



**IGF**

INTERGOVERNMENTAL FORUM  
on Mining, Minerals, Metals and  
Sustainable Development

**IGF CASE STUDY**

# Environmental and Social Impact Assessments in Mining Legal Frameworks

Case studies from California,  
United States; Kazakhstan;  
and Queensland, Australia

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## Introduction

A sustainable mining industry starts with a strong legal framework for environmental and social impact assessment (ESIA) and management. Developing a strong legal framework takes time. Much can be learned from other countries' frameworks and continually reviewing and improving one's own framework.

The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) published its *Guidance for Governments: Improving Legal Frameworks for Environmental and Social Impact Assessment and Management in Mining* in June 2020. IGF is now conducting case studies to support the implementation of this guidance, the first three of which are presented here for California in the United States, Kazakhstan, and Queensland in Australia—three mineral-rich jurisdictions in contrasting stages of development of their ESIA legal frameworks.

This report first presents the main components of a legal framework pertaining to ESIA in mining then looks at the three case studies. California has a well-developed ESIA framework and is adapting to the latest challenges, which include the concerns of Indigenous communities and issues of climate change in a litigious jurisdiction. Kazakhstan is in the process of developing its ESIA framework to meet the country's more recent sustainability goals and commitments and is in the process of putting the changes into practice. Queensland, Australia, provides an example of a comprehensive ESIA legal framework but is still challenged with managing the underlying risks of corruption. These three case studies were chosen to demonstrate that ESIA is a critical tool in the legal framework for meeting sustainability goals. Yet each jurisdiction is unique and must strive for continual improvement to keep the ESIA legal framework effective in practice.

The case studies show

- the importance of **leadership and ongoing evaluation** in developing and improving ESIA legal frameworks;
- the benefit of looking for **assistance and feedback** from outside the jurisdiction; and
- that there is **always room for improvement**, irrespective of the economic development stage and political situation.

## Key Components of ESIA

Key components of ESIA were identified based on research into legal frameworks related to mining and ESIA in 55 jurisdictions around the world. The key components fall within 10 main themes as summarized below.

### 1. Commitment to Sustainable Development

Commitment is critical for meeting a country's Sustainable Development Goals (SDGs). Governments can lay the foundation for the responsible management of environmental and social impacts by promoting a clear vision for sustainable development and including it in the legal framework.

### 2. Coordination

Consistency of legal instruments within a jurisdiction is critical to ensuring effective implementation. Requirements across domestic laws and between domestic laws and international commitments should be consistent and aligned. Where mining contracts are used, they should be aligned with legal requirements for ESIA and management, and they should clarify or specify unique circumstances or opportunities to advance environmental protection and socio-economic progress.

Coordination is a recurring challenge noted across all jurisdictions. Effective governance



of review and approval processes may require the involvement of multiple government agencies. Where requirements are issued by multiple governmental agencies, care should be taken to ensure that obligations and procedures are aligned and do not conflict or result in unnecessary duplication or inefficiencies and also ensure that there are no gaps of critical environmental and social requirements.

### **3. Coverage of All Phases of Mine Development**

Long-term legacies of contaminated mine sites are a challenge that can be minimized or avoided at the mine planning stage with designs that prevent post-closure impacts. Different phases and types of mining have different environmental and social impacts. Therefore, requirements for social and environmental protection should be defined distinctively for prospecting, exploration, exploitation, and closure activities. Policies can also be established to reduce post-closure risks in situations where mines are already operating and past the planning stage.

### **4. Public Engagement, Consultation, and Transparency**

Mining has historically conflicted with communities when communication breaks down and for other reasons. The public engagement process is a cornerstone of building an understanding of and addressing community concerns and fostering an ongoing dialogue and possible partnerships with communities. A legal framework with robust provisions for the meaningful engagement and effective contributions of local communities throughout the mining life cycle can help reduce conflict in the long run. Many countries are seeking to ensure that historically underserved communities have an effective voice and protection in environmental decision-making. Legal frameworks are more effective if they ensure

that public engagement begins early in the ESIA process and that the project design reflects input from the stakeholders.

Access to information regarding proposed and ongoing mining projects and their potential and actual environmental and social impacts and related mitigation is key to meaningful stakeholder engagement and building public trust. The legal framework should also clarify transparency requirements on multiple levels, including legal, procedural, oversight, and financial transparency.

### **5. Grievance Mechanism**

Providing stakeholders an opportunity to have their concerns heard and addressed can help to avoid conflict. The legal framework should include a grievance mechanism in the ESIA review process and should also require the proponent to establish a culturally appropriate grievance mechanism for the project.

### **6. ESIA Requirements**

Investors and stakeholders need to understand the ESIA process to have confidence in development. The legal framework should provide the following: clear requirements for project proposals; a screening process to determine if a project may have significant effects and needs an environmental assessment; a scoping process to determine what should be assessed and how the assessment process will be carried out; a full review (including stakeholder input) prior to the project being approved; clarity on how stakeholder input has been considered during the ESIA process and in decision making; clear and reasonable timelines; and justified decisions with conditions applied if approved.



## 7. Environmental and Social Management

Mitigations identified in the impact assessment need strong management plans for effective implementation. A program to manage all the social and environmental risks and benefits of mining activity is essential. The management plans should include identified risks and mitigation strategies that follow the mitigation hierarchy (avoid, minimize, restore, offset), internal and external monitoring and reporting, contingency planning, and plans for corrective action.

## 8. Mine Closure Plans and Financial Assurance

The success of mine closure and the post-mining transition relies on actions that span the entire life of the mine. Social and economic objectives may take a long time to achieve, so early implementation of a comprehensive mine closure plan is key.

