



ISLAMIC REPUBLIC OF AFGHANISTAN

**Ministry of
Mines and Petroleum**

Mining Sector Roadmap



REFORM STRATEGY
EXTRACTIVE INDUSTRIES

2019

momp.gov.af

Contents

05	Foreword
06	Executive Summary
07	Afghanistan's Natural Resource Endowment: An Overview
14	Constraints in the Mining Sector
19	Legal Framework
22	Ministry of Mines & Petroleum: Required Reforms
25	Industry & Regional Market Development
28	Conclusions / Recommendations
31	Summary Table of Commodities
32	Summary Table of Areas of Interest



35 **REFORM STRATEGY**
EXTRACTIVE INDUSTRIES



Foreword



The Government of Afghanistan is committed to open and accountable mining sector, as it represents the largest opportunity to increase growth rates in the country.

To sustainably utilize our natural capital to create the financial capital to expand and ensure the freedoms, rights and securities enshrined in our constitution is the vision that guides us. We dedicate ourselves to utilizing the potential to create higher levels of economic growth for its citizens, generate fiscal resources for the government, and increase prosperity across generations. However, as is evident across many countries, it is not sufficient to simply have extensive natural resource endowments.

On the contrary, extensive natural resource endowments typically have the opposite effect: they generate a political economy with higher levels of conflict, lower rates of growth, and typically create a 'natural resource curse.' It is with this knowledge that the Government of Afghanistan has taken a long-term view of the country's natural resource endowment. The right set of institutional structures, legal basis, and policies can create the conditions for Afghanistan to move from a low-income country to a middle-income country over the coming decades. The wrong set of decisions could shepherd Afghanistan back towards conflict and low growth rates.

In preparation of this document, we reviewed the performance of many countries and translated some key principles to the Afghan context. The first principle is transparency. The lack of transparency often invites actors to develop contracts to benefit

individuals rather than to benefit the entire citizenry. Our first changes to the sector were therefore to ensure the online mining database was up to date and that all existing mining contracts were scanned and placed online. This sets the standard that all actors in the sector should expect transparency.

Second, we must prioritize our activities on mineral sub-sectors and areas of interest where we face the smallest number of binding constraints. For example, we will prioritize construction material contracts, industrial minerals, and precious metal tenders over bulk metals, as the required transport and power infrastructure is not yet in place for these heavier metals. Over time, as this necessary infrastructure is put in place, we will move towards tendering for these larger contracts.

Third, to implement this new strategy, we must configure the Ministry of Mines and Petroleum to focus on its core functions. At the current time, the ministry develops policy, regulates the mining sector, and has a number of state companies that operate across the coal, cement, natural gas, and fertilizer industries. We are of the strong belief that the regulatory and operational functions of the ministry should operate independently over time.

We believe that these principles, combined with Afghanistan's extensive mineral resources, will create the right conditions to increase economic growth, widen the country's tax base, create higher levels of geographic income equality, and produce intergenerational wealth for Afghanistan's citizens.

Mohammad Ashraf Ghani

President of Islamic Republic of Afghanistan

Executive Summary

Afghanistan has extensive mineral resources located in every province of the country. The country has world-class deposits of iron ore, copper, gold, rare-earth minerals, and a host of other natural resources.

However, the government must create the right set of rules to be able to optimally extract these resources. This report provides a roadmap for how we aim to ensure that Afghanistan's natural resources benefit its entire citizenry. If we are successful, we should see an increase in fiscal resources, an improvement in the country's trade balance, and ensure that we provide for future generations.

This paper begins by providing an overview of Afghanistan's natural resource endowments. We find that, among other minerals, Afghanistan is expected to hold more than 2.2 billion metric tons (MTs) of iron ore, 1.3 billion MTs of marble, almost 30 million MTs of copper, 1.4 million MTs of rare-earth minerals, and 2,700kg of gold. Although

these amounts are large in absolute terms, in the global context we should recognize that we are not the largest in any category (e.g. Chile holds approximately 210 million MTs out of the world's close to 1 trillion MTs of copper reserves). However, we can become a significant player across many markets.

The paper also reviews the constraints of the mining sector and then prioritizes various areas of interest (AOIs) and mineral interventions based on these constraints. Third, we review the legal basis of the mining sector and provide recommendations for changes. Fourth, we provide recommendations for the reorganization of the Ministry of Mines and Petroleum. Fifth, we provide a mineral development framework that takes into consideration the type of industry and region. And finally, we summarize our recommendations.

Afghanistan's Natural Resource Endowment: An Overview

It has been stated that Afghanistan holds greater than one trillion dollars worth of mineral resources. However, these resources have not been successfully developed during the 20th or 21st century.

To move from only a conceptual understanding of Afghanistan's mineral resources to an initial classification of probable and proven reserves, a number of studies have been conducted.

These began during the mid-20th century, when the USSR and its Eastern European allies gathered a great deal of mineral resource information. These mineral resource studies included systematic geological mapping, collection and analysis of rock and sediment samples, airborne geophysical surveys, and systematic mineral exploration.¹ Then, during the previous decade, USAID funded a number of surveys that were jointly conducted by the Afghanistan Geological Survey (AGS) and the USGS. These studies

now provide the most comprehensive review of Afghanistan's mineral resources.

The first study was completed in 2007² and provides an overview of Afghanistan's mineral resources by type of mineral deposit.³ Each chapter of this first report covers a particular mineral deposit.

Chapters #2-6 of the report covers magmatic-hydrothermal deposits, while the remaining chapters cover minerals that are not products of magmatism. Within each chapter, the report uses various geological information regarding tectonic environments, magma types, associated magmatic-hydrothermal mineral deposits, and intrusive stages corresponding to tectonic events, to identify potential mineral areas of interest.

To develop mineral forecasts in the report, the mineral teams used a three-part quantitative mineral- resource assessment methodology: (1) collecting data inputs, (2) conducting an assessment, and (3) providing analysis.⁴

The output of this process is used to project potential mineral supply, for environmental planning purposes, land planning, and economic forecasts.

In the first phase (collecting data inputs), the data inputs typically included data from known mineral deposits and occurrences,

¹ Many maps and reports from this era remain in the libraries of the MoMP and AGS, but many had been taken to Russia or its allies by the end of the Soviet intervention

² "Preliminary Non-Fuel Mineral Resource Assessment of Afghanistan" by Afghanistan Geological Survey (AGS) and USGS (2007), i.e. referred to as initial report

³ Classification is according to metallogeny scheme adopted by Cox & Singer (1986), p. 13 of report

⁴ Page 7 of initial report

geochemistry data, and geophysics data. In Afghanistan, the main data used were the geological maps and mineral occurrence databases from Orris & Bliss (2002) and Doebrich & Walh (2006). Most of the deposit descriptions were derived from Abdullah and others (1977). The assessment teams then reviewed the geology of areas and selected appropriate deposit models for each mineral, and the relevant data was entered into each models.

In the assessment phase, a technical team (a) delineated permissive mineral resources tract maps (for each type of deposit) that shows predicted undiscovered mineral resource tracts and mineral-deposit types,⁵ (b) estimated the number of undiscovered mineral deposits, (c) and checked local grade and tonnage data against worldwide models of mineral deposits and decides whether or not the worldwide models are appropriate for each particular tract. Whenever possible, the teams estimated the number of undiscovered deposits of each type in the undiscovered tracks, based on expert judgment, deposit density estimates, Monte Carlo simulation models, and assumptions about exploration adequacy.

In the analysis phase, a technical and economic team then used a resource simulation program and economic files (such as cash flow models, input/output analysis) to generate economic and policy recommendations for policymakers. The primary output was twenty-four specific areas of interest (AOI).

These studies have revealed that Afghanistan has extensive availability of metals, industrial minerals, and building materials. Bulk metals, including iron ore, copper, aluminum, tin, lead, and zinc, are located in multiple areas of the country. There

is also significant amounts of precious metals, including gold, silver, and molybdenum. Industrial metals, including gemstones, rare-earth metals, sulfur, talc, gypsum, chromite, are predominant across Central Afghanistan, Baghlan, Kunduz, Logar, Khost, among other places. And building materials are extensively located throughout the country. Let us provide a summary of the most important mineral resources, with a full table located at the end of this report.

1. Primary Metals

Let us begin our analysis by reviewing the primary metals, including iron, copper, gold, and aluminum:

Gold

Gold deposits in Afghanistan are estimated to be close to 2,700kg. There are two main gold belts: one that runs from Badakhshan southwest to Takhar, and a second that runs southwest from Ghazni to Zabul. These deposits are located across Badakhshan, West Zabul, and Ghazni provinces. Additional discoveries are probable

Iron

This is the most abundant mineral resource in Afghanistan. Sedimentary iron ore deposits in central parts of Afghanistan are abundant. The world class Haji Gak iron ore serve itself contains 2 billion MTs of ore at 63-69% iron. Total igneous iron ore reserves are estimated to provide an additional 178 million MTs of ore at between 47-68% iron, including the Furmorah deposit, which is estimated to contain 35 million MTs of ore. Additional discoveries of iron ore are likely.

⁵ These are defined by the geologic environments of formation described in the deposit model; estimates of undiscovered resources were made to a depth of 1 km beneath the surface of the Earth, which is consistent with mining practice

Copper

This is the most substantial non-ferrous metal resource in Afghanistan. Total reserves of sediment-hosted copper are estimated at almost 30 million MTs (12.3M MTs of known deposits + 16.9M MTs probable reserves). These copper deposits are also estimated to contain significant amounts of related metals (7,670 MTs silver + 601,500 MTs cobalt). In addition, estimates of porphyry-based copper were made using a general porphyry copper deposit model in 12 areas of the country, which resulted in estimates of at least 8 estimated undiscovered porphyry copper deposits containing an additional 28.5 million MTs of copper, 724,010 MTs molybdenum, and 682 kg of gold.

Aluminum

Deposits in Zabul and Baghlan provinces together contain 4.5 million MTs bauxite ore (50.5% alumina, 12% silica). However, their overall small size relative to deposits elsewhere, high silica content, and need for large amounts of electricity to produce aluminum make bauxite mining unlikely in the near term.

Other Primary Metals

Afghanistan also has significant amounts of lead, zinc, tin, tungsten, and mercury. The largest lead/zinc deposit is in Kandahar province and contains 90,000 MTs of these minerals. Tin and tungsten occurrences are abundant in Afghanistan, but require further studies to ascertain the size and style of these deposits. Mercury deposits in southwestern Afghanistan are estimated to be 32,000 MTs, large enough to support a local mercury industry.

2. Industrial Metals

Industrial minerals are broadly defined as nonfuel nonmetallic geological minerals of potential economic value.⁶ Let us review the primary industrial metals, including gemstones, rare-earth minerals, uranium, chromite, sulfur, and talc:

Gemstones

Afghanistan was historically one of the world's premier sources of lapis lazuli, emeralds, and rubies. Prior to 1979, precious and semiprecious gemstones were a major industry in Afghanistan. Most of the gemstones come from northeast Afghanistan (Badakhshan, Konar, & Nuristan provinces). These include emerald deposits of the Panjshir Valley, ruby, sapphire, and spinel occurrences in the Jegdalek area of Kabul province, and lapis lazuli occurrences in Badakhshan.

Rare-Earth Minerals

There are an estimated 1.4 million MTs of rare-earth minerals (REMs) and 3.5 million MTs of other REMs. This includes a large REM deposit located at Khanneshin in southern Afghanistan. Decisions regarding rare-earth minerals, including lithium and uranium, will be based on both economic and national security considerations. In particular, Afghanistan's National Security Council (NSC) will develop a rare-earth minerals policy. Within the constraints stated in this NSC policy, the technical and economic evaluation of REMs tenders will move forward in the same way as other mining contracts.

⁶ These include barite, bauxite, carbonatite, celestite, clay, cloal, fluorite, gypsum, halite, limestone, magnesite, pegmatites, slat, sulfur, talc, and travertine.

Chromite

There is an estimated 980,000 MTs of chromium oxide. Proven resources include 200,000 MTs (43% weight) in the Logar Valley.

Sulfur

Two known deposits in Bakhud and Badakhshan hold approximately 450,000 MTs of sulfur. Probabilistic estimates of significant bedded sulfur deposits in the Afghan-Tajik basin give a mean of 6 million MTs of undiscovered sulfur.

Talc

Metamorphic talc is present at the Achin deposit south of Jalalabad, which is the largest deposit of this type in Afghanistan. It has a measured resource of 1.25 million MTs of talc and 31,200 MTs magnesite. Additional deposits have been identified in other provinces but the precise amounts need confirmation.

Other Industrial Metals

Additional deposits of asbestos (13.4M MTs), barite (150M MTs), celestite (1M MTs), clay (2.2 cm of brick clay), pegamites (3.8M MTs of lithium oxide), and potash (27.5M MTs). These resources could provide a great deal of mining opportunities and employment disbursed throughout the country.

3. Building Materials

Next, let us review the building materials, including building/dimension stones and sand/gravel:

Building/Dimension Stones

The mountains of Afghanistan contain abundant rocks suitable for use as building and decorative stone. Granite, marble, limestone, and sandstone occur in abundance. Limestone deposits suitable for cement production are widespread in Afghanistan,

and deposits suitable for exploitation have been identified in Badakhshan, Baghlan, and Heart provinces.

Sand/Gravel

Afghanistan has abundant sand and gravel resources and abundant sources of rock for crushed stone and aggregate. Sand and gravel and aggregate material adequate for local industry are present adjacent to most existing population centers.

4. Hydrocarbon Resources

Afghanistan has extensive hydrocarbon resources. In particular, the two largest hydrocarbon basins in the country are the Amu Darya and Afghan-Tajik basins. The two basins encompass approximately 515,000 square kilometers in those portions that lie within Afghanistan. Since the first oil field was discovered in Afghanistan in 1959, more than 150 million barrels of oil (mmbbl) reserves and more than 4,500 billion cubic feet of gas (bcfg) reserves have been identified in 29 fields in the Afghan portion of the Amu Darya and Afghan-Tajik basins. Only a small portion of this resource base has been exploited. Using the latest techniques there is enormous opportunity for further substantial discoveries to add to Afghanistan's energy resource base. That resource base is essential to the economic development of the country.

