units and more easily represented and analysed with Geographic Information System (GIS) tools to assess mineral potential. This is important to operators, as geological information tends to always carry some sort of spatial component that can be represented in map form (ESRI, 2006_[39]). This system complements the efforts of publishing geological data and will allow operators to better assess opportunities for exploration in specific areas.

The reforms related to geological data, electronic inventory and the geographic block system have the potential to enhance transparency and disclosure regarding licensing in the sector and, consequently, facilitate monitoring compliance and provide incentives for responsible business conduct.

Mining Operation Oversight

In OECD jurisdictions like Canada, permitting and environmental assessment processes determine what a mining operator may or may not do as part of its regular operations at a mining site. Although there may be requirements that are stipulated by regulation, such as ventilation requirements for a mine of a certain size or building code restrictions that need to be met, the government does not directly control a specific operator's mine designs but rather controls whether or not the company's plans meet the required standards (OECD, 2016_[70]). Even though major changes after an initial license has been granted may require subsequent approvals, there generally is some flexibility granted to operators in adapting mining designs with respect to the original approval and original assessments. Mining authorities are typically not engaged in seeking to control an operator's design.

In this regard Kazakhstan's mining Code stands out somewhat, in that it limits this flexibility by prohibiting work on a modified mining plan prior to receiving approval. Under the new legislation, any changes to the types, methods, means or timelines of the exploration plan need to be submitted for approval by the competent authorities. This approach is likely to limit the scope for investors to respond effectively to the relevant market conditions. A risk-based approach to changes in mining plans on a case-by-case basis could help mitigate this risk.

⁵ Information obtained during a meeting with representatives of the Ministry for Investments and Development of the Republic of Kazakhstan, and representatives of the OECD Eurasia Division on 27 March 2018, in Astana, Kazakhstan.

Mining Production Oversight

OECD member jurisdictions active in mining tend to not directly oversee specific production reports from active mines beyond regular disclosure or annual reporting requirements presented by mine operators as part of regular financial statements or statistical reporting. This is typically a part of their obligations as publicly-traded entities and includes information on resource and reserve estimates as prepared by a qualified person or competent officer. In Canada, for instance, under National Instrument 43-101 a qualified person must be a person “in good standing with a professional association,” such as the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). Beyond these requirements, it is typically a business decision to determine how much to produce based on relevant production costs and market considerations, without specific government input or oversight (British Columbia Securities Commission, 2016^[71]). As a result, there typically is no need for government to oversee individual production reports, other than for geological or statistical reporting purposes. Kazakhstan’s continued use of mineral reserves as a tax base (see section 2.2. on taxation framework) for the mining sector under the new Code may impose a need to oversee production reports as opposed to recorded sales or financial statement disclosures for accounting purposes, rendering the process more complex for both the operators and the authorities. Furthermore, the need to oversee production activity and production reports to compare against pre-determined production plans where changes may be necessary based on business considerations adds an extra layer of reporting complexity and oversight, which may discourage potential exploration and production activities still under the new framework.

Reserve Reporting and Oversight

In 2016, Kazakhstan became a member of the Committee for Mineral Reserves International Standards (CRIRSCO), which aims to raise trust through good practices in reporting on mineral deposits and exploration activities. Alignment of Kazakhstan’s reporting practices with the CRIRSCO standards was also included in the national 100 Concrete Steps initiative. CRIRSCO, the membership of which consists of a number of OECD countries, is based on international reporting standards found in OECD member jurisdictions such as the JORC Code (Australia), the CIM Guidelines (Canada), and the Certification Code (Chile). These reporting standards are recognised and adopted worldwide for market-related reporting and financial investment. Kazakhstan’s membership in CRIRSCO and commitment to international reporting standards can thus help attract potential explorers, who may have been more hesitant to consider Kazakhstan due to its Soviet legacy reporting requirements. This step is also in line with the recommendation for Kazakhstan to adopt internationally recognised reporting standards.