The preliminary mine closure plan should be required in the terms of reference for the ESIA and should include progressive rehabilitation; measures for temporary and sudden closure; land-use objectives consistent with local, regional, and national strategies; stakeholder engagement strategies; measures to ensure chemical, biological, and physical stability; social closure components; research and monitoring requirements to ensure long-term success; and preliminary cost estimates.

Abandoned mines are a legacy in mining jurisdictions throughout the world. Closure costs for abandoned mines fall on governments. Adequate financial assurance for remediation and mine closure is fundamental to ensuring that funds are readily available to governments in case of insufficient remediation or mine closure, or mine abandonment by project proponents. The legal framework should require a financial assurance fund for remediation and

mine closure, prior to approving a permit for mine construction and operation.

## 9. Permits and Approvals

Effective regulation of land use can help to avoid conflict. Defining permit conditions to ensure protection of local communities and the environment is critical to an effective ESIA process, and monitoring can help ensure that legal requirements are followed by mining proponents and promote learning from experience. Approvals and permits should be time-limited with clear conditions and reporting requirements.

## 10. Monitoring, Inspections, and Enforcement

Compliance assurance is critical to effective implementation of ESIA frameworks, adherence to mine permit and approval conditions and environmental protection, and to stakeholder confidence in government oversight. It is essential that violations of conditions or other legal requirements be detected and consistently enforced in order to protect affected communities and foster a culture of compliance. The legal framework should define the government's oversight role in ensuring that impact mitigation and management measures and permit conditions are implemented by mining companies. Effective implementation of inspection and enforcement procedures and schedules requires clear legal requirements, plans, and timelines. Incorporating participatory monitoring mechanisms for the management of environmental and social issues of greatest concern to local community members can be an effective way to complement government monitoring and oversight actions and build trust among stakeholders.

Clearly spelling out environmental and social obligations in enforceable permit conditions is critical to protecting affected communities and ensuring compliance. The process for addressing breaches and



for applying sanctions should be detailed in the legal framework and outlined or referenced in permit terms and conditions. The sanctions should be commensurate with the level of violation to fairly but effectively discourage violations of the law. A mining operation's compliance history should be transparent and readily available to local communities and stakeholders to build trust that the mining company is operating within ESIA terms and permit requirements and that the government is conducting effective oversight.

A common-sense management approach ensures that permit holders have met all the environmental and social conditions of their permits, along with any other requirements, before renewing or granting a new permit—especially for a large-scale mine.

Legal frameworks should provide clear guidelines and requirements for

relinquishment of the post-closure mine land-management responsibilities back to the government. Relinquishment should be determined only after all closure objectives, activities, and criteria have been met.

## **Overview of Legal Framework Components in California, Kazakhstan, and Queensland**

The ESIA legal frameworks for California in the United States, Kazakhstan, and Queensland in Australia include all ten key components listed above. California and Queensland are examples of comprehensive legal frameworks that are being improved through a review of the challenges experienced in practice. Kazakhstan's 2021 Environmental Code updates the 2007 code, puts all the key components into the legislation, and is in the process of putting the legislation into practice.



## Case Study 1: California, United States

California has the largest economy in the United States. California became a state in 1850. In 2020, the mining industry accounted for approximately USD 3.29 billion (excluding oil and gas) in GDP out of a total of USD 3 trillion, equating to about 0.11% (U.S. Bureau of Economic Analysis, 2020). Mineral resources include boron and rare earths, as well as aggregates, cement, diatomite, feldspar, pumice, soda ash, and other industrial minerals and metals (National Minerals Information Center, 2017).

Since the 1970s, environmental laws have grown in strength in the United States. California has often been at the forefront of environmental protections, including through mining regulations.

### ESIA and Mining Legislation

ESIA legislation in California includes legislation regulating ESIA in the mining sector. Key instruments pertaining to environmental assessments and mining include the following:

- 1970 (updated in 2022): California Environmental Quality Act (CEQA), which requires agencies to assess the impacts of projects