In the Amu Darya Basin Province, most known recoverable crude oil and natural gas were discovered in Jurassic clastic rocks, Jurassic carbonate reef- and platform-associated rocks, and Cretaceous clastic rocks (down to a depth of about 5,500 meters). Most known recoverable crude oil and natural gas in the Afghan-Tajik Basin Province have been discovered in Upper Cretaceous carbonate rocks and in Paleogene clastic rocks (down to a depth of about 3,700 meters). A 2011 study estimated undiscovered, but technically

recoverable conventional resources of these two basins to be approximately 1.6 billion barrels of oil (220 million MTs) and close to 440 billion cubic meters of natural gas.

In addition to these two large known hydrocarbon basins, there are likely smaller undiscovered hydrocarbon assets in three main basins located in western and southern Afghanistan: (1) the Tirpul Basin, which is a transpressional basin located in western Afghanistan, extending from near Herat in the east, to the Iranian border in the west, (2) the Helmand Basin, which is situated in southwestern Afghanistan, southwest of Kandahar, and (3) the Katawaz Basin in southern Afghanistan, which consists of accreted terrane in the collision zone of the Helmand and Indian tectonic plates. Initial resource estimates were not made for the Helmand or Katawaz basins, but an initial assessment (2009) of the Tirpul basin estimates undiscovered conventional, technically recoverable petroleum resources of 22 million barrels of oil and 1.3 billion cubic meters of natural gas.

5. Areas of Interest

From the initial mineral studies, twenty-four areas of interest (AOIs) were identified. A number of these AOIs were then field checked by AGS and USGS geologies between 2009 and 2011, and then summarized in greater detail in two additional research volumes.⁷ The data includes GIS data, archival reports, maps, new research data, as well as a comprehensive bidding package for each AOI.

These AOIs commonly contain known measured mineral reserves or resources that were calculated from sampling in trenches, drill holes, or underground workings. These

AOIs contain a number of assets that should reduce investment risk, including road networks, so they are the most likely places to be tendered first.

The research volumes provide a three chapters for each AOI: (1) 'A' chapters: summarize the economic geology, (2) 'B' chapters: summarize the hyper-spectral data and hyper-spectral anomalies that may indicate mineralized areas, and (3) 'C' chapters: summarize the geohydrology.

To develop each AOI data package, a number of research methods were used. First, existing data in the form of archived reports were compiled. Second, a digital elevation map (DEM) and database were created using Advanced Spaceborne Thermal Emission and Reflection (ASTER) satellites.

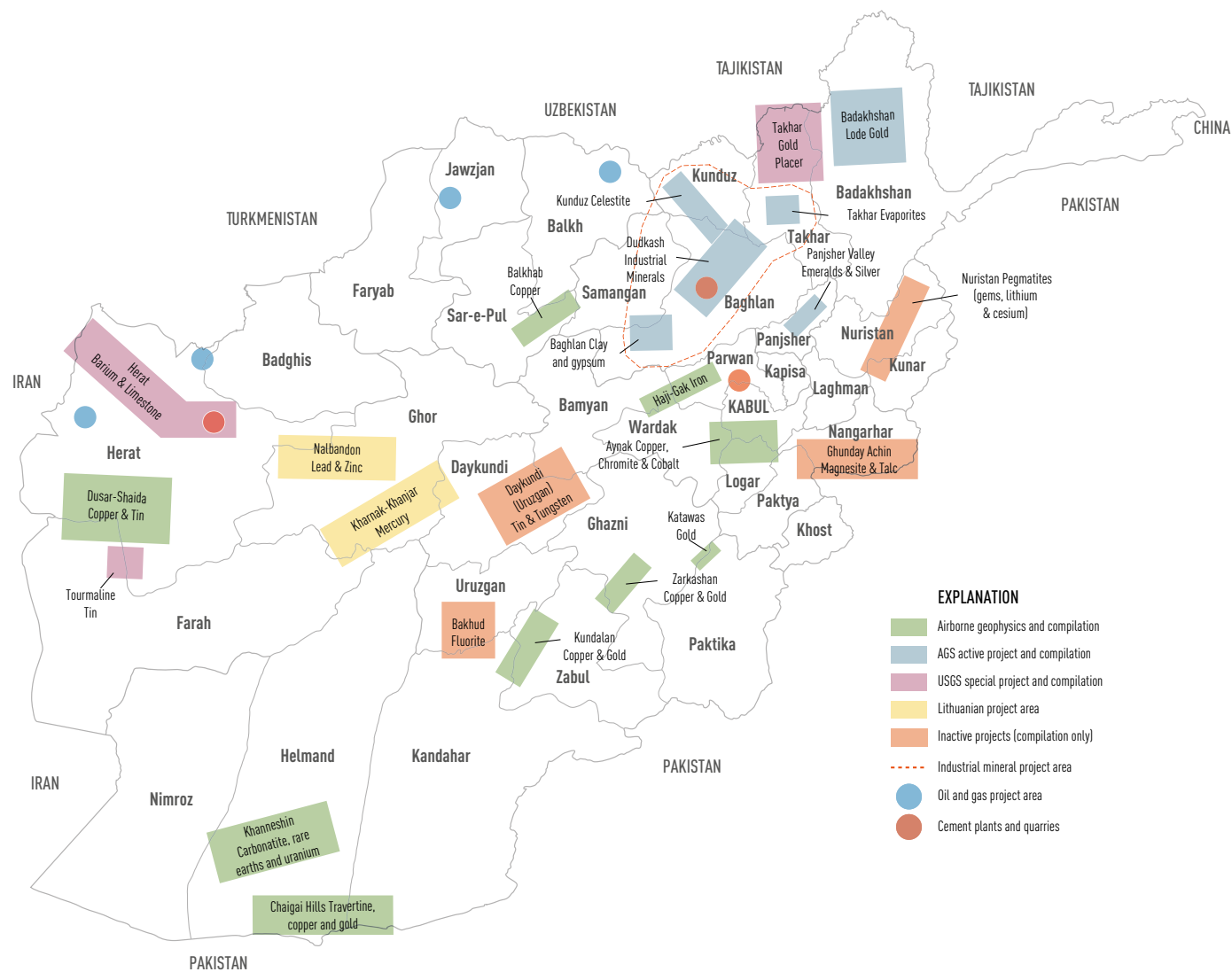
Third, the teams generated hyperspectral data to identify the occurrence of selected materials at the surface based on characteristic absorption features. Fourth, geophysical data methods combined existing data with new aeromagnetic and ground magnetic surveys to produce a map and dataset for each EOI. Fifth, geohydrologic data was obtained to provide information on the seasonal availability of water. This included the completion of the analysis of historical streamflow for Afghanistan. Finally, mineral scoping missions were undertaken to visit various AOIs and verify mapping and historical data.

Given this overview of Afghanistan's extensive mineral resources and areas of interest, let us now turn to the constraints that have thus far limited the extraction of these natural resources. By identifying the key constraints, we will be able to develop strategies to overcome the constraints, and by doing so, will be able to leverage our natural resource endowment into a sustainable resource for our citizens.

⁷ "Summaries of Important Areas for Mineral Investment and Production Opportunities of Nonfuel Minerals in Afghanistan," by Afghanistan Geological Survey and USGS (Volumes I and II)

Afghanistan's Natural Resource Endowment: An Overview

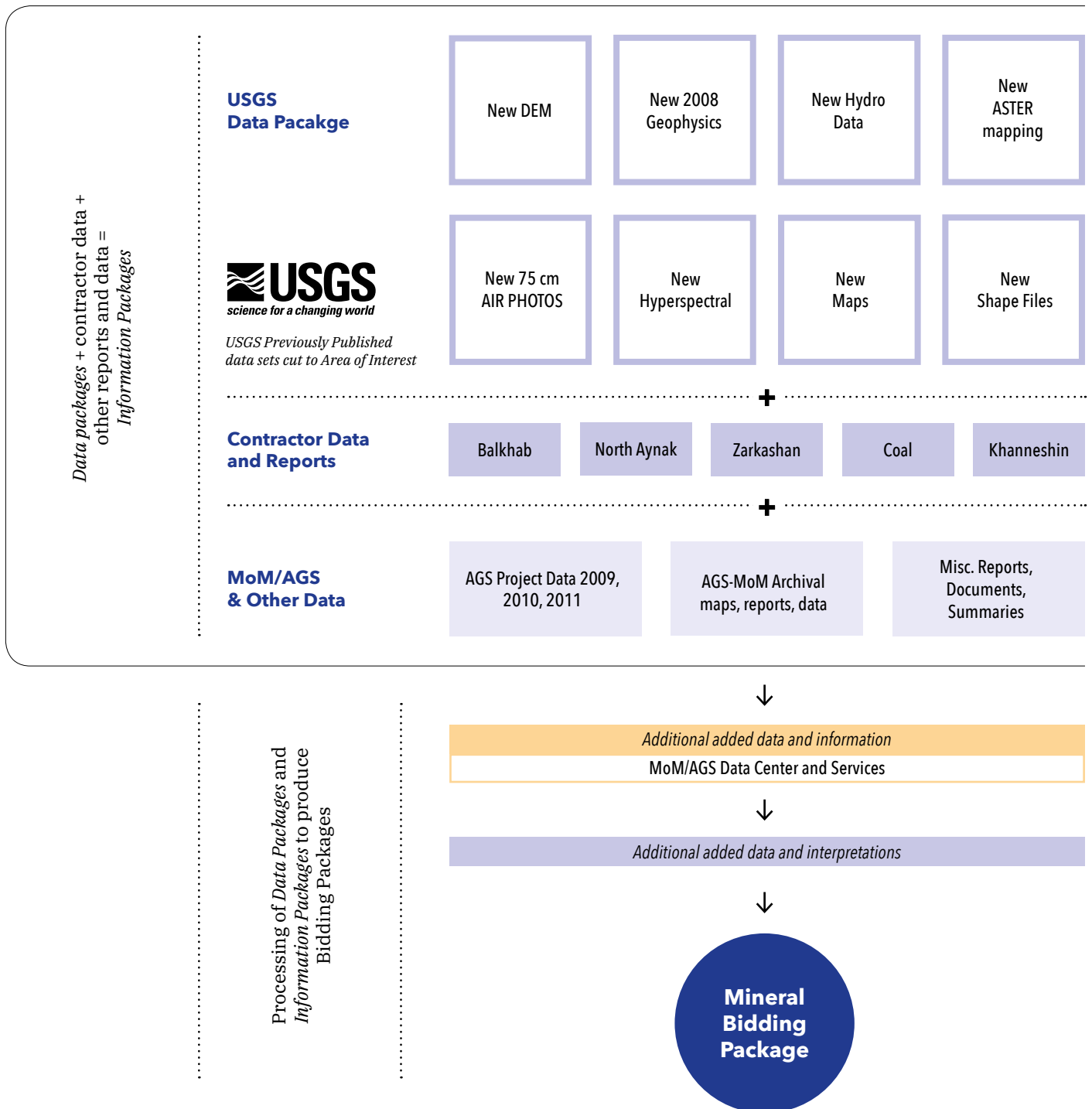
AFGHANISTAN: AREAS OF INTEREST (AOI)



Afghanistan's Natural Resource Endowment: An Overview

PROCESS TO PRODUCE MINING TENDER INFORMATION PACKAGES

Total Information Package Compiled by USGS



Constraints in the Mining Sector

Despite the preponderance of extensive mineral resources located throughout Afghanistan, minimal large-scale development of these resources has taken place during the 20th and 21st centuries.

The primary reason has been a number of important constraints that have not yet been removed. This section will provide an overview of the main constraints.

SUMMARY OF MINING SECTOR CONSTRAINTS

CONSTRAINT	SUMMARY
INFRASTRUCTURE	
Transport	Many minerals, and all bulk metals, need extensive transport infrastructure to move the minerals to end markets. We can think of a spectrum of transport infrastructure that is required, from no infrastructure for small precious stones such as gemstones to extensive railroad network infrastructure for iron ore transport. The Afghan Government is currently moving forward with new rail and road projects to reduce this constraint over time
Power	Mining and processing ore requires the use of extensive power infrastructure. In the most extreme case, the production of aluminum requires significant investment in power generation
Land	The land acquisition process can be a complicated and uncertain process for investors in many jurisdictions. Afghanistan has created a single point of contact (<i>ARAZI</i>) for all land-related issues
Water	Processing of minerals requires the use of extensive water resources. A policy should be developed to clearly delineate the water usage and water environmental standards
SOFT INFRASTRUCTURE	
Rule of Law	Mining contracts can extend for up to 30 years. In such contracts, both the investor and the host government must be confident in the rule of law and contract sanctity. The GoIRA has made development of the rule of law a cornerstone of our development policy
Security	Mining requires high levels of investment, typically over a wide geographic area. Security for such investments must be ensured
Procurement	Procurement has been a significant constraint in the past. To overcome this problem, the Government has created a fully professional office and a High Council on Procurement, chaired by the President, that meets on a weekly basis
Legacy Issues	Afghanistan's MoMP has a legacy of non-performing contracts. The Government of Afghanistan has recently taken decisions to settle and/or take action on these contracts
Community Engagement	Social impact assessments are a common component of many mining projects. But whereas most countries do not have a community engagement framework, Afghanistan will deliver all social projects through our Citizens Charter program
Environmental Issues	Environmental impact assessments are an important part of any natural resource project. We have developed a clear impact framework, that are in line with international standards
Human Capital	We have lacked the human capital necessary to lead and manage the knowledge systems necessary for the development of our natural capital. Training and hiring has been often ad hoc, resulting in poor utilization of technical assistance. We will prepare and implement a human capital action plan to address this critical constraint.
Information	Information necessary and sufficient for decision-making by policy-makers and investment by the private sector is still unavailable for most of the natural wealth of the country. We will invest in the knowledge generation and information management systems, including exploration of oil and gas, to enable us to harness our natural wealth for equitable and sustainable growth.

Constraints in the Mining Sector

Over the long-term, the constraints listed above must be resolved for Afghanistan's mining sector to improve. In the current climate, we must sequence reforms that take into account the existing constraints, while taking account of the progress that has been made in relaxing these constraints over the past few years. In sum, we have a coherent national development plan to relax these constraints. Let us highlight a few of these changes:

Infrastructure

Transport

The GoIRA has invested in improving transport infrastructure by signing multiple trade and transit agreements, as well as investing in road, rail, and airport infrastructure. These show that transport constraints have largely been removed for high value goods such as emeralds and gold, and that over time transport constraints for bulk minerals will also be removed.