Box 3. CRIRSCO Standards

The Committee for Mineral Reserves International Reporting Standards (CRIRSCO) aims at promoting transparency and effective reporting on mineral exploration, resources and reserves. The Standards are applicable to all solid minerals without covering oil and gas. The CRIRSCO International Reporting Template has been widely adopted through CRIRSCO member organisations, consisting of National Reporting Organisations, i.e. entities responsible for developing mineral reporting codes and guidelines.

CRIRSCO Standards are developed on the basis of international best practices in public reporting and exchange of information among international mining sector stakeholders. They promote uniformity in mineral sector reporting practices, effective exchange of experiences and access to information and, thus, contribute in facilitating investors' understanding of mineral sector reporting.

Sources: (The Australasian Institute of Mining and Metallurgy, 2015^[72])

In November 2015, Kazakhstan established its own Professional Association of Independent Experts in Subsoil Use Public Association (PONEN), which consists of independent experts and qualified specialists in geological prospecting organisations and mining entities. PONEN aims to ensure the application of independent examination of subsoil resources. In addition, the Code for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves was also developed and approved by CRIRSCO in 2016 (Government of the Republic of Kazakhstan, 2016^[73]). The formation of a local cluster of expertise should be supported and links with higher education fostered so as to enhance effective implementation of good reporting standards.

In order to ensure effective implementation of the CRIRSCO standards as well as the national code, it is recommended that the new SSU Code refers to the relevant reporting standards and guidance that stem from its CRIRSCO membership.

2.5. Access to geological data

Kazakhstan's previous legislation regarding subsoil use was reckoned to fall short with respect to the availability of, and access to, geological data (Ministry for Investments and Development, 2016^[74]). The new SSU Code refers to geological studies carried out by the state to which subsoil users are granted free access except in the cases of confidential information. A brief description of public subsoil related information is provided, including details of the licence owner, content of the licence, shares owned, transfer of rights to an area, and liquidation measures. A confidentiality period of five years will be applied to geological data obtained during exploration, with the possibility of extension of confidentiality for an additional five years.

The Code also establishes the role of the state in compiling an inventory of mineral deposits, including liquidated areas, deposits granted for exploration or production as well as areas of mineral manifestation. While the exact process is not specified, it would appear that the information would be gathered through reporting by companies, which

could be a positive step towards establishing a reliable historical track record of mining operations and progress from inception to closure throughout the country (see section on mine activity information).

In some jurisdictions, such as Australia, the remit of national geological surveys is to provide accurate and comprehensive geological data so as to encourage and facilitate exploration activities. For example, the strategic mission of Geoscience Australia, the national research and geospatial information agency, is to share geological information so as to reduce risks of exploration activities and enhance investment in mineral exploration and discovery (Geoscience Australia, 2018_[75]). The requirement of Kazakhstan's SSU Code to publish geological data and to provide free access to it further aligns the country's geological information framework with international practices and should be welcomed by operators considering exploration activity.

2.6. Environmental considerations and pollution prevention

The environmental consequences of subsoil use are significant and, if insufficiently regulated, may potentially be long-lasting or irreversible. Sustainable mining requires multidimensional policy solutions that take into consideration economic efficiency, social benefits and environmental protection. Landscape alteration and pollution of air, soil and water are among the diverse environmental consequences of mining (World Bank, 2017_[76]).

Many jurisdictions, including OECD members such as Australia (see Box 4) require an environmental baseline assessment to be carried out prior to beginning any subsoil operations. The baseline data often includes measurements of environmental conditions and usually also involves a scoping study of potential impacts on social well-being and livelihood (World Bank, 2017_[76]).