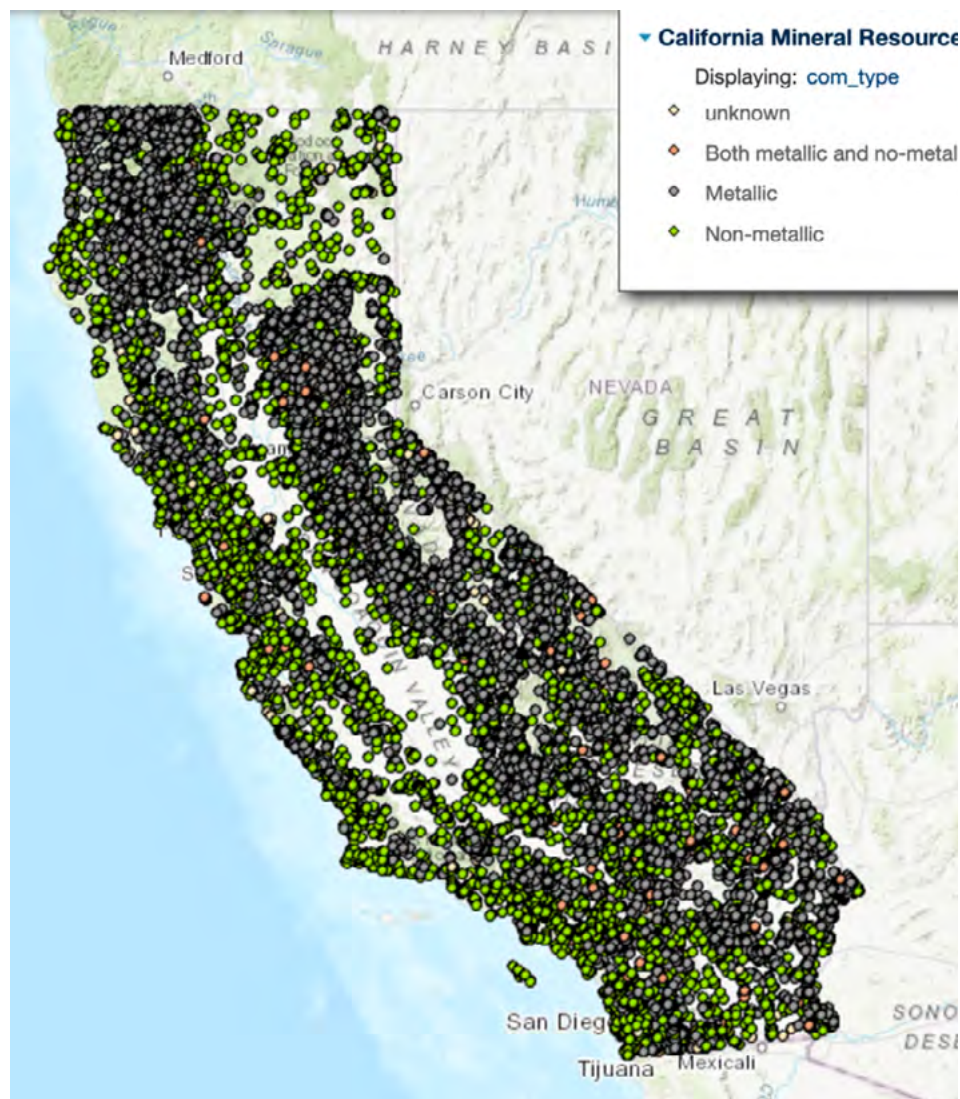
- 1975: Surface Mining and Reclamation Act (SMARA)
- AB 52, a CEQA guideline regarding Tribal Cultural Resources
- Article 9, Reclamation Standards under California Code of Regulations, Title 14, Natural Resources, Division 2, Department of Conservation, Chapter 8, Mining and Geology, Subchapter 1, State Mining and Geology Board
- CalEnviroScreen - CalEnviroScreen is a screening methodology that can be used to help identify California communities that are disproportionately burdened by multiple sources of pollution.<sup>1</sup>
- Sustainable Groundwater Management Act (SGMA) - SGMA requires local agencies to form groundwater sustainability agencies (GSAs) for the high and medium priority basins. GSAs develop and implement groundwater sustainability plans (GSPs) to avoid undesirable results and mitigate overdraft within 20 years.<sup>2</sup>
- California's "Report of the Blue Ribbon Commission on Lithium Extraction in California" for a health impacts assessment (HIA), including

1 <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

2 <https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management>



**FIGURE 1.** California mineral resources



Source: U.S. Geological Survey Mineral Resources Data System. n.d.

recommended legislative changes for the lithium industry.<sup>3</sup>

Key federal legislation and executive orders affecting ESIA for mining projects in California include the following:

**1872:** General Mining Law, which governs minerals on federal lands

**1920:** Mineral Leasing Act

**1969:** National Environmental Policy Act (NEPA)

**1970:** Clean Air Act

**1972:** Clean Water Act

**1973:** Endangered Species Act

**1974:** Safe Drinking Water Act

<sup>3</sup> <https://www.energy.ca.gov/data-reports/california-power-generation-and-power-sources/geothermal-energy/lithium-valley>



**1976:** Federal Land Policy and Management Act and mining regulations that governs mining on federal lands

**1978 (updated in 2020):** Council on Environmental Quality regulations for the implementation of NEPA that applies to certain federal permits and decisions

**2000:** Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments that applies to federal decisions.

CEQA is unique in that it requires public lead agencies to impose feasible mitigation measures as part of the approval of a “project” in order to substantially lessen or avoid significant adverse effects of a project on the physical environment. In the context of mining, this requirement is usually triggered by the Surface Mining and Reclamation Act (SMARA) decisions from the relevant county.

At the federal level, NEPA is the ESIA legislation, which may also be applicable for mining project approvals if the proposed mine is on federal lands or requires federal action; for example, if the mine or mining facilities require federal permits, or receive federal funding, then the project must meet both NEPA and CEQA requirements. To minimize duplication in the efforts necessary to meet both sets of requirements, the federal and state agencies can coordinate their processes (State of California Governor’s Office of Planning and Research, 2014). The final products of these permitting processes are similar: an Environmental Impact Statement (EIS) under NEPA and an Environmental Impact Report (EIR) under CEQA. A federal EIS must meet NEPA requirements and a state EIR must meet CEQA requirements.

## Approach to Improvements

### Community Outreach: A government-led process

California requires, through CEQA,<sup>4</sup> that any state or local government action regarding a project that may have a significant effect on the environment, including issuance of a mining permit, be preceded by an EIR. Similarly, NEPA requires federal agencies to prepare EISs for major federal actions that significantly affect the quality of the human environment. CEQA reports must be created by the public agency responsible for carrying out or approving the project, also known as the “lead agency” (Cal. Public Resources Code § 21100). As part of the environmental assessment process, California’s law requires consultation and comment from any other public agencies that have jurisdiction with respect to the project in question, as well as any cities or counties that border on the city or county in which the project is located. It also allows the party seeking the approval of the lead agency to identify parties it believes will be concerned with the project’s environmental effects so that the lead agency can consult with them. Finally, it allows members of the public to request a consultation (Cal. Public Resources Code § 21104(a)). NEPA also requires agencies to involve and seek input from stakeholders and the public throughout the project.