In terms of international, regional, and bilateral trade and transit agreements, we have made a number of recent strides. Most importantly, we have joined the WTO, which integrates Afghanistan with international trade systems and rules. In terms of regional agreements, the Lapis Lazuli agreement gives Afghanistan direct access to European markets through Turkmenistan, Azerbaijan, Georgia, and Turkey. The Chabahar Agreement provides direct access to the sea via Iran and its Chabahar port. In terms of bilateral agreements, we have signed a trade and transit agreement with Uzbekistan that will allow for greater use of the Uzbekistan rail line for exports all the way to Kazakhstan and further to China. We will also move to hold discussions with Pakistan (*within the WTO*

framework) regarding land access rights to India.

Road investments include finalizing the completion of the national ring road between Qasiar and Laman in Northwest Afghanistan, increasing the amount of interconnections with neighbors (*e.g. the 2nd highway from Jalalabad to Pakistan*), and greater integration of Central Afghanistan with the ring road (*northwards with the Yawkalang to Dar-e-Suf road, southwards with the Bamyan to Maidan road, the Dushi to Bamyan road, the East-West highway, and the Bamyan- Uruzgan-Kandahar road*). Tertiary roads are also being quickly built throughout the country.

In terms of railways, Afghanistan now has three railway connections with neighboring countries: (1) Uzbekistan at Hairaton in Balkh province, (2) Turkmenistan at Aquina in Frayab province and by Mrach 2018 at Torghaundy in Herat province, and By and (3) Iran close to Herat. Railway feasibility studies have been completed for the Northern Rail link connecting Tajikistan (*at Sherkhanbandar*) with Mazar-e-Sharif and Uzbekistan (*at Hairatan*). We are moving forward with a feasibility study for the portion of the railway to connect this northern line with Iran. Longer-term, we will implement our vision to extend these rail network to significant mineral areas of interest.

In terms of airports, Afghanistan has a significant asset base of airport infrastructure. Our eight airports are world class in terms of capabilities, and we are developing a strategy to transform these to free economic zones over time. We have inaugurated the air corridor strategy, which provides quick transit for high value-to-weight goods to regional markets. We have used this program to increase exports of Afghan fresh and dried fruits, but this could just as easily be used to transport goods such as gold, talc, or precious stones quickly to international markets.

Constraints in the Mining Sector

Power

Significant amounts of power are required to mine and process minerals. Afghanistan previously operated under nine separate islands of electricity. Within three to four years, these islands will be connected to each other, as well as with regional electricity markets. This strategy will provide sufficient power to Afghanistan's population, as well as for all commercial and mining needs.

In terms of imports, we have signed a number of agreements with Turkmenistan and Uzbekistan that will provide up to 4,500MWs of power to Afghanistan. Furthermore, we have invested heavily in transmission networks to distribute this power throughout the country. In terms of power generation, we recently opened up the power generation market to private sector investment, and this policy shift has already paved the way to two completed power IPP contracts. These activities have already relaxed the power constraint in Afghanistan's northern provinces. The 300MW Doshi-Bamyan electricity line will help remove the electricity constraint in Afghanistan's central provinces. And the implementation of the TAPI natural gas pipeline and TAP500 projects will provide power generation capabilities for Western and Southern Afghanistan. Finally, for smaller-scale and off-grid locations, we are working to implement renewable energy projects.

Land

Land acquisition can be a complicated process in most countries. Although most of Afghanistan's mineral resources are located in uninhabited areas, some of these mineral assets are located in agricultural, industrial, or perhaps even residential areas. If land acquisition becomes necessary, Afghanistan has passed the required legislation and designated one organization (*ARAZI*) as the sole point of contact for land acquisition needs.

Water

Water is essential to the mining and processing of minerals, as well as for local communities in mining areas. The GoIRA is developing a water policy that will clearly delineate the water rights for all stakeholders. This will include prioritizing economically viable projects for dams, irrigation projects, local communities, and the mining sector. Within this policy, we will create a framework that identifies the tradeoffs of different uses of water, but ensures that the mining sector receives priority. This framework will apply throughout Afghanistan's five major water basins and associated tributaries.

Soft Infrastructure

Rule of Law

Mining companies want stability in regards to both mining legislation and mining contracts to be able to make long-term investment decisions. Afghanistan unfortunately has a history of unclear rules of the game, manipulation of tendering processes, and widespread corruption. However, we have made great strides in three areas: (1) developing the legal basis of a market economy, (2) ensuring transparent decision-making processes for all economic and procurement decisions, (3) improving contract stability, and (4) accepting international dispute resolution mechanisms.

To develop required legislation for a market economy, we are in the process of enacting various pieces of legislation (e.g. revising the Corporations Law, passing a new Bankruptcy law). To ensure implementing transparency in all economic-making and contractual processes, all large contracts are now approved at the National Procurement Council, economic policy is created at the

Constraints in the Mining Sector

High Economic Council, and any corruption issues are reviewed at the High Council on Governance and Rule of Law.

To improve contract stability, the GoIRA has hired international external counsel to develop and advise on contractual terms and tendering processes. We will over time use standard contracts. Furthermore, we have appointed new leadership at our legal institutions, and have ensured greater autonomy for these legal sector actors (*including a vice-president in charge reviewing legislation, a new Chief Justice of the Supreme Court, and a new AG*).

Finally, there is broad agreement in terms of accepting international dispute resolution and arbitration mechanisms for large contract awards. In sum, we have moved from a situation where contracts were awarded non-transparently based on side deals, to a rule-based and transparent contractual development and awards process. These steps should provide confidence to mining investors that Afghanistan's legal framework, as well as contractual terms and tendering process, will provide stability for investment decisions. This leaves only the identification of relevant risks, appropriate pricing of such risks, and usage of risk-mitigation strategies where available (*e.g. from IDA, OPIC, or MIGA*).

Security

Although we must acknowledge security considerations in Afghanistan, it is worth noting that Afghanistan already has thousands of kilometers of existing transmission lines and fiber optic cables, which are rarely targeted. To further ensure security for economically significant projects, we have embedded security strategies for large economic projects within the national security four-year action plan. For these large projects, the Afghanistan Public Protection Force (*APPF*) is available to provide

customized protection. Furthermore, the U.S.'s recently announced South Asian strategy calls for a secure Afghanistan embedded in a secure region, and will ensure continued support for Afghanistan so that we triple the size of our air force, expand the commando core to a division, and implement a generational shift to an active cadre of young commanders. These security changes will complement the motivations of the entire population, which is clearly aligned and supportive of large national economic projects.

Procurement

Afghanistan's reform of procurement has been cited as an example of success in fighting corruption and ensuring transparency. As the National Procurement Office has acquired both the capacity and the culture of efficiency, effectiveness and transparency, procurement of mining and oil & gas contracts will take place through this office. To ensure efficiency, the technical board for evaluation of bids will function under the umbrella of the National Procurement Office, submitting its recommendations to the High Economic Council and, after approval, follow up on the procurement process.

Legacy Issues

The GoIRA is committed to ensuring transparency into the mining sector. The MoMP has already updated the database of all mining contracts, as well as has scanned and uploaded all mining contracts. This sets the standard for transparency in the mining sector. We are now working to resolve, using the legal system, any legal and financial issues with previously signed contracts. These steps will ensure that there is clarity in regards to the existing mining landscape, and so that the MoMP can focus on developing the vision of the mining sector rather than focusing on the past.

Constraints in the Mining Sector

Community Engagement

While many mining areas are located in relatively desolate areas, there are significant mineral areas where community engagement becomes critical. The minerals framework stipulates that a portion of mining revenues be spent at the local level. Rather than every mining company having to develop unique projects for each community in which they invest, the GoIRA strategy will be to utilize such funds through the Citizen’s Charter program, which provides a nationwide framework for engaging with local communities. The use of this framework will lower uncertainty and program management costs for mining companies, while increasing the effectiveness and benefits for local communities.

Environmental Issues

All mining exploitation contracts require an environmental impact study. We have only one relevant counterpart: Afghanistan’s National Environmental Protection Agency (NEPA). They are in the process of ensuring that their policies are in line with international environmental standards so that mining companies will not face unique environmental standards in Afghanistan.

Knowledge and Information

Management Systems

A whole government approach for information management systems is being prepared, with Ministry of Information and Culture and the Central Statistical Office leading an inter-ministerial task force. This group is also tasked with identifying crucial gaps in the knowledge of our natural capital and MOMP will play an active role in assessing gaps in its area of competence and propose a program for generation of knowledge.

Human capital

High Council on Human Capital, chaired by the President, has been formed and meets regularly to reform the entire educational

system of Afghanistan. Identification of the skills necessary for sustainable utilization of our natural capital and investing in the systems and institutions to produce and upgrade the skills is one of the central objectives of the Council.

The first implication of these existing constraints is that it will impact the sequencing the selection of the priority AOI tenders. For example, we will likely have to move forward with bulk metal contracts such as iron ore and copper only after a few years, when power and transport issues are resolved. The lack of acknowledgment of these constraints is one reason why the signed Aynak and Haji-Gak contracts have not moved forward since the signing of these contracts. For this reason, it likely makes greater sense to begin with construction material and aggregate contracts, as these form the bulk of contract awards and do not require extensive transport or power resources.

Second, the security constraints imply that we should either sequence AOI tenders in regions of the country with higher security, or upfront acknowledge that greater security must be provided for mines in less secure areas.

Third, we must decide whether we want to relax these constraints one by one, or if it is possible to resolve these constraints concurrently by region. In other words, it may be difficult to quickly resolve security, power, or transport issues throughout the country, but it may be possible to resolve a bundle of these constraints in a particular region at the same time. If this is true, then we must align our regional transport, power, security, and other strategies with our mining strategy.

Legal Framework

A strong legal and regulatory framework can successfully attract and retain investment.

Moreover, it can assure contract transparency. The Afghan Cabinet originally adopted the Mineral Law in 2005. It has since been amended three times: in 2009, 2011, and 2012. There are four key issues that must be resolved in the current version: (1) decision rights, (2) tendering process, (3) classification of mining assets, and (4) royalty rates. First, in terms of decision-rights, the law provides for different approval processes and decision-rights for each of the five contract award types. This is provided in detail in the table below.

The decision-rights as outlined in the mining legislation provide a great deal of discretion to the Minister of Mines to approve contracts. In particular, the Minister currently holds decision rights authority for reconnaissance, small-scale, artisanal, and construction material contracts. We therefore will make changes to the legislation such that all contracts should have to be at a minimum taken and approved at the High Economic Council (HEC), with larger contracts approved at Cabinet. This change of decision-rights in the legislation should be made immediately.

Second, the current legislation must clarify the tendering process for all types of contracts. The key principle here is the requirement for transparency. The current mineral legislation allows simple applications for reconnaissance, artisanal, and construction material contracts. We will move to an open tendering process for all type of production licenses. Furthermore, a professional board to evaluate all mining tenders submitted to the ministry will be jointly proposed by the ministry and the National Procurement Office for approval

TYPES OF MINING LICENSES & ASSOCIATED DECISION RIGHTS

License	Process	Decision	Area (maximum)	Term
1. Reconnaissance	Application	MoMP approval	20,000 square km	2 years + no extensions
2. Exploration	Tender	HCI + Cabinet approval	250 square km	3 years + 2 extensions
3. Exploitation	Tender	HCI + Cabinet approval	50 square km	30 years + 15-year extensions
4. Small-Scale Mining	Tender	MoMP approval	1 square km	10 years + 5-year extensions
5. Artisanal	Application	MoMP approval	1 hectare	5 years + 5-year extensions
6. Quarry & Construction Materials	Application	MoMP approval	1 hectare	5 years + continuous 5 year terms

HCI = High Commission for Investment

Legal Framework

to the President. After this standing board evaluates the mining applications, they will provide an evaluation report and final recommendation to the HEC and, in case of approval, follow up on the procurement process up to the High Council on Procurement. This change of tendering process in the legislation should be made immediately. In the long-term, this standing advisory board will also act as the board for the independent mining regulatory body.⁸

Third, we must clarify how we classify mineral assets in the minerals legislation. The current classification methodology relies too heavily on the maximum mining area to distinguish license types. This has led to confusion and rent-seeking, as both mining companies and ministry employees simply divide a mining area to smaller blocks, thereby allowing approvals at the ministerial level rather than the council or Cabinet level. Instead, we seek a classification scheme that reduces the types of licenses and focuses classification of licenses on the type of mineral and required investment levels. For example, gemstones and construction materials would be classified as small-scale mining licenses, while copper would be an

exploitation licenses, irrespective of the license area. These changes in the law should be made immediately.

Fourth, we must clarify which contractual terms should be stipulated in the Mineral Law versus individual contracts. The consideration of such frameworks must take into account the trade off between certainty for investors and flexibility for the government as conditions potentially improve. In particular, many countries have moved away from a legal framework where royalty rates are negotiated into contracts to a framework where royalty rates are specified in the law (and are distinguished by the type of mineral). This change would provide a greater deal of certainty to investors during their exploitation period. Furthermore, such a legal change would allow the state to grant an almost automatic transition from exploration to exploitation licenses, as there would be no financial negotiation necessary if a company finds a mine during its exploratory period (this would still require negotiations on minor issues). This legislative change will require some analytical work, but should also be made immediately.

PROPOSED: TYPES OF MINING LICENSES & ASSOCIATED DECISION RIGHTS

License	Process	Decision Rights *	Area (maximum)	Term
1. Reconnaissance	Application	HEC approval	20,000 square km	2 years + no extensions
2. Exploration	Tender	HEC + Cabinet approval	250 square km	3 years + 1 extension
3. Exploitation	Tender / Application [^]	HEC + Cabinet approval	50 square km	30 years + 15-year extensions
4. Small-Scale Mining	Tender	HEC approval	1 square km	10 years

* All licenses require the review of the Standing Technical Board for all applications before they are presented to HEC and Cabinet

[^] Exploitation licenses go for tender, except for cases where an exploration license leads to a mineral finding, in which case the license will be transferred to an exploitation license

⁸ Please see the next section on MoMP required reforms

Legal Framework

Some countries have gone even further, and have made an even stronger commitment to potential investors by passing an additional piece of legislation that ensures the stability of contractual terms of twenty or thirty years for mining investment contracts. This is the framework that the country of Chile has implemented with a great deal of success. We will evaluate the potential for similar legislation in Afghanistan. Taken together, the mentioned changes would create a new tender process and decision-rights framework as per the table below. To reiterate, there were four required legal changes that we will move to implement immediately. In terms of decision rights, we have provided a framework where approvals have to be given, at a minimum, by HEC or Cabinet. In terms of tendering processes, we have made all processes to be open bidding processes, except for reconnaissance licenses. In terms of classification, we have suggested that the classification of contracts should be based more on the type of mineral and required investment rather than the area of

exploitation. And in terms of royalty rates, these will now be specified into the legislation (distinguished by the type of mineral). While these changes will be made immediately, a larger reworking of the legislation will take place over the next year.