Kazakhstan's Environmental Code was introduced in 2007 and was followed by various changes to the country's environmental legislation, including the adoption of the Law on Supporting the Use of Renewable Sources of Energy in 2009 and the Law on Energy Saving and Energy Efficiency in 2012. These changes were also accompanied by the later launch of the Green Economy Concept in 2013 (OECD, 2017_[11]). Water resources and related matters are also discussed in separate water legislation.

The new SSU Code requires subsoil users' compliance with all relevant environmental legislation. Applicants for subsoil use permit must disclose environmental safety plans together with other mining project documents, which are used in the project licensing assessment. However, apart from water sampling (see section on water resource management for more details), no specific requirements for a comprehensive environmental baseline assessment or specific safeguards are included in the Code.

The Environmental Code separately obliges companies to perform an environmental impact assessment which is reviewed by "the competent environmental authorities" (the exact entity overseeing the impact assessment is not specified) and, in the case of high risk operations, by the Ministry of Energy. Extending the assessment to involve an initial environmental screening could be considered, as within the current framework the assessment takes place only once the project plans are well advanced.

The SSU Code likewise refers to a competent state authority in carrying out environmental assessments, but the extent of its involvement in licensing procedures and its role in co-ordination with relevant Ministries are not described, apart from the authority's mandate to sign off mine closure plans.

Furthermore, public access to information on permit applications is not currently envisaged within Kazakhstan's framework. Raising public awareness of subsoil operations and carrying out consultations on planned activities would help promote transparency and facilitate evaluation of the environmental, economic and social impact of potential projects. It would also encourage enhanced reporting by subsoil operators on environmental issues, positively contributing to their investment attractiveness. Linking environmental considerations to permit application procedures and adopting a case-by-case issuing of permits in Kazakhstan is similar to what is seen in OECD jurisdictions, such as Australia, and could help provide clarity and boost investors' confidence.

Box 4. The environmental management process – the case of the mining sector in Australia

Licensing process

The state and territory governments have the main responsibility of managing environmental issues in Australia in relation to mining. Environmental aspects are considered through an integrated approach in which resource planning, development, operation, closure and rehabilitation are assessed in detail. While practices may vary between governments, in most cases the procedure includes an application by the mining company with a detailed description of environmental risks and measures of their mitigation. Various government agencies, including environmental agencies, are involved in its review which often is carried out in multiple stages. Complex cases may also include a public consultation in which supporting and opposing opinions are collected, providing an opportunity to gather insights of the projects potential social, environmental and economic impact. An approval by a government authority is usually tied to an environmental management plan addressing issues related to water, stockpiles, noise, vegetation, rehabilitation, erosion, emissions and dust, and covers disclosure arrangements.

Environmental baseline assessment

The Australian Government requires subsoil users to collect environmental data during the planning stage of the project so as to establish factors to be monitored and further investigated as well as managed through closure procedures. The data collection should provide information on climatic conditions, geology and soils, hydrology, vegetation, fauna, subterranean fauna as well as socioeconomic circumstances and cultural heritage.

Source: (Government of Australia,(n.d.)^[77])

Environmental permitting and taxes

Kazakhstan has achieved important progress in its environmental policy framework, including the steps taken to decrease its carbon emissions. In certain areas, however, the regulatory framework is still considered to be administratively burdensome and challenging to implement, leading to inadequate results. A further focus on preventive measures and provision of incentives for pollution reduction across sectors, as well as strengthening the implementation of polluter-pays models could help bring Kazakhstan closer to OECD standards (OECD, 2017^[11]).

An environmental permit is available for subsoil operators in Kazakhstan, setting out limits for emissions according to a set of Emission Limit Values (ELVs). The new Code refers to the permit which allows operators to legally emit pollutants into the environment within certain limits. The complex mechanisms of calculating ELVs involve a large number of different pollutants, creating challenges for operators seeking to comply with ELVs even through the application of best available techniques (BATs) for managing emissions. Moreover, ELVs are usually based on highest possible levels of emission at maximum level of production. This type of mechanism does not encourage companies to implement BATs or other measures to reduce emissions beyond compliance with ELVs (European Commission,(n.d.)^[78]) (OECD, 2017^[11]). The ELVs also form the basis of environmental taxes for an operator, but these and other taxation issues are not covered by the new SSU Code and instead addressed in the Tax Code.