CEQA has specific requirements for consultation with Native American tribes. State recognized tribes may ask to be informed on any occasion in which a project is proposed in a geographic area traditionally and culturally affiliated with the tribe (Cal. Public Resources Code § 21080.3.1(b)).

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<sup>4</sup> “As explained by the California Natural Resources Agency, CEQA can be “enforced, as necessary, by the public through litigation and the threat thereof.” In other words, if an agency allows a project to move forward without proper environmental review, members of the public can sue. This is one of the most controversial elements of the law. Supporters say it gives communities meaningful oversight over developments that will affect their quality of life. Opponents say it allows anyone who doesn’t like a project to block or delay it with legal challenges” (Chiland & Kudler 2018).





As a part of the consultation process, the tribe may request that measures be taken to mitigate damage to any cultural resource (Cal. Public Resources Code § 21084.3). The consultation may extend to include the type of environmental review necessary, the significance of tribal resources and of the impacts on the resources, and possible project alternatives. However, tribal consent is not required for proposed projects to be approved. Consultations last either until the parties come to an agreement or until a party, acting in good faith and after a reasonable effort, concludes that a mutual agreement cannot be reached (Cal. Public Resources Code § 21080.3.2), in which case the lead agency must consider feasible mitigation measures pursuant to subdivision (b) of Section 20184.3. In such cases, it is important to document why a mutual agreement could not be reached and what efforts were made for resolution. Nonetheless, an EIR can be certified even if the parties do not reach a mutual agreement, as long as the consultation process has been followed and concluded. However, CEQA includes provisions that allow individuals to litigate on the basis that the process did not include sufficient consultation, providing a disincentive for moving forward without an agreement. Project development sometimes gets delayed for years through litigation over failure to mitigate damage to natural resources or to tribal cultural resources.

Meaningful coordination with tribal entities and others affected by projects, and analysis of a proposed action's potential effect on tribal lands, resources, or areas of historic significance are important parts of federal agency decision making. In addition to provisions in sections 1501.2 and 1501.7 of the CEQ regulations that call for the involvement of Tribes that may be affected by a federal proposal, CEQ issued a memorandum to the heads of federal agencies encouraging more active solicitation of tribal entities for participation as cooperating agencies in NEPA documents.

## Climate Change Considerations in ESIA Processes

California has provided guidance under CEQA to assist agencies in determining whether a particular project will have a significant impact on the environment, and therefore require an EIR, the CEQA. CEQA requires that EIRs be conducted wherever there is substantial evidence on the record that there may be a significant effect. Thus an EIR can be required where there is evidence on both sides of the question of significant impact. A single potentially significant effect necessitates a report, and each such effect must be addressed, either through mitigation measures or through overriding written statements supported by substantial evidence in the EIR record outweighing the environmental concerns (Cal. Public Resources Code § 15064(a) and (f) and 15093).

NEPA and CEQA analyses must consider significant impacts from a proposed project's greenhouse gas (GHG) emissions. Lead agencies are advised to consider "the reasonably foreseeable incremental contribution of the project's emissions to climate change." Even where GHG emissions are relatively small compared to statewide, national, or global emissions, any incremental contribution to climate change "may be cumulatively considerable." As such, state agencies are instructed to consider the extent to which the project may result in GHG emissions as compared to the status quo, whether emissions will exceed a "threshold of significance" (as determined by the lead agency itself), and the extent to which the project complies with regulations adopted to reduce or mitigate emissions (Cal. Public Resources Code § 15064.4(b)). NEPA guidance on GHG emissions and climate change recommends early integration of emissions in planning, quantification, assessment of alternatives, provision of context for the public and regulators, consideration of cumulative



effects, use of current information, and consideration of alternatives that improve communities' resilience to climate change (CEQ, 2023).

## **Financial Assurances and Reclamation Prior to Operations**

The statute governing financial assurances and reclamation in California is the Surface Mine and Reclamation Act of 1975. Surface mining operations are prohibited until a reclamation plan has been submitted and approved by the lead agency. These plans must be supported by financial assurances, and are also subject to lead agency approval (Cal. Public Resources Code § 2770(a)). Generally, lead agency activities are overseen by the State Mining and Geology Board.

The reclamation plan must include information on the mine and all related facilities, such as anticipated opening and closing dates, the maximum anticipated depth, the type and quantity of materials to be mined, and the name and address of the mine's operator as well as anyone the operator designates as its agent. It must also include information on the land, including the size, location, and legal description of the section to be affected by the project. A map must be submitted, along with a description of the area's geology, including the location of all streams, roads, railroads, and utility facilities nearby, and all proposed access roads to be constructed. The reclamation plan must also include plans that explain how quickly each section of all aspects of the project can be completed so that reclamation can begin immediately. The plans must also include descriptions of proposed uses of the land upon reclamation and how that reclamation will be accomplished, as well as proof that anyone with a possessory interest in the land has been notified of proposed or potential uses. The plans must also explain how mine waste, tailings and water will be managed and how streambeds will be renewed to a condition

minimizing erosion and sedimentation. The plans are to be accompanied by a statement that the person submitting them accepts responsibility for their fulfillment (Cal. Public Resources Code § 2772(c)). The state also sets minimum standards for reclamation in a host of areas, like wildlife habitat, revegetation, drainage, recontouring, and so on (Cal. Public Resources Code § 2773(b)).