Furthermore, we must move towards a system of standardized contracts. Just as with procurement contracts, financial terms should be standardized, leaving only a few minor terms that will be negotiated during the bidding process. This would act as another mechanism to provide greater stability for potential investors, as well as likely reduce the likelihood of corruption during the bidding process.

Finally, Afghanistan has Mining Regulations that were approved on February 14, 2010. These regulations provide greater detail for each type of license, tendering process, royalty fees, and environmental and social protection issues. These regulations should also be reviewed to ensure compliance with any redrafts of the mining law.

Ministry of Mines and Petroleum: Required Reforms

To move Afghanistan's mineral sector forward, we must reform the Ministry of Mines & Petroleum (MoMP) itself. The core functions of the ministry must be clarified and redefined. The ministry currently combines elements of policy-making, regulation, and operations, and employs more than 2,200 employees. Over time, we seek a MoMP will retain and strengthen its policy-making role, while relinquishing its regulatory and operational roles.

The regulatory component of the ministry will initially be given operational autonomy, and over time be spun off as a separate regulatory authority. This regulatory portion will be responsible for tendering processes, similar to the telecoms and hydrocarbons industries. Likewise, the operational portions of the ministry, which include Afghan Gas Enterprise (AGE), Kod-e-Barq (KeB) fertilizer factory, Jabal Saraj cement (JSC), and Coal Enterprise (CE) will each be corporatized. The Ministry will retain a majority ownership stake, but will

reduce and eventually eliminate its role in the operations of these enterprises. As a first step, each tasadee should implement financial accounting systems, obtain an external audit, and expand its board members to include independent directors.

Second, to improve employee performance, the MoMP must effectively leverage external assistance. Too often in the past, single individual consultants with only minimal mining experience provided technical support for the ministry. We must accept that some activities should be outsourced, so that the ministry could focus on its key policy-making role. The roles that should be outsourced include the legal and transaction functions. This means that the ministry will only retain small legal and financial teams, whose job it will be to liaise with external consultants. Ideally, MoMP would retain multiple legal and financial teams, who could then provide multiple legal and financials opinions for each tender or financial transaction. A vital component of

Ministry of Mines and
Petroleum: Required Reforms

this reform is to depoliticize the legal function within the ministry. Currently, legal advisors report directly to the minister. This creates turnover as each new minister brings his own legal advisor. Instead, the ministry should create an office of legal counsel, whose staff builds expertise over time and is appointed by the civil service commission instead of the minister.

Third, MoMP should move away from general technical assistance contracts, and move towards specific support for key tasks. Fourth, the ministry should identify areas where it requires training, and should partner with domestic mining technical institutes and other mining ministries to build capacity.

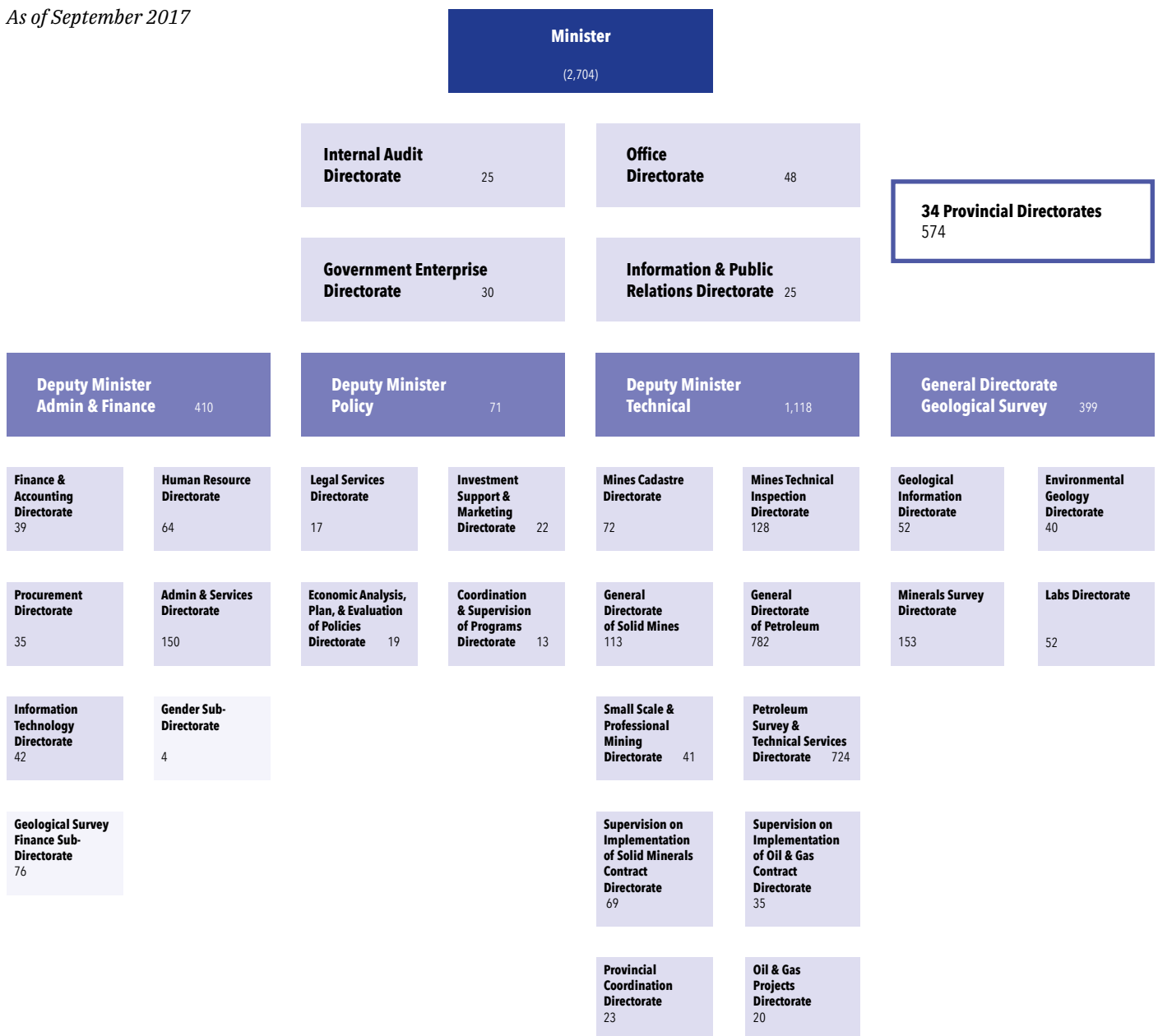
KEY DEPARTMENT SUMMARIES

Department	Summary
OFFICES	
Afghanistan Geological Survey	The Afghanistan Geological Survey is responsible for developing and maintaining natural resource technical reports. Its archive collection contains a wealth of reports, aerial photographs and maps of the geology and mineral resources of Afghanistan. It is housed in one wing of the AGS building and consists of four rooms containing the collection and another four rooms comprising staff offices, a consultation room and storage rooms
Technical Offices	Most offices under the MoMP DM Technical deputy are key in technical decision-making. A key office is the cadaster department, which is responsible for assessing production
TASADEES	
Afghan Gas Enterprise (AGe)	AGE extracts gas at its four main gas reserves in Sheberghan City of Jawzjan province. Annual production is 147 million cubic meters. The company's main customer is Kod-e-Barq fertilizer company, as well as local businesses and residents of Sheberghan City. Two new contracts for generation of 90 megawatts of power by the private sector have been approved.
Kod-e-Barq Fertilizer Factory (KeB)	This company is located 18km west of Mazar-e-Shareef. It was established in 1964 with an initial investment of \$48 million. During its early period, the factory had the capacity to produce 105,000 MTs of fertilizer and 48MW of electricity per year. Currently only the factory only produces ~35,000 MTs of fertilizer and ~13MWs of power
Northern Coal Enterprise (NCE)	NCE is one of the four state owned enterprises managed by MoMP. In terms of operation, NCE currently owns six mines, of which four are active mines and two are inactive mines. The current daily production of NCE is an average of 4,500 MTs. In addition, NCE operates as a coal trader, sourcing supply from great number of independent miners
Jabal-Saraj Cement (JSC)	A small cement clinker factory that produces minimal amounts of cement for local consumption

Ministry of Mines and
Petroleum: Required Reforms

**ORGANIZATIONAL STRUCTURE
OF THE MINISTRY**

As of September 2017



Industry and Regional Market Development

Afghanistan must leverage the expertise of the private sector to harness the potential of its mining sector.

That much is clear. But the Government can support the sector by improving minerals and hydrocarbon legislation, recalibrating the MoMP so that it works in support of the private sector, removing infrastructure impediments, and implementing a transparent tendering process. Although market development will depend on the trajectory of future mineral findings, we offer a few potential examples of industry development across a few mineral/industry sectors:

Cement Production

CENTRAL + WESTERN AFGHANISTAN

Cement is the most basic of all modern building materials. Hence, the availability of reasonably priced cement to the construction industry in Afghanistan is a high priority. The demand for cement is estimated at greater than 6 million MTs per year, which is currently being met by imports from neighboring countries. The two most promising areas for cement production are in Pul-e-Khumri

(Baghlan) and Jabal-e-Saraj (Parwan). If required, a detailed feasibility study should be commissioned for each, and then both sites should be put out for tender. There is also an opportunity for a cement plant at Herat. The site has extensive limestone, and power needs can be met by either the nearby Sabzak coal area or natural gas once the TAPI pipeline reaches the city

Hydrocarbon Market Development

NORTHERN AFGHANISTAN

Northern Afghanistan's Amu Darya and Afghan-Tajik basins could become the center of oil field drilling, service, and refining industries. In addition, the region could be locus for natural gas production and transmission facilities.

Gold Market Development

NORTHERN + SOUTHERN AFGHANISTAN

Afghanistan's gold belt runs from Badakhshan southwest to Takhar. Given the concentration of the gold belt, a domestic processing industry could be developed in northeast Afghanistan. A second gold belt running from Ghazni to Zabul could be centered in Ghazni. Both markets could be connected via air corridor to the largest gold market in the world in India.

Industry and Regional Market Development

Gemstone Market Development

EASTERN AFGHANISTAN

Extensive gemstone assets are located in Panshir, Nuristan, Kapisa, and Laghman. Kabul could therefore become a key gemstone processing area. MoMP must develop a clear licensing and validation process, so that gemstones are processed in Kabul, and could be exported via air corridor to international markets in India, China, and beyond.

Rare-Earth Minerals

SOUTHERN AFGHANISTAN

REMs assets in Afghanistan provide a unique opportunity. These assets will need to be tendered and evaluated under commercial terms, but under the parameters laid out in a national security REMs strategy. One such area of interest is the lithium deposits located in southern Helmand province. Such assets could be transported to international markets via our extensive airport infrastructure and air corridor program.

Bulk Minerals

CENTRAL AFGHANISTAN

Both the Aynak copper and the Haji-Gak iron ore mines, as well as other large bulk mineral assets, are located near Kabul. These mineral resources require extensive power and rail infrastructure. To ensure the development of our world-class bulk mines,

investment in the required infrastructure, such as the rail and power networks, will be a national priority. Meanwhile, we will focus on development of medium- size iron and copper deposits. Current market demand and future infrastructure investments serve as a good guide to the private sector. Investment in steel mills in the last three years, for instance, has boosted domestic production to 220,000 tons, allowing it to meet about 33% of the current demand. Construction of the national railway and power systems will boost and sustain the demand for at least two decades, allowing for a medium-term horizon.

Talc

Preliminary analysis shows that Afghanistan can join the rank of 10 largest producers. Eastern Afghanistan, particularly, is endowed with high quality deposits that are harvested from the surface. Despite the fact that talc was classified for artisanal mining, the private sector has already invested around \$35 million in the value chain and an industrial part in Nangarhar has emerged as a hub of processing. Examining the prospects, the Economic High Council has changed the classification into large-scale, instructing the ministry to create the conditions for award of competitive tenders for large-scale development of the value- chain of this mineral and export of its processed products.

AFGHANISTAN MINERAL PRODUCT / REGION MIX

Region	Primary	Industrial	Bulk	Building Materials	Hydrocarbons
Eastern	--	Gemstones + Talc	Copper + Iron	Marble	--
North	Gold	Gemstones	Copper	Marble + Limestone	Amu Darya + Afghan Tajik
West	--	--	Copper	Marble + Limestone	--
South	REMs + Gold	Flourite	Copper	--	--
Central	REMs	--	Lead + zinc	--	--

Industry and Regional
Market Development**Chromite**

Exploitation of chromite through crude inefficient technology and its smuggling has become a contributing driver of conflict in the central, southeastern and eastern regions of the country. Creating the conditions for investment in processing facilities and the development of an efficient and profitable value chain, is, therefore, a priority for the country.

Marble

Our deposits of 1.3 billion MTs gave us the quantity to be a long-term player. Additionally, we are blessed with a range of colors, around 40, and quality, including Carrara quality white. An analysis by Chinese experts estimate that an annual export of \$500 million to China alone is feasible. Concentration on the development of the value chain for marble, therefore, will be among our top priorities.

Coal

Initial estimates of coal deposits were in the range of 1 billion MMTs. Subsequent estimations, however, have varied widely. MOMP, however, estimates 2017 production around 2 MMTs, of which around 500 MMTs have been exported. Production is inefficient, dangerous and, at times, illegal. As our coal is high quality, we will focus on its utilization for generation of power through clean coal technology, develop its value chain, and seek agreements for export to new markets.

These product/region mix strategies are summarized in the table below. unique opportunity. These assets will need to be tendered and evaluated under commercial terms, but under the parameters laid out in a national security REMs strategy. One such area of interest is the lithium deposits located in southern Helmand province. Such assets could be transported to international markets via our extensive airport infrastructure and air corridor program.

Conclusions and Recommendations

This roadmap provides a strategy for the key decisions on how to improve the performance of Afghanistan’s minerals and hydrocarbons sector.

We now provide recommendations across five key areas: (1) prioritizing mineral and AOI interventions, (2) implementing institutional reform at MoMP, (3) reforming the tendering process, (4) ensuring service delivery for communities, and (5) ensuring that mining revenues contribute to macro-fiscal sustainability.