Environmental compliance requirements involving heavy regulations and promotion of specific solutions and technologies can be burdensome and costly to implement, in particular, for smaller operators. Various jurisdictions, including some in the OECD, have adopted market mechanisms to promote environmental compliance and manage pollution levels. Market mechanisms may be simpler to implement and provide incentives for operators to develop efficient solutions to reduce emissions.

Market mechanisms usually take the form of environmental taxation which should be designed as an incentive for companies to reduce pollution rather than a source of revenue for the state. Environmental taxes can be modelled, for example, as Pigouvian taxes destined to cover the costs of the environmental damage, and they can be earmarked to generate funds to remediate damages or for regional development purposes. Pollution charges provide another form of emission taxation, and are determined according to the quality and quantity of pollution produced by the mining activity.

Waste management

The SSU Code also refers to extraction licence holders' responsibility to maintain laboratory research data on extracted minerals and geological data, but it does not set out requirements regarding -related laboratory research and improvement of laboratory facilities. Developing mobile in-situ waste sampling equipment would be beneficial in tracking issues such as acidic mine drainage potential, facilitating waste characterisation, and contributing to the establishment of a risk-based approach towards waste management (BRGM - French Geological Survey, 2016^[79]).

While the Code makes provisions for investment in research and development, it provides no insights with regards to what potential priorities for this research could be, or guidelines concerning how it could address full life-cycle considerations (OECD, 2016^[80]).

Water resources management

Mining creates particularly high risks for water resources due to its heavy water consumption. Large-scale use of water creates challenges in terms of its availability as well as quality, with potential destructive effects for the surrounding environment and habitation (World Bank, 2017^[76]). Consequently, comprehensive regulatory measures are needed so as to decrease the negative impact of mining on water resources. Separate water use permits are also applied in certain mining jurisdictions in OECD countries. In Nevada, for example, companies pursuing new mining projects are required to apply for water use permits which are granted by the Nevada Division of Environmental Protection

Bureau of Mining Regulation and Reclamation. The application is included in the project's operation plan and its assessment involves an evaluation of the potential impact on surface and groundwater in the relevant area (Nevada Mining Association,(n.d.)^[81]).

Water contamination has been an issue in Kazakhstan in the past. Local media have reported on industrial activities leading to pollution of water and sewage systems, creating obstacles to access to fresh water in some regions (OECD, 2014^[82]). The incidents further highlight the importance of effective regulatory measures of water resources management and their implementation.

Kazakhstan's new Code contains references to the country's separate water legislation, but does not provide further information on the exact requirements for subsoil users. The Code requires exploration licence holders to carry out ground water sampling and disclose results to relevant authorities, whereas operators carrying out extraction activities which require water resources must submit water usage plans to the authorities overseeing water resources. Moreover, the Code prohibits subsoil operations in areas of economically potable ground water.

2.7. Occupational health and safety management

Health and safety questions in relation to subsoil use licence should encompass internal occupational safety issues in addition to potential danger caused by the mining activity to surrounding settlements. The mining industry presents a number of risks to occupational health and safety, including hazards related to water management, ground failure, equipment, and disease among others. A risk-based approach is considered the most effective method of addressing occupational health and safety challenges and should include regulatory oversight and technical upgrading as well as research to identify ways to mitigate risks (World Bank, 2017^[76]). Information-sharing and training activities are also often integrated in health and safety considerations, as has been the case in Ontario, where raising awareness among mining company employees was recommended in the health and safety review of the mining sector (Ministry of Labour of Ontario, 2015^[83]).