The state mandates that these reclamation plans be financially supported to a level the lead agency reasonably determines to be adequate for the purpose. Backing may take the form of surety bonds, letters of credit, trust funds, or other forms of assurance approved by the State Mining and Geology Board. Moreover, they are adjusted annually to account for inflation or to cover new lands disturbed by operations. They must continuously remain in effect until the project is completed (Cal. Public Resources Code § 2773.1(a)). Upon sale or transfer of the concern, the obligation remains the original owner's until the new owner provides their own financial assurance (Cal. Public Resources Code § 2773.1(c)).

Where operations for extracting metallic minerals are on or within one mile of a Native American sacred site, there are extra requirements. In these instances, reclamation plans must be to return the land to approximately its original contours. Financial assurance must be sufficient to achieve this objective (Cal. Public Resources Code § 2773.3(a)).

Annual reporting is enforced by the California State Mining and Geology Board. The California Department of Conservation, Division of Mine Reclamation administers SMARA providing training and support to local regulators to inspect and ensure that mines are reclaimed (California Department of Conservation, n.d.).



## Conclusion

California's commitment to environmental protection is apparent in the legal framework regulating mining. In requiring approval of both the EIR and the reclamation plan before mining operations with significant impacts on the environment may begin, the laws ensure consideration of impacts in the permitting process. In addition, the 2022 revisions to the CEQA provide clearer requirements for the assessment of climate change impacts as well as impacts on Native American tribal and cultural heritage. Overall, California provides an example of best practices on ESIA and mining permitting that promote sustainable development. A periodic stakeholder consultation and amendment process for the legal framework has shown to be important to address unexpected challenges in the interpretation and implementation of legislation.

New-mine permitting in California and the United States can generally be challenging due to a number of factors. ESIA processes can be lengthy for complex and controversial projects and projects located in sensitive areas. ESIA and permitting processes usually require coordinated federal and state reviews. In the United States, the review process and results can be subject to legal action, which can result in additional delays. There are ongoing efforts to evaluate and make recommendations related to mine permitting, particularly for critical minerals projects. It is possible that this evaluation and revisions to state and federal legislation intended to clarify ESIA processes will reduce delays.



## Case Study 2: Kazakhstan

Kazakhstan became an independent country in 1991. Mining makes up approximately 14% of its GDP (GRATA International, 2020; International Trade Administration, 2020). Mineral resources include uranium, chromium, lead, zinc, manganese, copper, coal, iron, and gold (Russell et al., 2018). Kazakhstan has challenges with air, water, and land pollution from agricultural and industrial development that has had poor regulation and enforcement in the past. Other challenges come from historical nuclear testing facilities and stresses from climate change moving into the future (Russell et al., 2018).

Many changes have taken place over the last three decades as the country works to strengthen its economy. Within the last two decades, government initiatives have strived to develop a strong, sustainable economy in line with international best practices. Updating its environmental assessment legislation has been one of the initiatives to improve sustainability.

However, in Kazakhstan, the human rights situation of the country deteriorated following the violent response to protests in 2021 (United Nations Office of the High Commissioner for Human Rights, 2022).

## Legislation Development History

Legislation, including provisions for environmental assessment, began in 1997. Key legislation pertaining to ESIA in the mining industry in Kazakhstan includes

**1997:** On Environmental Protection (Law No. 160-1) set the legal, environmental, and social basis for long-term environmental protection and efficient use of natural resources.

**2001:** On Architectural, Town-planning and Construction Activity in the Republic of Kazakhstan (Law No. 242) requires construction activities to have assessed environmental impacts in accordance with the Environmental Code and to protect people and the environment.

**2007:** Public Hearings Rules, approved by Order of the Ministry of Environmental Protection, provide direction on conducting public hearings supporting the Environmental Code.

**2013:** Administrative Infractions Code of the Republic of Kazakhstan (Law No. 235-V) defines the sanctions for the enforcement of environmental, safety, and other violations.

**2014:** Penal Code of the Republic of Kazakhstan (Law No. 226-V) defines penal codes for ecological disasters and environmental emergencies.



**2015:** On Access to Information (Law No. 401-V) sets up a framework to increase transparency.

**2018:** Code on Subsoil and Subsoil Use updated the legal structure of mineral resource holdings to a licenced system. The exception is uranium, which still follows the contractual system (Yerkebulanov et al., 2020).

**2021:** Environmental Code of the Republic of Kazakhstan (No. 400-VI 3PK) came into force July 1, 2021, and updates the 2007 Environmental Code to incorporate goals of sustainability, requirements for human and environmental protection, and requirements for impact assessment to a level of standard similar to European Union legislation (EU–Central Asia Cooperation on Water, Environment, Climate Change, n.d.). The environmental authority is the Ministry of Ecology, Geology and Natural Resources. Within the ministry, the Committee for Environmental Regulation and Control is tasked with implementing environmental protection controls and permits.

## Approach to Improvements

### Legislative and Regulatory Reforms

The Kazakhstan government wants to strengthen itself in the global marketplace in mining. In 2012, the government set the goal of being in the top 30 developed countries in the world by 2050 following sustainable development principles under the Kazakhstan 2050 Strategy (Nazarbayev, 2012). As part of its development program, the government looked to other countries as models and to obtain development assistance in order to improve its governance framework for mining.