Mineral/AOI Prioritization Framework

In terms of mineral interventions, we will begin by prioritizing interventions first in construction materials, second in industrial metals, third in precious metals, and lastly move with tenders for bulk minerals. This sequencing has a number of advantages. First, it acknowledges the current constraints in the sector, particularly in regards to a lack of transport and power infrastructure required for bulk material extraction. Second, it allows MoMP to build expertise and a track record with smaller contracts before signing a long-term contract without sufficient legal, financial, and technical experience. Third, it can be approved for mines throughout the country.

For larger mines, and for reasons of regional equity, we will move forward with a larger mining tender in each of the five

Region	AOI / Mine	Summary
West	Limestone	This large limestone deposit could be used to jumpstart cement sector in Western Afghanistan
South	Khanneshin	Contains large reserves of rare earth minerals and uranium reserves. Could be given by restricted tender given, national security implications
Central	Nalbandon	A large lead and zinc deposit in western Ghor province that may be connected to western transport and power infrastructure. However, mines in this region will be difficult to move forward quickly
East	Ghunday Achin / Panjshir	This talc deposit is already being mined, and we will move forward to formalize these talc mines and increase investment in the region. The formalization of the gemstone industry should also be a priority
North	Baghlan /	Baghlan is ideally located to move forward with a tender for a limestone contract that will be able to provide raw materials for cement production

Conclusions and Recommendations

regions of the country, based on the identified 24 areas of interest (AOIs). Given the world-class deposits in the fifth (*central*) region of the country, we are implanting a series of measures to create the enabling conditions for award of tenders in the short term. These ideas will be validated and confirmed.

MoMP Reforms

In terms of institutional reform at MoMP, the long-term vision has now been clarified. We seek a ministry that is pared back in terms of size, and that focuses solely on policy-making. Over time, the regulatory functions and operational components of the ministry will be spun off as separate entities. The hydrocarbon regulatory functions will be spun off to form an independent hydrocarbons regulatory authority. Next, the mineral technical departments will form the nucleus of an independent mining regulatory agency. This independent regulator will be in charge of tendering processes and contract enforcement. As a first step towards this goal, MoMP will form a technical advisory board that will provide guidance for the MoMP Technical Deputy Minister.

The AGS will be spun off as an independent technical agency whose sole purpose will be to develop and maintain natural resources data or it will be merged with the Arazi, an organization with proven leadership and vision. Where data is unavailable, AGS will be tasked with acquiring the required data via either internal resources or contracting mechanisms. This includes development of geospatial infrastructure, assessment of mineral resources, assessment of coal resources, and assessment of earthquake hazards. Priority assessments for immediate implementation include those in the coal, cement, and natural gas sectors.

All state-owned companies will be spun off as independent state corporations. MoMP will retain a significant ownership stake and

board seats, but the ministry will no longer be involved in operational issues. As a first step, robust financial systems will be implemented at each tasadee. During 2018, independent directors will be added to the board of each tasadee. By year-end 2018, an independent financial audit will have been completed.

Improving Mineral Tendering Process

In terms of tendering processes, given a clear prioritization framework, ready-to-issue EOI packets for each AOI, and clear decision-making framework, the MoMP is theoretically ready to issue a number of tenders. The remaining issue is the evaluation and selection process. Revisions will be made to the minerals legislation such that, at a minimum, the High Economic Council (*HEC*) will approve of all mining evaluation teams (*with larger contracts approved at Cabinet*). In the long-term, a larger redraft of the minerals legislation will take place

Ensuring Community Service Delivery

All service delivery functions, such as community engagement and local community support, should be managed by the Citizen's Charter program. This has the benefit of consolidating all community engagement functions into one program rather than spreading the function tasks throughout multiple ministries. Likewise, all resettlement activities will be tasked to an independent resettlement agency. These actions will allow MoMP to focus its energy on mining policy-making activities

Ensuring Mining Revenues Contribute to Macro-Fiscal Sustainability

Many countries have experienced a 'resource curse,' a large component of which is the effect of large natural resource inflows during a short period of time. Such large inflows tend to overwhelm small domestic economies, cause a non-sustainable overvaluation of a country's

Conclusions and Recommendations

exchange rate, and create boom-and-bust cycles that coincide with commodity price fluctuations. To resolve these issues, some countries have created commodity surplus funds to smooth economic cycles. Although Afghanistan is currently far from creating such a fund, we must plan for the future. If and when large mineral deposits do begin production, our Ministry of Finance should prioritize creating legislation that outlines formulaic fiscal rules that outline how resource revenues are spent and saved.

In Chile, for example, the Economic and Social Stabilization Fund (*ESSF*) allows financing of fiscal deficits and amortization of public debt. As defined in their Fiscal Responsibility Law, when copper prices are above their long-term average (using a clear formula), excess revenues are deposited into the ESSF. When copper prices are below their long-term average, ESSF funds are used in the national budget. Thus, the ESSF is able to provide fiscal spending stabilization since it reduces its dependency on global business cycles and revenue’s volatility derived from fluctuations of copper price and other sources.

Implementing these changes will be challenging—but if done correctly—has the capacity to change the course of Afghanistan’s trajectory from a low-income country to a middle-income country over the course of the next few decades. This report provided a roadmap for how we aim to ensure that Afghanistan’s natural resources will benefit its entire citizenry. We have highlighted the extensive mineral resources of the country, described the GoIRA’s strategy of methodically removing legal, operational, and transport constraints facing the sector so that the minerals sector will act as the growth engine of Afghanistan for decades to come. Upon approval of this roadmap by the High Economic Council, the roadmap will be turned into a time-bound action plan.



Mountains in Afghanistan's Bamyan Province / iStock

Summary Table of Commodities

All figures in MTs except where noted otherwise

Commodity	Resource Estimates	Provinces	Type
-----------	--------------------	-----------	------

1. BUILDING MATERIALS

Afghanistan has abundant sand and gravel resources, as well as for building and dimension stone. Limestone deposits suitable for cement production are widespread in Afghanistan. Granite, marble, limestone, travertine, and sandstone occur in abundance

Sand/Gravel	136,000,000 (sqm)	Badakhshan	Aggregate
Marble	1,300,000,000	Various	Building stone
Limestone	>500,000,000	Badakhshan, Herat, Baghlan	Cement & flux
	3,500,000	Bamyan	Building stone
Dolomite	1,040,000	Bamyan	Building stone
Glass Sand	10,900,000	Balkh	Sand (sandstone)
	110,000	Balkh	Sand (siliceous)
Aragonite	770,000	Helmand	Dimension stone
Sandstone	650,000	Bamyan	Building stone (siliceous)

2. METALS

Afghanistan has extensive availability of most bulk and precious metals, including iron, aluminum, copper, gold, silver, and molybdenum

Iron	2,261,200,000	Bamyan, Baghlan	Sediment-hosted iron
Aluminum	178,000,000	Badakhshan, Kandahar	Igneous-related iron
	4,535,000	Zabul, Baghlan	Bauxite (50.5% alumina, 12% silica)
Copper	12,340,600	Kabul, Logar	Sediment-hosted (probable: +16,880,000 MTs)
	68,500	Kandahar, Zabul, Herat	Igneous-related (probable: +28,469,200 MTs, +724,010 MTs molybdenum, 682 MTs gold, 9,067 MTs silver)
Gold	1,780 (kg)	Badakhshan, Ghazni, Zabul	Lode gold
	918 (kg)	Takhar, Ghazni	Placer gold
Lead & Zinc	90,000	Kandahar, Herat, Paktia	Igneous-related lead & zinc
	153,900	Ghor	Sediment-hosted lead & zinc
Tin & Tungsten	Unknown	Herat, Farah, Uruzgan	Sn veins, SN & W skarns & greisen
Mercury	32,234	Farah, Ghor	Hot-spring mercury (probable)

3. INDUSTRIAL MINERALS

Afghanistan has extensive amounts of gemstones, rare-earth minerals, uranium, sulfur, chromite, and talc, among other industrial metals

Brick Clay	2,200,000 (sqm)	Kabul	Clay
Rare-earth elements	1,405,179	Helmand	Carbonatite (probable, +3,480,159 MTs niobium, phosphorous, uranium, & thorium)
Chromite	200,000	Logar, Paktia	Chromium oxide (43% weight, probable: +979,484 MTs)
Barite	151,500,000	Parwan, Herat	Bedded & vein barite
Celestite	>1,000,000	Baghlan, Kunduz	Celestite (75% weight)

Commodity	Resource Estimates	Provinces	Type
-----------	--------------------	-----------	------

3. INDUSTRIAL MINERALS *(continued)*

Potash	27,513,690	Balkh, Samangan, Kunduz	Evaporite (<i>probable</i>)
Fluorite	8,791,000	Uruzgan	Fluorspar (<i>46.69% weight</i>)
Talc, asbestos, & magnesite	1,250,000	Nangarhar	Metasomatic/metamorphic replacement magnesite (<i>+31,200 MTs magnesite</i>)
	50,000	Nangarhar	Talc-magnesite (<i>probable: +13,365,563 MTs asbestos</i>)
Sulfur	450,000	Balkh, Badakhshan	Bedded & fumarolic (<i>probable: 6,000,000 MTs</i>)
Kaolin	385,000	Baghlan	Sedimentary kaolin
	150,000	Baghlan	Residual kaolin
Graphite	5,000	Badakhshan	Disseminated flake graphite (<i>probable: +1,050,223 MTs</i>)
Lazurite	1,300	Badakhshan	Skarn lazurite
Halite	<i>Unknown</i>	North Afghanistan	Evaporite

Summary Table of Areas of Interest

Source: AGS/USGS

AOI	Main	Minor	Deposit Model	Comments	Priority
-----	------	-------	---------------	----------	----------

CENTRAL AFGHANISTAN

Central Afghanistan has extensive tin, mercury, and lead. However, the region is currently located far from required transport and power infrastructure

Daykundi	Sn, W, Li	Cu, Pb-Zn	Greisen tin-tungsten, tin-tungsten-skarn, lithium pegmatite	Taghawlur lithium pegmatite field	2
Karnak-Khanjar	Hg	Sb, As, Au, Ag	Epithermal mercury, base-metal skarn	Mercury belt	3
Nalbandon	Pb, Zn	Ag	Sediment-hosted lead-zinc	Extensive mineral field	1

SOUTHERN PROVINCES

Southern Afghanistan has the largest amount of rare-earth minerals and onyx, as well as copper, gold, and the country's main fluorite deposit. These deposits could be relatively easily connected to southern neighbor transport infrastructure

Khanneshin	REMs, U, P	Th, Ba, Sr, limestone	Carbonatite	Significant REMs and uranium resources	1
South Helmand	Travertine (onyx)	Cu, Au, Mo	Travertine, porphyry copper-gold	Travertine production, porphyry copper-gold deposits in adjacent Pakistan	2
Kundalan	Cu, Au, Mo	Ag, Ph	Porphyry copper-gold and skarn	Copper and gold resource; multiple occurrences	6
Bakhud	Fluorite	Zn, Pb, Ag, Sb, Ba	Sediment-hosted fluorite, fluorite vein, polymetallic skarn	Main fluorite district in Afghanistan	3
Katawas	Ag,	Hg, W	Epithermal gold-silver	ASTER anomaly	4
Zarkashan	Cu, Au	Ag, Pb	Porphyry copper-gold and skarn	Copper and gold resource, multiple occurrences, gold placer	5

AOI	Main	Minor	Deposit Model	Comments	Priority
-----	------	-------	---------------	----------	----------

WESTERN PROVINCES

Western Afghanistan has sufficient limestone for a cement factory, copper deposits, and tin. Mining infrastructure could easily be connected to Iranian ports for export

North Herat	Ba, limestone, marble, clay, Fe	NA	Bedded barite, vein barite, chemical limestone, marble, clay, iron skarn	Major barite field, marble factory, industrial center	1
Dusar-Shaida	Cu, Sn	Pb, Zn, W	Porphyry copper, volcanogenic massive sulfide, tin-copper skarn	Shaida porphyry copper prospect	3
Tourmaline	Sn	Cu	Tin-tungsten vein, placer tin	Previous mining for placer tin	2

EASTERN PROVINCES

Many of the largest mines (including Haji-Gak and Aynak) are located in Central Afghanistan, far from transport infrastructure. Also includes Emeralds (Panjshir), talc (Nangarhar), and REMs (Nuristan) are located in Eastern Afghanistan. Larger deposits will need to be integrated with southern railway networks

Hajigak	Fe	Ba, marble, sandstone, U, Cu	Volcanogenic iron	1.7 billion MTs plus iron ore	--
Aynak	Cu, Co, Ag	Chromite, asbestos, talc	Sediment-hosted copper, podiform chromite	Reserves at Aynak, Jawhar, & Darband deposits	--
Panjshir	Emerald, Fe, Ag	NA	Emerald, sedimentary iron, silver	Major emerald mining area	2
Ghunday- Achin	Magnesite, talc, asbestos	Graphitic, coal, marble	Metasomatic magnesite-talc, ultramafic-hosted asbestos	Achin and Ghunday magnesite-talc deposits near Tora Bora	1
Nuristan	REMs, Li, Sn	Ta, Nb	Pegmatites	Paron (Jumanak-Pasgushta) and Pachigram pegmatite fields, lithium	3

NORTHERN PROVINCES

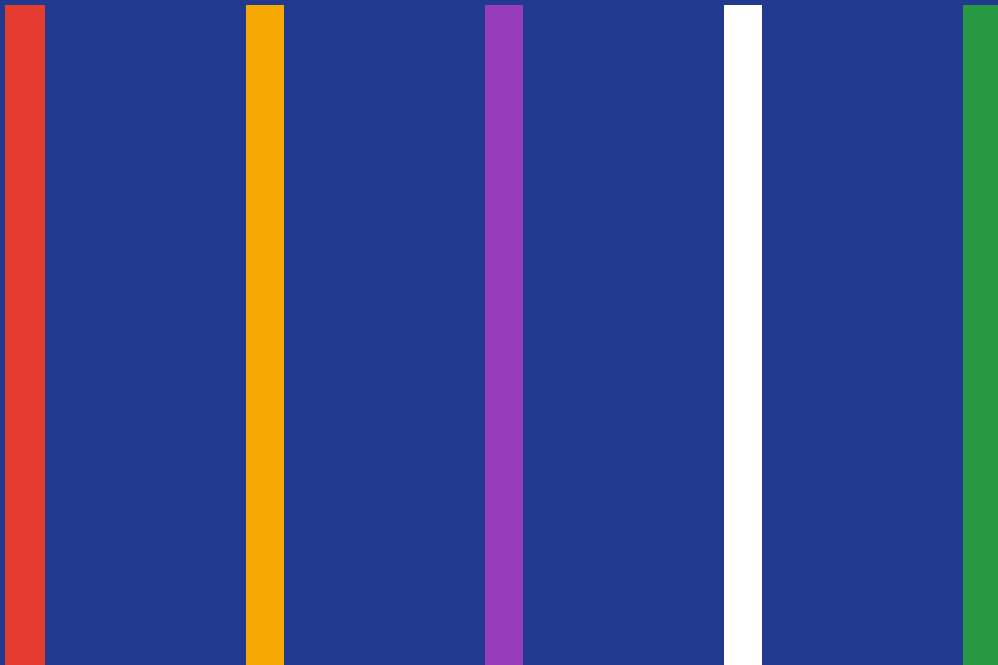
The north part of the country has the most diverse set of mineral resources, including gold, copper, limestone, bauxite, and celestite. Regional infrastructure could be relatively easily connected with northern neighboring countries