Occupational safety issues in Kazakhstan are regulated by industrial safety legislation. The new SSU Code requires compliance with industrial safety legislation during exploration, extraction and mine closure stages, and obliges subsoil operators to report on planned measures to manage safety risks during liquidation, which also need to be approved by competent authorities. The number of occupational accidents has reportedly decreased during the past few years, due to the adoption of new technology and equipment by a number of mining companies, including Kazzinc and KazMinerals. Further efforts are, nevertheless, required to attain international standards in occupation safety measures, including technological modernisation and increased automation of production processes. Enhanced collaboration between the authorities and operators is also required alongside further legislative reforms, among which updates to specific industrial safety legislation are underway (Prime Minister of Kazakhstan, 2017^[84]).

2.8. Local content

In addition to occupational health and safety, and economic and environmental objectives, effective policies aimed at promoting sustainability in the mining sector should also address social aspects and questions. The impact of a mining project on the interests and well-being of local communities should be assessed as early as possible prior to implementation of the project and commitment of investors.

The impact of mining on local communities is addressed through local content policies (LCPs), which are widely used among minerals-exporting countries, including OECD jurisdictions. LCPs are designed to ensure the usage of domestic sources at different stages throughout the value chain (labour, supplies of services, technology and goods etc.) so as to generate employment, strengthen cross-sector benefits, create knowledge and skills linkages, and broaden the economic advantages brought by the sector.

Local content requirements are usually part of the state-managed subsoil use licensing system and, in some cases, determine market access. Requirements may be of a mandatory and quantitative nature, e.g. stipulating the percentage of procurement via local suppliers, the number of local employees, and other volume or value targets, and may involve sanctions in the case of non-compliance. Local linkages can also be incentivised through financial support, or fiscal, tariff and credit arrangements. LCPs may encompass a wide range of areas, including procurement of goods and services, local employment (often involving skills development and training components in addition to creation of job opportunities), fostering local technological expertise and SME activities and boosting local competitiveness through contributions to R&D and innovation.

Mandatory quantitative local content requirements with insufficient source capacity are often considered to hamper competitiveness, namely by raising costs for mining companies and leading to lower revenue, as well as by creating distortions in non-mining sectors.

Kazakhstan's SSU Code contains quantitative requirements to provide employment opportunities for local nationals. In particular, the subsoil licence holder must ensure that at least 50% of the total number of employees consists of Kazakh nationals. The World Trade Organisation standards as well as many other bilateral and multilateral trade and investment agreements restrict certain types of LCPs and, in particular, quantitative targets. In the context of Kazakhstan's accession to the WTO, this type of quantitative local content requirements will be abolished from the mining sector by 2021, aligning the country's LCP practices with those seen in various OECD jurisdictions.

Implementing high environmental and social standards in extractive sectors is a priority for many jurisdictions, some of which have established incentive mechanisms to promote integrity and responsible business conduct. In some cases, this involves local content policy considerations permitting local communities, indigenous peoples and other affected stakeholders to take part in decision-making related to the mining sector and benefit from the growth opportunities provided by the activities. Such policies have been implemented in a number of OECD jurisdictions. In Canada, for example, the government has led initiatives to promote employment creation, regional development, training, and skills development opportunities among local Aboriginal communities (Cision, 2018^[85]).

While no local content policies targeting specific groups of stakeholders exist within Kazakhstan's framework, the new Code requires 1% contribution of taxable income by mining companies be dedicated to training programmes and R&D in the field of exploration and mining. In order to ensure the best possible results from these contributions, the inclusion of further guidance for companies on how to use these resources to also benefit local mining communities as well as guidance on measures for enhancing transparency of the practice could be considered.