Kazakhstan is a signatory to international environmental conventions and adopted the 17 SDGs in 2015. To meet these goals, Kazakhstan looked to models from the

European Union and other international bodies for assistance. Kazakhstan had assistance from the United Nations for amending its legal framework toward meeting the SDGs (United Nations in the Republic of Kazakhstan, 2018, p. 52). In 2015, an Organisation for Economic Co-operation and Development (OECD) Kazakhstan Mining Competitiveness Project was initiated by the Ministry of Investments and Development. In addition to identifying opportunities to expand the mining industry, the project looked to align the sector with international standards (OECD, 2018). One result of the OECD project was the creation of the 2018 Code on Subsoil and Subsoil Use to better align with other countries' codes, which was modelled after Western Australia's legislation regarding mineral resources. The changes allow more certainty for exploration licences and guarantee exclusive opportunities for holders of exploration licences to obtain exploitation (mining) licences. These changes provide more incentive for foreign mining firms to develop mines, an activity that was previously mainly carried out by state-run companies. In addition, the code included ESIA as part of licensing (OECD, 2018).

In addition, the 2021 update of the 2007 Environmental Code incorporated concepts from the European Union to strengthen the code. The new Environmental Code is comprehensive, addressing the following issues:

- rights and obligations of legal persons in relation to environmental protection (including public participation in decision making)
- public administration of environmental protection
- technical regulation and standardization in environmental protection
- environmental impact assessments (including strategic, project-level, and



- transboundary impact assessments), environmental reviews, and permits
- economic regulations concerning environmental protection
  - environmental damage, historical pollution, and remediation of adverse impacts
  - state monitoring of environment and cadastre (register of properties) of natural resources
  - environmental controls, including state inspections and industrial controls
  - environmental culture, education, and awareness building
  - environmental research
  - protection of ambient air, water, land, and nature, including the protection of biodiversity, fish, wildlife, forests, and genetic resources
  - climate and the ozone layer, including greenhouse gas regulations, ozone layer protection, and climate change adaptation
  - waste management, including general, hazardous, municipal, radioactive, and mine waste
  - environmental emergencies and disasters
  - international cooperation
  - liabilities.

Through the new code, sustainability in mining will be achieved by ensuring that adequate environmental protection measures are included in the mine designs and that communities are protected throughout the mine life and for the long term.

Note that the guarantees for opportunities for development provided in the 2018 Code on Subsoil and Subsoil Use should just be opportunities, and the ESIA legal framework should allow for a decision not to develop

the mine if the adverse environmental and social impacts are not mitigated to acceptable levels. In addition, strategic impact assessments could be completed for land-use planning in mineral-rich areas to ensure that mineral exploration licences are not granted in areas where there may be fatal flaws for mine development, such as the proposed location being a critical habitat for endangered species or encompassing non-recoverable cultural heritage sites.

## Implementation Benefits and Challenges

Effective implementation of the 2021 Environmental Code will take time and will depend on the supporting institutions and human and financial resources. The human and financial resources would also support the capacity building needed to implement the process and technical components of the code. Meeting sustainability goals in practice will also depend on the underlying protection of human rights to ensure that engagement with communities and other stakeholders is freely entered into and effectively informs project designs and decision processes. The political climate may also result in continued challenges with regard to information disclosure and addressing public concerns. Nonetheless, the components of the framework are being put in place and should support improvements in the governance of mining and work toward achieving sustainability goals over time.

## Conclusion

There are challenges with all growth and change. However, determined leadership in Kazakhstan has put the components in place to set up the country for success as its mineral industry grows and matures. Two useful strategies that are helping Kazakhstan develop its ESIA legal framework include using other successful ESIA legal frameworks as models and partnering with organizations for guidance and building



capacity. Effective implementation of the new framework, focusing on the ten key components, will be critical to achieving the sustainability goals in practice. Significant challenges threaten this step in Kazakhstan,

however, considering the country's current political and socio-economic situation, in which the social contract has been weakened due to the nation's economic slowdown (Thorez, 2022).



## Case Study 3: Queensland, Australia

Queensland, Australia, is a resource-rich state that includes the mining of coal, gold, lead, copper, zinc, silver, nickel, tin, bauxite, and industrial minerals (Queensland Government 2021a). Mining contributed 11.7% (\$39.6 billion AUD) to Queensland's economy for the 2019–2020 year (Queensland Government, 2020a).

The ESIA legal framework in Queensland provides a good example of a well-developed and comprehensive framework that continues to be improved upon with internal audit processes and external initiatives. It's important to note that even with a well-developed legal framework, there continue to be challenges and opportunities for improvements. This case study first presents the pertinent ESIA and mining-related legislation in Queensland, followed by discussions of the improvements that have recently been made and additional challenges still to be overcome.

### ESIA and Mining Legislation

ESIA legislation in Queensland has evolved over time, starting in 1971, with significant revisions from 2017 to 2020. Key Queensland legislation pertaining to environmental assessments and mining includes the following:

**1971:** State Development and Public Works Organisation Act (SDPWO Act) provides requirements for environmental assessments and sets up the position of the Coordinator-General to facilitate development while also administering environmental assessments for Coordinated Project reviews.

**1989:** Mineral Resources Act defines mineral and mining tenements and requirements for prospecting, exploration permits, mineral development licences, mining leases, and development plans. The act also provides links to permitting and environmental protection requirements in the Environmental Protection Act.