Badakhshan gold	Au, Fe	Ag, Cu, U	Gold-quartz veins, gold and iron skarn	Weka Dur deposit contains 958kg of gold	6
North Takhar	Au	NA	Gold placer	Past production, gold resources	5
Takhar	Salt, clay silica	Coal, oil & gas	Salt dome, clay, sandstone	Rock salt deposit at Namakab. Porcelain and pottery clay	2
Kunduz	Celestite	Oil & Gas	Bedded celestite, oil & gas, bedded phosphate deposits	About 1M MTs of celestite in speculative resource and Katar Oil occurrence	4
Baghlan	Bauxite, clay (kaolin), gypsum	NA	Bauxite, clay, gypsum	Tala Barfak bauxite deposit contains resources, Clay deposits are extensive	1
Balkhab	Cu	Pb, Zn, coal	Volcanogenic massive sulfide	Balkhab copper prospect	7
Dudkash Industrial Minerals	Limestone dolomite, celestite	Coal, gypsum	Limestone cement, dolomite, bedded celestite, gypsum clay	Pul-e-Khumri area and Tangi- Murch celestite deposit	3

Islamic Republic of Afghanistan
Ministry of Mines and Petroleum

REFORM STRATEGY

EXTRACTIVE INDUSTRIES



A knowledge-based, sustainable, transparent, and efficient extractives sector that supports Afghanistan's broad-based equitable development

38	ACRONYMS	39	FOREWORD
----	-----------------	----	-----------------

40	EXECUTIVE SUMMARY	42	SECTOR OVERVIEW
----	--------------------------	----	------------------------

44	VISION		
----	---------------	--	--

45	STRATEGIES		
----	-------------------	--	--

PILLAR 1	PILLAR 2	PILLAR 3	PILLAR 4	PILLAR 5
Institutional Reform and Development	Geological Data Acquisition & Management	Contract Management & Compliance	Transparent & Accountable Governance	Growth & Enabling Environment
46	50	53	55	57

59	IMPLEMENTATION ARRANGEMENTS		
----	------------------------------------	--	--

61	IMPLEMENTATION SCHEDULE & PHASING OF ACTIVITIES		
----	--	--	--

ACRONYMS

AGE	Afghan Gas Enterprise
AGS	Afghanistan Geological Survey
ANDPF	Afghanistan National Peace and Development Framework
AOI	Area(s) of Interest
ASM	Artisanal and Small-scale Mining
BGS	British Geological Survey
CASA	Central-Asia-South-Asia Power Project
CBR	Capacity Building for Results
CSC	Civil Services Commission
CSO	Central Statistics Organization
DFID	Department for International Development
DM	Deputy Ministry/ Deputy Minister
EITI	Extractive Industries Transparency Initiative
EU	European Union
GDP	Gross Domestic Product
GIS	Geographic Information System
HEC	High Economic Council
IMF	International Monetary Fund
IPP	Independent Power Project
MoIC	Ministry of Information and Culture
MoMP	Ministry of Mines and Petroleum
NAPWA	National Action Plan for the Women of Afghanistan
NCE	North Coal Enterprise
NEPA	National Environmental Protection Agency
PPP	Public Private Partnership
SME	Small and Medium Enterprise
SOE	State Owned Enterprise
TAPI	Turkmenistan-Afghanistan-Pakistan-India pipeline project
USGS	United States Geological Survey
WB	World Bank

T

Ministry of Mines and Petroleum (MoMP) is committed to creating a conducive environment for facilitating the responsible, equitable and balanced development of Afghanistan's mining sector. Our long-term objective is to ensure that the benefits of the mineral resources exploitation serve the interests of the Afghan people for generations to come.

As a first step, the Mining Sector Roadmap was approved by the High Economic Council in January 2017. The Roadmap provides broad policy direction for mineral development, and guides the development of a comprehensive legal framework for the sector. The Roadmap stresses on strengthening the Ministry's role in fulfilling its core responsibilities.

As prescribed in the Roadmap, to efficiently fulfill its responsibilities, MoMP is gradually moving towards capitalizing on its core activities, and creating separate regulatory authorities for managing the sector. One of the examples of these initiatives include the creation of Afghanistan Oil & Gas Regulatory Authority (AOGRA), and the planned establishment of Afghanistan's Mining Regulatory Authority. These steps will strengthen the Ministry's ability in providing strategic leadership for the sector.

In addition, one of the key prerequisites for the successful development of this sector is the availability of validated and credible geological information. Thus, among other things, one of the key areas of focus in this document is the reform and upgrading of the geological surveying capacity of Afghanistan.

As stated earlier, this Reform Strategy will serve as a vehicle for implementing the Roadmap, rolling out sectoral reforms, developing a transparent and robust mining contract management system, combating corruption and ensuring transparency, and creating an enabling environment for the private sector to serve as the engine of growth for the years to come.

To produce this document, we have consulted the private sector, civil society organizations, government institutions and the donor community. This consultative process has ensured a participatory approach towards the development of this document; the end result, consequently, is a document on which every stakeholder's priorities are aligned, and where all the strategic initiatives for the sector converge.

We are of the firm belief that the implementation of the Roadmap, the Reform Strategy and the availability of resources will lay the foundations for sustainable and balanced development of the extractives sector; a responsibility that we must fulfill for the next generations.

As a final note, we would like to sincerely thank H.E President Ghani for his visionary leadership, insightful guidance, and technical advice that went into the development of the Mining Sector Roadmap.

Nargis Nehan

Acting Minister of Mines and Petroleum

Afghanistan is endowed with substantial and diverse mineral resources.

The sector, however, has remained underdeveloped. In order to develop the sector and utilize the potential of Afghanistan's natural resources, the High Economic Council approved the Mining Sector Roadmap in January, 2018. The Reform Strategy has been developed to serve as an implementation mechanism for the Mining Roadmap, institutionalize reforms and develop the sector in a way that maximizes its benefits for citizens of Afghanistan in accordance with Article nine of the Constitution of the Islamic Republic of Afghanistan:

“Mines and other subterranean resources as well as historical relics shall be the property of the state. Protection, management and proper utilization of public properties as well as natural resources shall be regulated by law.”

With this in mind, the Ministry has outlined the following vision for the sector:

“A knowledge-based, sustainable, transparent, and efficient extractives sector that supports Afghanistan's broad-based equitable development.”

There have been several key internal and external challenges that have hindered the development of the extractives sector. These include the lack of a clear vision for prioritization of minerals, complex legal framework, limited capacity within the

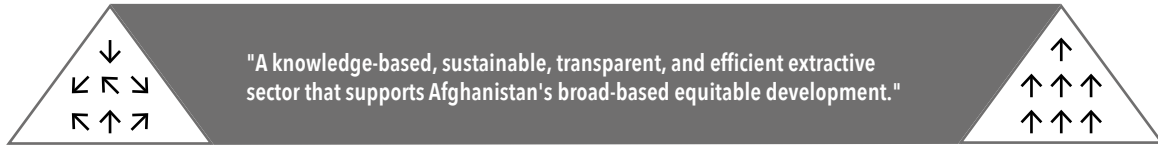
Ministry to govern the sector, weaknesses in the geological surveying capacity and a weak contract management and compliance function in the Ministry.

This document has been developed to provide a comprehensive Strategy for the next seven years to enable the sector to achieve sustainable growth and be an effective source of economic development and revenue for Afghanistan as it moves forward on its journey to self-reliance.

The Ministry has developed five core pillars that constitute the focus of the Extractive Industries Sector Strategy to address the existing challenges of the sector and the Ministry, and guide the sector to long term growth. Under each pillar a number of interventions are listed, along with a set of activities described in the Annex.

The pillars map specific activities in two phases: short-term (two years) and medium-term (five years). In the short-term, the emphasis will be on institutional development, enhancing the policy and regulatory frameworks, and improving the governance of existing activities in the sector. In the medium-term, the emphasis will be on carrying out institutional and sectoral interventions for the long-term development of the sector and the creation of wider economic linkages based on strategic choices in resource development.

The Strategy has identified a series of interventions to be implemented in partnership and close collaboration with other state entities as well as active engagement of private sector and civil society.



<p style="text-align: center;">PILLAR 1</p>	<p style="text-align: center;">PILLAR 2</p>	<p style="text-align: center;">PILLAR 3</p>	<p style="text-align: center;">PILLAR 4</p>	<p style="text-align: center;">PILLAR 5</p>
<p style="text-align: center;">Institutional Reform and Development</p>	<p style="text-align: center;">Geological Data Acquisition & Management</p>	<p style="text-align: center;">Contract Management & Compliance</p>	<p style="text-align: center;">Transparent & Accountable Governance</p>	<p style="text-align: center;">Growth & Enabling Environment</p>
<ol style="list-style-type: none"> 1. Reform and Restructuring of the Ministry 2. Reforms and Development of SOEs 3. Human Resources Development 4. Extractives Sector and Women 5. Development of e-Governance Systems 6. Effective Communications 	<ol style="list-style-type: none"> 1. Development of a Computerized and Indexed Information Management System for Geo-data 2. Engagement with International Geological Survey Departments 3. Collation and Analysis of Data for Each Commodity, and Assessment of Data Gaps 4. Data Dissemination 5. Capacity Development of AGS in Exploration and Data Recording 	<ol style="list-style-type: none"> 1. Review and Resolve Pending Contracts and Projects 2. Prioritize New Projects Based on the Needs of the Government 3. Streamlining and Digitization of Cadaster System 4. Efficient Revenue Collection and Reporting 5. Streamlining and Digitization of Mining Inspection System 6. Establish Credible Dispute Resolution Mechanism 	<ol style="list-style-type: none"> 1. Development of Policies and Strategies for the Sector 2. Improvement of the Legal and Regulatory Framework 3. Development of Robust Minerals and Hydrocarbons Fiscal Regimes 4. Compliance with Transparency Standards and Donor Benchmarks 5. Illegal Mining and Formalization 6. Protection of Afghan Communities, Environment and Heritage 	<ol style="list-style-type: none"> 1. Conduct Value Chain Studies of Priority Commodities 2. Ensure implementation of projects 3. Local Content Strategies 4. Explore the Potential for Regional Cooperation in the Extractive Sector 5. Conducting studies for potential collaborations in regional market development 6. Develop a Corporate Social Responsibility (CSR) window 7. Promote Private Sector engagement

It is widely reported that Afghanistan has an abundance of natural resources; the exact scope and potential offered by this natural wealth is not fully known.

Hydrocarbons exploration and development operations have been conducted in Northern Afghanistan. However, more exploration will still be required in Western and South-Eastern parts of the country. Large and small scale mining operations have also been conducted throughout the country. On the minerals side, even as broad-based exploration is ongoing, the Government has identified priority commodities for strategic development.

In terms of contribution to the economy, the mining and quarrying sector contributed 0.07 percent to GDP in 2016. However, this is lower than the reported contribution by this sector in 2012. In value terms, the mining and quarrying sector contributed AFS10.2 billion to GDP in 2016 .

Nearly a quarter of this contribution to GDP came from reported profits in the Northern Coal Enterprise (NCE), a state owned enterprise. Beyond this, most other reported production is dominated by artisanal and small-scale mining (ASM) of construction minerals and dimension stone (marble) for domestic end-use markets.

In the light of information presented above, it is evident that the sector is largely underexplored and underdeveloped.

Afghanistan's minerals sector is characterized by small-scale, labor-intensive and low-value operations. These activities supply limited, and sometimes illegal, export markets as well as local industries, such as coal for heating and cooking, and marble and stone for construction and road building.

Many of the reforms outlined in this strategy document are designed to bring informal mining into compliance to ensure broad-based and sustainable mineral development.

With regards to institutional framework, the Ministry of Mines and Petroleum is the apex body mandated with the task of managing the extractives sector in Afghanistan. The Ministry has begun to closely coordinate with other Government entities including Ministries of Finance, Interior Affairs, Public Works, Commerce and Industries, Labour and Social Affairs, Economy and National Directorate of Security, National Environmental Protection Agency to fulfil its mandate under the auspices of the Office of the President and the High Economic Council. In addition, the Ministry has also begun actively engaging with the private sector, including business chambers and industry bodies, as well as civil society organizations and the international community.

The Ministry also manages four SOEs involved in the exploration and production in this sector:

- Mazar-e-Sharif Fertilizer and Power Plant;
- North Coal Enterprise (NCE);
- Afghan Gas Enterprise (AGE); and
- Jabal-al-Saraj Cement Enterprise.

However, their operations are outdated and their contribution to general revenue is not clear since they are subsidized through a variety of mechanisms.

While the Ministry is committed to the development of the sector, it has been constrained in its ability to fully deliver on its mandate. Some of these constraints include lack of contiguous leadership, limited technical and managerial capacity and weak legal and regulatory frameworks.

In terms of systemic partnerships, the participation of the civil society so far, has also been limited to ad hoc interjections in raising awareness, policy initiatives and academic research. Going forward, the Ministry seeks

active engagement from the civil society organizations in contracts monitoring, community engagement, combating corruption and illegal mining, sharing international best practices on sector development and being a key partner in observing the negotiation of large scale mining contracts.

Finally, due to limited financial and technical capability and unfavorable investment climate, the role of the private sector has historically been limited to execution of small scale projects in the extractives sector. However, the Ministry believes in a vibrant and thriving private sector as the engine of growth for the extractives sector. Under the National Unity Government, the private sector has invested in several Public Private Partnership projects such as Bayat and Ghazanfar IPPs.