3. Recommendations and suggested next steps

Kazakhstan has taken a number of key steps to establish a policy framework that builds resilience and boosts investors' confidence in the country's mining sector. The introduction of the new SSU Code in July 2018 will help to greater align Kazakhstan's regulatory environment with the standards seen in a number of OECD jurisdictions with an interest in the mining sector, in particular, by streamlining the licensing process, facilitating access to geological data, and improving sector transparency. The new legislation also places greater emphasis on environmental assessment, contributing to managing the risks of environmental consequences relative to mining activities. Alongside some of the positive developments introduced through the new SSU Code, the Tax Code introduced in January 2018 addresses a number of mining sector taxation challenges.

Despite the progress that has been made, further steps could be considered in specific policy areas to bridge key gaps between the models in OECD jurisdictions and Kazakhstan's new regulatory framework. Doing so would increase the attractiveness of the country's mining sector to foreign direct investment as well as enhancing its overall competitiveness.

Establishing an inventory of mining operations

- An electronic inventory of active, closed and abandoned mines could be established in order to track mining operations in the country.

Strengthening financial guarantee mechanisms for mine closure costs

- An oversight mechanism could be developed to verify that bonds or collateral fully cover liquidation costs, and measures to address funding requirements for legacy mines could be established.

Increasing the availability and quality of information

- A glossary of terms and definitions of minerals in the SSU Code could be included to facilitate interpretation of the Code's provisions.
- Availability of the Code in English could help broaden the scope of prospective investors.

Further alignment of the mining sector taxation framework with models used in OECD jurisdictions

- Tax reforms introduced in 2018 should help to improve the investment attractiveness of Kazakhstan's mining sector. Ensuring tax officials have the skills they need to monitor the new arrangements and audit companies will be critical to effective implementation of the new legislation and achieving further positive results.
- Making the new Tax Code available in foreign languages could help ensure foreign investors' awareness of recent reforms.

- Further and immediate large-scale changes to mining tax arrangements should be avoided to the extent possible, pending a thorough review of the effect of the new system over the next three years or so.
- As a result of the changes, the budget position will need to be monitored for revenue losses from the mining sector that are larger than expected. In the case of revenue short-falls, thorough diagnostic analysis is needed prior to contemplating further tax law changes. Any substantial reversal in tax policy settings would risk undermining the impact of changing the regime in the first place, by making investors more uncertain about the fiscal settings that might apply in future.
- Further gradual progress towards international standards in mining taxation would be beneficial. In particular, moving to a system of taxing companies based on their sales of mineral products would bring Kazakhstan into line with most other jurisdictions. Noting that this change may increase the risk of transfer pricing, a phased approach could be considered, whereby those mineral products trading in transparent international markets are changed first, to afford tax officials time to become more familiar with the new arrangements.

Strengthening reporting practices and integrating a risk-based approach to sector oversight

- A risk-based approach to changes in mining plans could be adopted so as to allow further flexibility for operators to effectively respond to changing market conditions.
- Oversight by authorities could be shifted from production reports to financial statements, which could help reduce the complexity of reporting processes and increase the flexibility of production activities.
- Guidance and information on reporting standards stemming from Kazakhstan's CRIRSCO membership could be included in the SSU Code so as to ensure effective implementation of the CRIRSCO Standards.
- Capacity building and links with higher education could be fostered to enhance effective reporting and oversight practices in the sector.

Clarifications to geological survey reporting practices

- Further clarifications to the role of the State Subsoil Fund in compiling and providing access to geological data could be provided in the SSU Code.
- A definition of confidential information excluded from the publicly available geological information could be included in the SSU Code.

Broadening the environmental assessment requirements and improving water resources management guidance

- Requirements for environmental baseline assessment beyond water sampling could be introduced in the SSU Code.
- Inclusion in the SSU Code of further guidance on water resources management requirements for subsoil users and specific references to the country's water legislation could be considered.

Increasing the impact of mining sector support to R&D and training programmes

- Further guidance for mining operators in directing resources towards R&D and training programmes could be provided, and transparency measures relating to how these contributions are used could be enhanced to improve the effectiveness of the practice.

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