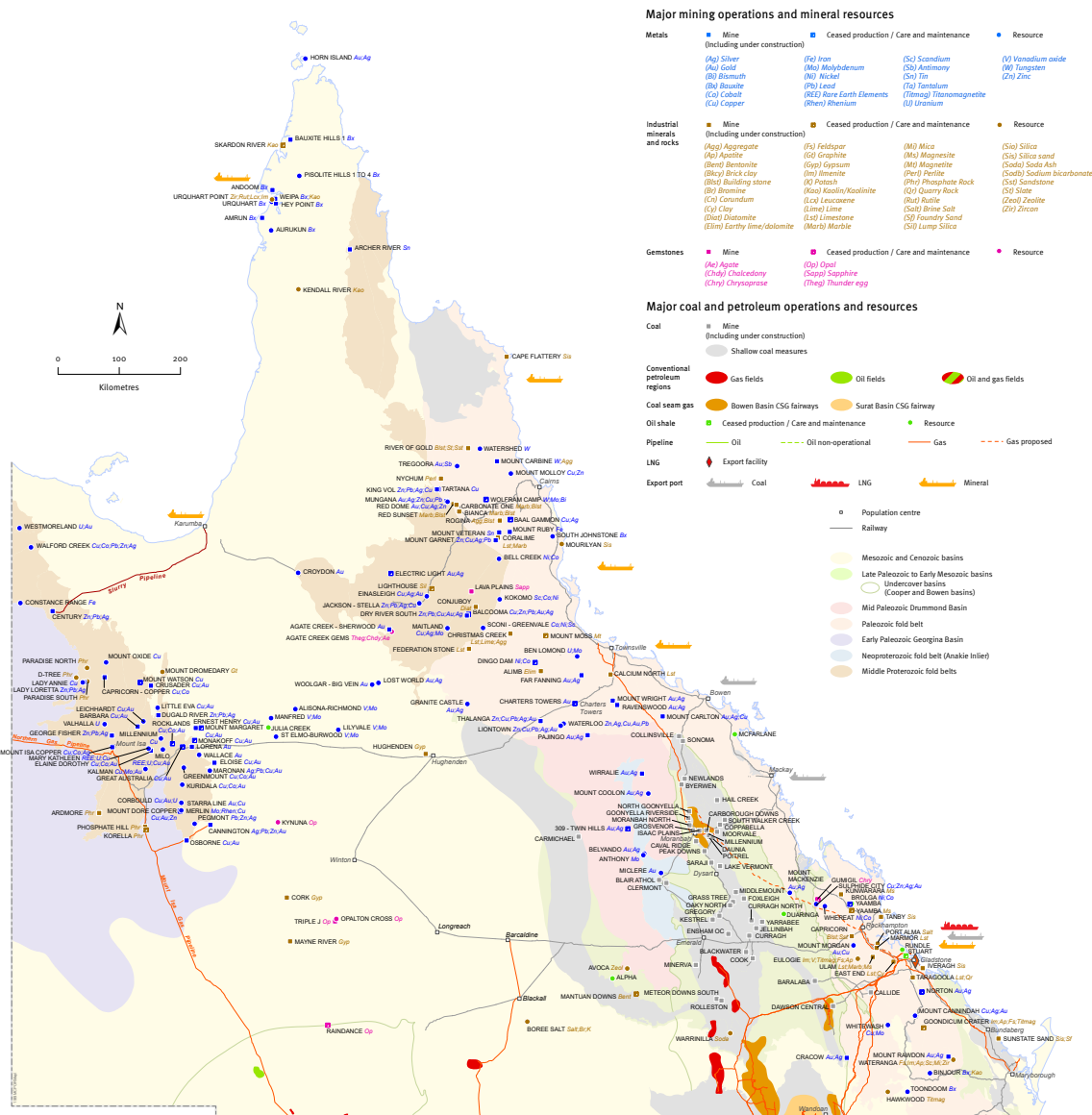
**1994:** Environmental Protection Act (EPA) sets the commitment for ecologically sustainable development, defines environmental protection requirements, sets the framework for the EIS, and provides comprehensive requirements around permitting, monitoring, and enforcement. The environmental assessments carried out under the EPA are administered by the state's Department of Environment and Science.

**1999:** Environment Protection and Biodiversity Conservation (EPBC) Act, which provides environmental protection measures and impact assessment requirements for activities involving nationally and internationally important resources and species.





**FIGURE 2. Queensland mineral resources**



Source: Queensland Government, 2019.

**1999:** Mining and Quarry Safety and Health Act defines the framework requirements around mines and quarries, including responsibilities and management plans.

**1999:** Coal Mining Safety and Health Act defines the framework requirements around coal mines, including responsibilities and management plans.

**2014:** State Development, Infrastructure and Planning (Red Tape Reduction)

and Other Legislation Amendment Act amends the SDPWO Act.

**2017:** Mining and Quarry Safety and Health Regulations set detailed requirements for health and safety as they pertain to mining.

**2017:** Coal Mining Safety and Health Regulations set detailed requirements for health and safety, specifically with regard to coal mines.



**2018:** Mineral and Energy Resources (Financial Provisioning) Act sets requirements and administrative procedures for financial assurances and payments for residual risk for resource activities.

**2019:** Environmental Protection Regulations update the 2008 regulations and provide implementation requirements for the EPA 1994, including provisions for EISs, environmental standards, and environmental management.

**2020:** Mineral and Energy Resources and Other Legislation Amendment Act makes revisions to existing legislation aimed at strengthening safety, financial assurance for rehabilitation, and administrative efficiency.

**2020:** Environmental Protection and Other Legislation Amendment Act makes reforms that will ensure the state has evidence-based, world-leading rehabilitation practices, following “best practices” in the industry, through the appointment of a Rehabilitation Commissioner, the amendment of the existing residual risk framework, and the establishment of a residual risk fund with a provision for payments to this fund to be managed by the Scheme Manager.