The ongoing infrastructure projects and increased role of the private sector and the civil society will prove essential to capitalize on the full potential of Afghanistan's extractives sector and attract foreign direct investment.

⁶ These include barite, bauxite, carbonatite, celestite, clay, coal, fluorite, gypsum, halite, limestone, magnesite, pegmatites, slate, sulfur, talc, and travertine.

The vision of the Ministry of Mines and Petroleum is to develop:

A knowledge-based, sustainable, transparent, and efficient extractives sector that supports Afghanistan's broad-based equitable development.

The execution of this Strategy will set Afghanistan's extractives sector on the right path to achieving this vision.

1. Knowledge-Based: The Government will work to establish certainty around Afghanistan's mineral and hydrocarbon potential by gaining a well-informed understanding of resource endowments. Furthermore, the Government will promote and develop a knowledge-based industry, with a skilled workforce, professional SMEs and talented academics.

2. Sustainable: Afghanistan's resources will be extracted in environmentally sustainable ways that embrace substantive and sustained engagement with local communities, and promote the development of linked sectors that will exist long after finite resources are depleted.

3. Transparent: The Government commits to fulfilling its role of promoting and regulating the extractives sector in a fully transparent manner by developing a clear and consistent governance framework for the minerals and hydrocarbons sector, taking steps to combat and prevent corruption, establishing clear and inclusive processes for communities to be engaged as a key stakeholder and embracing international standards.

4. Efficient: The Government will seek to maximize the potential of the sector by attracting and retaining responsible investment that will bring the most efficient technology and methods to the extraction of Afghanistan's resources. The Government will draw as much value as possible from the extracted resources by promoting the development of economic linkages and value-added industries in the extractives sector.

5. Broad-Based and Equitable Development: The Ministry will ensure that Afghanistan's resource endowment contributes to broader national development objectives by spurring infrastructure development, power generation, and opportunities in related sectors. As extraction and exploration progress, the extractives sector will provide much needed jobs and incomes ensuring Afghanistan's broad-based development and fiscal self-reliance.

Achieving the vision of responsible development of Afghanistan’s extractives sector will require detailed planning and coordination.

To execute the Strategy, the Ministry will work in close collaboration with relevant Ministries and other stakeholders. The Ministry has identified certain key areas where the sector requires intensive support and cooperation from other Government of Afghanistan institutions:

Energy: In order to exploit the opportunities in the sector and successfully implement this Strategy, the Ministry requires energy and resources inputs such as electricity. The Ministry of Energy and Water will be a key partner in this regard.

Water: For developing the minerals and hydrocarbons sector, water remains an important commodity. To make sure there is a sustainable supply of water for mining projects, the Ministry will require the support of Ministries of Energy, Agriculture and Urban Development.

Land: Land is a factor with huge significance in the exploitation, production and processing of mineral and hydrocarbon resources. Afghanistan Independent Land Authority (Arazi) will be a key partner of the Ministry in providing industrial land for investors.

Transport: The successful exploitation of natural resources requires access to improved infrastructure, such as pipelines and railroads. Some of the relevant entities that will be central to the Ministry’s efforts in this area are the Ministries of Public Works, Transport, Afghanistan Independent Civil Aviation Authority, and Afghanistan Railway Authority.

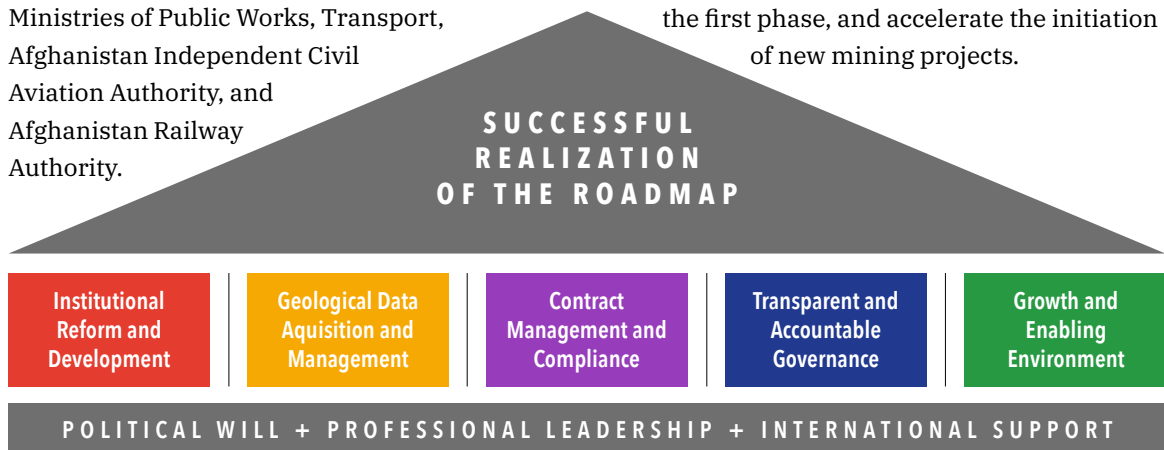
Security: In order to execute mining projects, prevent illegal mining and attract and retain private investment in the sector, the coordination of security apparatus of the Government is critical. The Ministry will closely work with the Ministries of Interior Affairs, Defense and the National Security Directorate (NDS), under the overall coordination of the National Security Council.

Other stakeholders pivotal to achieving the Strategy’s vision include the private sector, civil society organizations and the international community. The Ministry will actively engage with business chambers (ACCI, ACIM, AWCCI, etc.) in order to seek their expertise in attracting investment and showcasing Afghanistan’s potential to domestic and foreign investors. Moreover, the Ministry will closely work with research bodies, civil society organizations and the donor community to develop sector policies and regulations, and involve them in contract and community monitoring of mining projects.

The Ministry’s implementation strategy for achieving its vision includes a series of interventions that are organized under the five core pillars of the Strategy.

Since each pillar includes activities that will be implemented in both the short term and the medium term, the alignment of reforms to specific timelines is important. While some activities can be undertaken independent of each other, others will be contingent on changes in some elements before they can be implemented.

The implementation of the Strategy is divided into two phases – an initial period of two years to reorganize the Ministry, deal with existing priority projects and establish the foundations for sustainable sector growth, and the second, five-year, phase, to build on the preliminary work, implement a more in depth plan capitalizing on the foundations laid out in the first phase, and accelerate the initiation of new mining projects.



The pillars draw on the foundation provided by the preconditions for success

PILLAR 1

INSTITUTIONAL REFORM & DEVELOPMENT

The core functions of the Ministry include geological data management, mining contract management and compliance, investment promotion, and extractives sector policy development. The organizational structure (*Tashkeel*) of the Ministry currently consists of the Office of the Minister, and three Deputy Ministries (Administration and Finance, Policy and Programs and Technical). There are over 2,200 employees within the formal structure of the Ministry. As envisioned in the Mining Sector

Roadmap, “MoMP will retain and strengthen its policy-making role, while relinquishing its regulatory and operational roles.”

The structure and size of the Ministry is large as compared to other countries with significant mineral endowment. However, despite large human resource pool, the Ministry has not been able to deliver on its mandate due to limited internal capability, high employee attrition and structural inefficiencies.

Extractive Sector Regulation and Management in Australia, Canada and Mongolia

WESTERN AUSTRALIA

Western Australia (WA) is the second largest iron-ore producer in the world (USGS 2014) and constitutes 46% of Australia’s total exports (Australia mainly exports mining commodities). This region hosted over 100 projects in 2016. The industry is regulated by Department of Mines and Petroleum of WA which has six divisions under it: (1) Mineral titles, (2) Petroleum, (3) Resources Safety, (4) Geological Survey of Western Australia, (5) Environment and (6) Strategic Policy. The department has a streamlined and small structure with about 200 employees working across six divisions, however, it is worth noting that there are no SOEs that need to be managed.

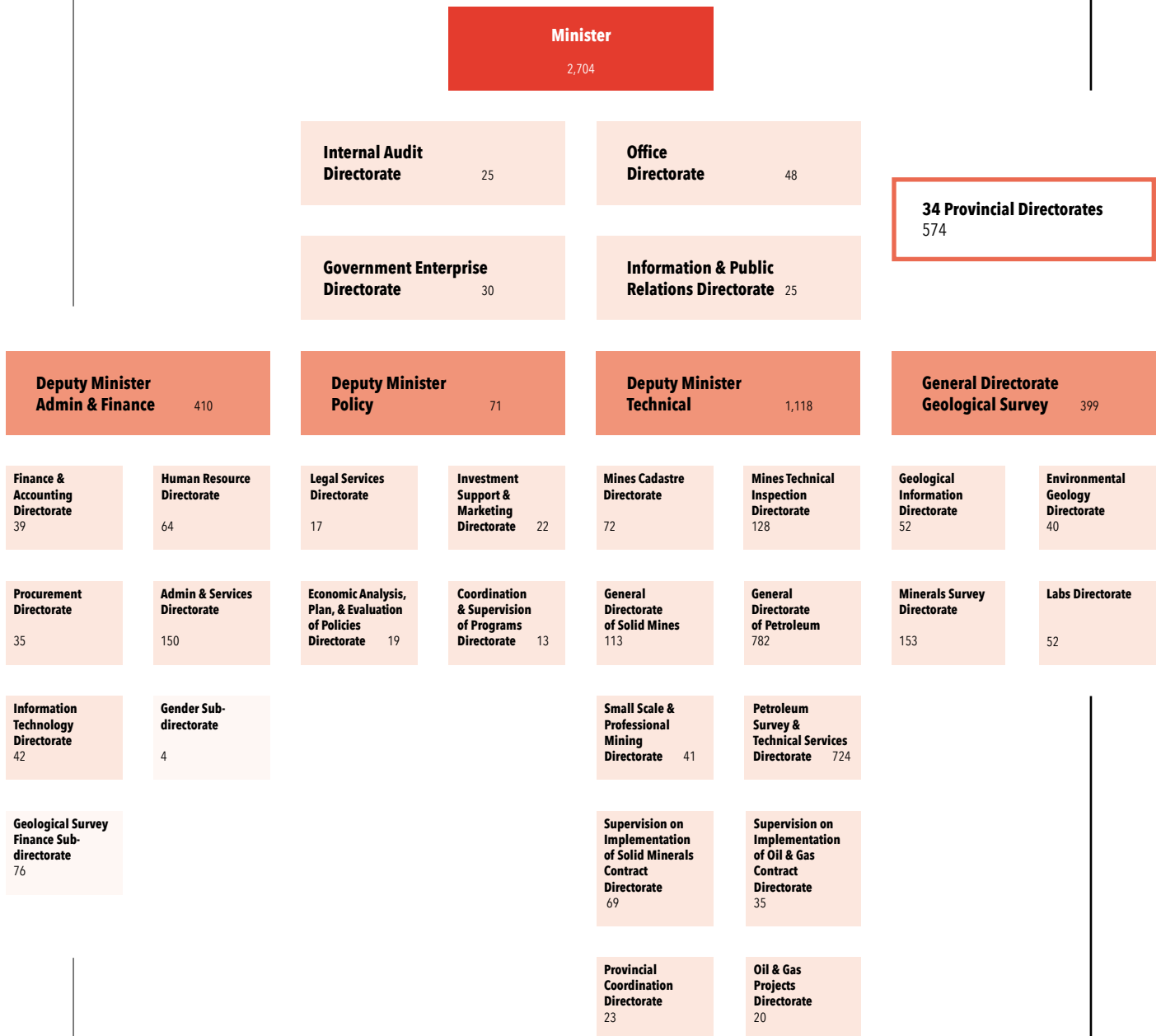
CANADA

The Ministry of Natural Resources of Canada is responsible for natural resources, energy, minerals and metals, forests, earth sciences, and mapping. Minerals, metals and other natural resources are owned and managed by the government of the province or territory in which they are located. Resources on federal lands, in offshore waters, and on the continental shelf are owned by the federal government. In spite of a large mandate, the ministry has 300 staff and is headed by a Minister who is assisted by parliamentary secretary and one deputy minister. There are 12 different departments within the ministry; there are no SOEs in the extractive sector in Canada.

MONGOLIA

A mining country where the extractive industry accounts for over 20% of the GDP and 89% of its annual exports. The extractive sector in Mongolia, is managed and regulated by “Minerals Resources and Petroleum Authority of Mongolia”. This authority, which has only 185 employees, serves as the lead agency for implementing state policy and guidelines in geology, mining, petroleum and heavy industry sectors. To make sure the country makes better use of its strategic mineral resources, the government has created 100% state owned Erdenes Mongol in 2007 that manage state-owned assets and engage in strategic investments. Erdenes Mongol manages state-owned assets and raises funds to invest in economic infrastructure. By establishing Erdenes Mongol, the country ensures the separation between the State’s role as a regulator and investor.

Organizational Structure of the Ministry
as of September 2017



The Ministry plans to undertake institutional reforms to restructure the tashkeel, which in its current construct is complex and not aligned with the Ministry's mandate. This process entails a detailed assessment to determine the core functions of the Ministry, which functions to keep, how the regulatory and policy functions could be organized to ensure transparency and efficiency and transition to the two regulators that will be set up, reform and corporatization of the SOEs, as well as human and technical capacity building.

Some of the core functional areas of the Ministry that will see reform and restructuring include:

a. Afghanistan Geological Survey

The Afghanistan Geological Survey (AGS) is a Directorate General within the Ministry. Its role is to manage and gather geo-science data and to conduct exploration. The Ministry has identified that it will require significant capacity building in order to fulfill its function providing relevant geological data for the bidding and tendering processes. Due to its strategic importance, this is the subject of a separate Pillar in the Strategy. The Ministry envisions AGS as an independent technical agency in Afghanistan in the medium-long term.

b. Oil and Gas and Mining Regulatory Authorities

In order to increase efficiency, transparency and productivity, the Ministry plans to strengthen its policy-making role and gradually relinquish its regulatory role. The Afghanistan Oil and Gas Regulatory Authority (AOGRA) has already been established based on the newly amended hydrocarbon's law. In addition, the regulatory component of minerals sector will be given operational autonomy and over the next few years the Mining Regulatory authority will

be established in accordance with the newly adopted Roadmap. This regulatory authority will be responsible all regulatory aspects of the mining industry that will include tendering processes. The establishment of these two regulatory authorities will help the Ministry concentrate on its core policy making roles

c. State Owned Enterprises

Redefining the status of SOEs, so that they respond to the needs of the sector, will be a critical task for the Ministry. Weak and bureaucratic governance, low capacity of SOE technical employees and lack of modern equipment, inherited from the 1970s and 1980s, are among some of the main issues facing these enterprises. As part of the Strategy, the Ministry adopts a stronger institutional and governance framework for their management. The Mining Roadmap stipulates all the four SOEs to spin off as state corporations

INTERVENTIONS

The following interventions have been planned to achieve the goal of institutional reform and restructuring of the Ministry.