A bilateral agreement allows the Government of Australia to rely on Queensland’s state-run environmental assessments under the EPA 1994. However, “Coordinated Projects” such as large-scale complex mines fall under the SDPWO Act, through which the Coordinator-General submits their report to the Commonwealth and the decision is made under the EPBC Act (Queensland Government, 2021b).

The EIS processes under both the EPA and EPBC follow standard international practice, including screening, scoping, terms of reference, review, and decision stages. The legal framework is comprehensive for all key components of ESIA, incorporating agency coordination, all phases of mine development, public engagement, grievance

mechanisms, management plans, closure plans, permits, monitoring, inspections, and enforcement.

## Approach to Improvements Through Internal Reviews

### Monitoring and Enforcement

The Queensland Audit Office is an important administrative body that checks the efficacy of the legal framework. In 2013, the Audit Office found that monitoring and enforcement need improvement, with one third of mine sites in compliance, one third non-compliant, and the remaining third in an uncertain state regarding compliance (Queensland Audit Office, 2013). In response, Queensland’s Department of Environment and Science published Enforcement Guidelines in 2019 to help provide consistency and transparency in how enforcement is conducted. The use of enforcement tools ranges from warning letters and infringement notices up to prosecution and cancellation of permits, with enforcement dependent on criteria based on the objectives of the legislation, level of risk or impact, and level of culpability (Department of Environment and Science, 2019a).

### Closure and Rehabilitation

Also in 2013, the Audit Office found that Queensland had approximately 15,000 abandoned mines and an estimated AUD 1 billion in rehabilitation liabilities (Queensland Audit Office, 2013). In 2017, the Queensland Treasury Corporation then completed a review of the financial assurance framework. The review found that there were insufficient financial assurances in place for the outstanding rehabilitation liabilities for mine sites. This was primarily due to discounts, underestimates, the use of outdated contracting costs for rehabilitation estimates, and operator delays in updating their rehabilitation estimates



(Queensland Treasury Corporation, 2017). In response, the State of Queensland developed a discussion paper for policy reforms in 2017 (State of Queensland, 2017) and subsequently implemented additional closure plans and financial assurance requirements (Department of Environment and Science, 2019b).

The 2019 Mined Land Rehabilitation Policy was issued in 2019, and existing mines were required to update their Progressive Reclamation and Closure (PRC) plans within three years. As of 2019, all new mines need to include PRC plans with their Environmental Authority application. New guidelines were also issued for PRC plans and for public consultation in developing PRC plans. In addition, the Mineral and Energy Resources and Other Legislation Amendment Act was passed in 2020. This act formalized the improvements in the legal framework to improve safety, provided financial assurances for rehabilitation, and ensured all the related legislation is consistent with the reforms.

## Improvements From External Reviewers

Transparency International has been reviewing environmental assessment processes in many countries with well-developed legal frameworks. Their program is studying how environmental assessment systems in mining may be vulnerable to corruption. Corruption is defined by Transparency International (2017, p. 4) as “the abuse of entrusted power for private gain.” Corruption can be challenging to identify in many countries, as it can occur in subtle ways.

Transparency International’s review of the mine approvals process in Australia identified areas where there is a risk of corruption. Modes of corruption can be hard to find in comprehensive legal frameworks but can still carry a high risk. The review shows that Queensland needs to

improve the due-diligence review of mining companies proposing to develop mines in Queensland. Corrupt mining companies or their benefactors could pose a high risk for non-compliance and liabilities occurring at mines in Queensland (Transparency International, 2017). Some resource-development companies have histories of corruption that cannot be identified through standard permit application documents. Therefore, additional investigations are needed examining all company benefactors and their history outside the country to avoid risks for the state. In response, Queensland’s Mineral and Energy Resources and Other Legislation Amendment Act 2020 has added “disqualification criteria” in the legislation that provides additional powers to investigate companies proposing mine developments and to deny permits if there is a history of violations (Queensland Government, 2020b).

Another area needing improvement is the verification process for the ESIA. In Queensland, government agencies can contract experts to verify technical assumptions and modelling to ensure the impact assessment reports filed by the company are accurate; however, it was found that there was inadequate verification of the modelling results and data in ESIA’s, which is a potential source of corruption through the misrepresentation of impacts (Transparency International Australia, 2017).

Transparency International’s (2017) study of 18 diverse jurisdictions throughout the world concluded that corruption is possible in granting mining approvals irrespective of economic development or political situation. Transparency International (2017) identified potential areas for improvement for all stakeholders. For governments, however, corruption risk can be reduced if governments

- set clear, transparent, and effective rules and criteria for mining-approval processes;



- guarantee public access to information;
- establish meaningful opportunities for affected communities and civil society to participate;
- make sure that the agencies tasked with administering mining approvals have the necessary institutional capacity;
- conduct due diligence on licence applicants and their beneficial owners; and
- implement effective mechanisms to identify, manage, and reduce conflicts of interest.

## Conclusion

Queensland's ESIA legal framework is an example of a comprehensive framework with a number of provisions that foster effective implementation. The enabling factors, such as good inter-ministerial coordination, training, and the provision of good human and financial resourcing, help ensure the legal framework components operate as designed, to meet the intended sustainability goals. However, even in well-developed and resourced legal frameworks, there may be unexpected or subtle gaps that allow for corruption or slippage from the intended purpose. This is why an auditing process is an important addition to a strong legal framework. The Queensland Government's internal checks through the Queensland Treasury Corporation and the Queensland Audit Office and resulting policy amendment initiatives provide the needed tools for continual improvement.



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