1. Restructuring of the Ministry

Reform and redefining the roles and mandates of the Ministry and all its directorates and restructuring the Tashkeel is essential to achieving the vision articulated in this Strategy. Establishing a new organizational structure will enable the Ministry to efficiently and effectively manage Afghanistan's minerals and hydrocarbons resources, and to guarantee sustainability with regards to organizational management and development. The aim is to create a small and professional Ministry that is primarily tasked with managing the sector.

2. Reforming State Owned Enterprises

Afghanistan has four state owned enterprises (SOEs) operating under the Ministry: (1) Mazar-e-Sharif Fertilizer and Power Plant, (2) the North Coal Enterprise (NCE) which owns four coal mines in Northern Afghanistan, (3) Afghan Gas Enterprise, headquartered in Jawzjan, and the (4) Jabal-al-Saraj Cement Enterprise.

Despite generating some revenue, these four SOEs operate with huge deficiencies in their management, operational and financial capacities.

The Ministry shall proceed with reforming SOEs, to improve the productivity of SOEs in terms of efficient extraction and utilization of their resource assets. Reform will encompass management, technical, operation and financial aspects of the SOEs. The reform package will also include annual audits of the SOEs by international audit firms and publishing of the audit reports on the SOEs' and the Ministry's websites. The eventual aim of MoMP is to corporatize the SOEs into functional state corporations with MoMP holding an ownership stake.

3. Human Resource Development

Despite some progress, the Ministry still lacks legal, financial, managerial and technical expertise (including monitoring, reporting and compliance). This has led to the failure in successfully negotiating large scale mining contracts. In the past, capacity building activities have not addressed the Ministry's needs.

The Ministry will pursue a new approach in coordinating with donor programs, to mix building and buying capacity. International technical experts will be twinned with national consultants and Ministry staff, and will work within the relevant directorates. In this manner, the skills and knowledge of the Ministry's staff

will increase, and they will receive on-the-job training. These efforts will be augmented by formal scholarships, trainings and exchange programs. The capacity building of the Ministry will also tap into the potential offered by the Afghan diaspora.

4. Extractives Sector and Women

The Ministry recognizes that women are often disproportionately and negatively affected by mining and oil and gas sector activities, and that employment and promotion opportunities within the Ministry itself are less than those offered to men. The Ministry commits to developing a gender mainstreaming policy to ensure fair participation of women in the extractives sector, and increasing the role of women in the Ministry and SOEs to 30% as prescribed by the National Action Plan for Women in Afghanistan (NAPWA).

5. Development of E-governance Systems

E-governance systems provide a strategic platform for transformation of management practices, improving the quality of services provided by the Ministry to the sector and improving the day to day functionality. The Ministry will introduce e-governance systems to improve efficiency and accountability.

6. Effective Communication and Public Outreach

The extractives sector has an impact on a significant number of institutions, provinces, communities and organizations, and effective communication can help avoid resistance and conflict and ensure positive outcomes. While the Ministry has primary responsibility for developing Afghanistan's extractive industries, it also recognizes that the sustainable development of the sector will require close collaboration with all stakeholders and the general public.

PILLAR 2

GEOLOGICAL DATA ACQUISITION & MANAGEMENT

Geological information is critical not only for mining sector, but also for the knowledge of the territory (natural resources, water, geothermal energy, prevention of natural disasters). The Government's long-term mission is to make geoscience information about the landmass of Afghanistan available and accessible to ensure informed decision making by the policymakers, industry, and the public concerning the responsible development of mineral resources, the use of the land, and environmental stewardship. However, the Ministry is currently constrained in gathering, validating and processing of geological data.

Afghanistan has the potential to be a key player in the production of several commodities. The Ministry will follow a strategic approach in the marketing and sale of minerals, based on their revenue potential, local economic development, geography, national security and their strategic location in the region.

The geological data that AGS holds, and will continue to compile, is one aspect of data management in the Ministry. There are different models applied in a number of countries to develop and manage geological data. Increased capacity and enhanced technical support and data systems will be required in the Ministry in order to ensure that this can be done efficiently and effectively.

CASE STUDY

GEOLOGICAL DATA MANAGEMENT IN CANADA

The Data Management System in most resource developing countries is based on a digital platform serving several participants involved in the exploration and production activity. Most countries have a law that contains a general rule stipulating that all relevant data and information which the licensee possesses, and which are related to the oil and gas activities, shall be available to the authorities and may be acquired free of charge from the company. There are also new models developing to collect data through crowd sourcing. This model has been used in Canada successfully.

In Canada, basic geological data is considered a public asset and can be accessed by interested parties based on a sliding scale subscription fee. As part of the monitoring and compliance of contracts, the government maintains a reserve database as well as data on daily production and drilling. The government collects, archives and manages the sale of oil and gas and geological data and has the authority to collect and handle data and information from the industry. In many countries, such as Norway and Canada the government then incorporates that data into new data sets that are sold to prospective bidders ahead of bidding rounds.

Managing, validating and updating the raw geological information that Ministry has in store, remains a key priority. AGS's strategic priorities include the enhancement of exploration activities and international competitiveness of Afghanistan's mineral industries and supporting wise land-use decisions by providing geoscience knowledge.

Specifically, these priorities are:

- (1)** Unlock Afghanistan's resource potential through geoscience;
- (2)** Provide environmental geoscience for responsible resource development; and
- (3)** Provide geoscience data for public safety and risk reduction.

Most of the geological and mineral data available in the AGS archives was acquired during the Soviet era (1960s and 1970s). Later, during the 2000's, the BGS and the USGS translated the data from Russian to English, and then scanned, compiled and updated the data through airborne surveys and minor field visits. To validate, digitize and convert the AGS archives to an efficiently usable information reference, technical cooperation of all three organizations is required, and this needs a technically capable team from AGS.

The Ministry commits that geological data will be publically available and will make sure no unfair advantage is given to any company. In addition, the geological data from provinces will be stored centrally and online, in an easily accessible manner.

INTERVENTIONS

To address the gaps in geological information management and ensure provision of accurate geological data to investors, the following interventions have been planned:

1. Development of a Single Computerized and Indexed Information Management System for Geo data

AGS requires a single computerized, well-indexed information management system to overcome data management issues. System design needs to focus on efficient retrieval of data. The new system will take in to account, the structure and indexing of existing datasets so that data can be migrated as efficiently as possible. AGS staff will require technical and managerial training to ensure efficient migration and data management.

2. Engagement with International Geological Survey Departments

Geological survey departments from other countries such as the UK, US, and Russia have previously conducted surveys in Afghanistan and hold geo data about the country that the Ministry will collect and compile so that the Afghan Geological Survey can serve as the repository for all geological surveys that have been conducted.

3. Collation and Analysis of Data for Each Commodity and Assessment of Data Gaps

The AGS will liaise with private sector exploration and mining companies, engineering services companies and academic institutes regarding new approaches to the gathering and formatting of data including new approaches to data collection, such as crowdsourcing. Data will be used to inform Ministry decisions and AGS staff need the capacity to analyze and interpret data sets to guide the Ministry in prioritizing projects, supporting project development, and assessing fieldwork and data collection needs in the long term.

4. Data Dissemination

The Ministry will determine which categories of data will be publicly available, through the Portal or as printed material, which categories of data will be given to investors prior to bidding and to the successful bidder, and which data will be restricted for internal use or made available to companies for a fee. AGS will also consider making provisions for proprietary data to be made available upon completion of a project to become part of the public assets of Afghanistan. AGS, in collaboration with other directorates, will select appropriate data for inclusion in data packages for the tendering process and prepare data in a form, and at a level, that is suitable for the public. AGS will also prepare a quarterly report that indicates what data has recently been acquired and uploaded, and describes any interpretative work that has been done.

5. Development of the Capacity of the AGS in Exploration and Data Recording

Guided by the Ministry's priorities and national development strategies, AGS staff will conduct fieldwork to gather new geo data and search for additional resources. At present, AGS conducts mainly reconnaissance fieldwork and mapping, but there exists the potential for staff to undertake more advanced-stage exploration, including drilling to delineate the shape and depth of deposits. This will require access to drilling equipment, with a capacity building program, and the development of new data templates for the description of drill core and samples. AGS can use a commercial laboratory for sample analysis but will need to expand its own laboratory services when it begins to undertake extensive drilling programs.

Since existing natural gas reserves are being exhausted, exploration needs to begin immediately for gas production to be sustained seven years from now. The process will include collecting detailed seismic and other geological data, conducting exploration drilling, preparing feasibility studies, permitting and developing production wells, and building gas processing and transport infrastructure.

PILLAR 3

CONTRACT MANAGEMENT & COMPLIANCE

Strong contract management and facilitation is imperative to building a responsible sector profile that generates economic growth and attracts investment. The Ministry has undertaken work in this area that will continue as part of planned Strategy activities and continue to build a foundation for responsible sector development.

Lessons have been learned as a result of the tendering and contracting of large-scale projects (Mes Aynak, Hajigak, Afghan Tajik and others), including how to negotiate, manage and regulate large-scale contracts.

As outlined in the Mining Sector Roadmap, we will begin by prioritizing interventions “first in construction materials, second in industrial metals, third in precious metals, and lastly move with tenders for bulk minerals”.

To successfully negotiate contracts, the Ministry needs to increase the availability and knowledge of its geological data, as well as ensure that it has the correct regulatory and contract framework in place for effective management of contracts.

The long term goal for the Ministry is to develop the capacity of contract compliance specialists. Therefore, models to consider the possibility of engaging transaction advisors that can quickly introduce international standards to the Ministry will be considered. Also, the Ministry aims to establish small financial and legal teams to work on mining projects with international counterparts.

In the short to medium term, the Ministry will collaborate with international firms to provide services for contract negotiation, drafting, delivering and monitoring. The Ministry will gradually build internal capacity by embedding technical staff with international firms with the goal of assuming the overall responsibility of contract management in the long-term.

Another Ministry mandate is to collect non-tax revenue from extractives activities. It

is intended that the Ministry will collect this revenue in a transparent and effective manner through improved infrastructure and reporting/ accountability processes and formalization of the ASM sector. To ensure that Afghan people benefit from the revenue generated by the sector, the Ministry will develop a revenue management system. Currently, non-tax revenues generated by the sector are collected by the Ministry and deposited with the Ministry of Finance, and are spent through the national budget. The Ministry will focus on collecting the five percent minimum provincial allocation of mineral revenue and establishing a mining fund for communities’ development and other discretionary activities.

The Ministry has not previously been responsive to the requirements of the private sector. As a result, investment has suffered. A renewed focus will be placed on facilitating investment by removing entry barriers to increase direct investment and strengthen the sector’s contribution to the wider economy.

INTERVENTIONS

The following interventions are planned to prompt responsible economic activity and improve oversight and transparency in contract management and facilitation:

1. Review and Resolve Pending Mining and Hydrocarbons Contracts and Projects

The Ministry contracted or conducted the tendering process for several large-scale projects in the mining and oil and gas sector, each of which holds significant investment potential for the economy of Afghanistan. Unfortunately, owing to several tendering and contractual complications, the contracting process and finalization of bidding processes of all large projects are pending. The Ministry will develop and implement an action plan to address existing challenges and resolve

disputes on a priority basis. This is also important for instilling investor confidence in the contract management processes of the Ministry.

2. Prioritize New Mining Projects

The Mining Sector Roadmap has outlined the AOI/ and mineral projects prioritization. In line with the Roadmap, the Ministry will start with projects in construction materials, followed by industrial minerals and then precious metals. There are a number of projects which are already underway in many provinces. In terms of bulk minerals, the priority is first to develop required infrastructure like power and transportation.

3. Streamlining and Digitization of the Cadaster System

Streamlining and digitization of the cadaster system is a pre-requisite to increasing transparency, improving the licensing process and efficient contract management and revenue collection. The Ministry has rolled out two systems in order to achieve these objectives. The Mining Cadaster Administration System (MCAS) has been deployed and is in the last stages of implementation; trainings are being provided to the staff members to ensure they are well equipped and aware of using the new system. In addition, the Non-Tax Revenue System (NTRS) has been deployed in the cadaster department and data entry process for the contract payment is already underway. The adoption of these two systems are practical steps in ensuring robust efficient revenue collection, robust contract management and adherence to international transparency benchmarks.

4. Create an Efficient Revenue Collection and Reporting System

The current non-tax revenue collection procedures from the mining and hydrocarbons projects are highly complicated and are handled manually. This makes it difficult to ensure

accuracy and transparency in the collection of non-tax revenue in the Ministry and revenue forecasting for budgeting purposes. Furthermore, a lack of streamlined procedures and a computerized revenue collection system makes accurate and timely reporting of collected revenue challenging. The lack of mechanisms to manage resource revenues from the extractives sector leaves inflow of larger revenues vulnerable to mismanagement in the future. The Ministry will work with the Ministry of Finance to establish a separate dedicated account/sub-account for extractives revenue.

5. Streamlining and Digitization of the Mining Inspection System

Developing the extractive industries requires the Ministry to have effective mining inspection capacity, whereby competent inspectors regularly visit mining sites, and report through established procedures and templates. Recommendations on remedial actions will be acted upon quickly and followed up. The system will also be digitized to ensure reporting is recorded, and to facilitate improved communication between inspectors, the Ministry and contractors. The inspection system will also be supplemented by third party service providers focusing mainly on large and medium sized contracts.

6. Establish Credible Dispute Resolution Mechanism

Establishing a credible dispute resolution mechanism is important to give the private sector the confidence that issues and disputes with the Ministry will be resolved in a fair and transparent manner. For Ministry, establishing a credible dispute resolution mechanism is key to ensuring that where contractual and other disputes arise with the private sector, time-bound mechanisms and follow up action are in place. This is also important to ensuring the government does not lose revenue as a result of protracted disputes and delays.

PILLAR 4

TRANSPARENT & ACCOUNTABLE GOVERNANCE

Good governance is essential for the responsible management and development of Afghanistan's extractive industries. While the sector is at risk of corruption and resource conflict, the returns from tackling and preventing corruption can be vast. The Ministry has already developed an action plan to combat corruption based on priorities set in Afghanistan national strategy for combatting corruption released in October 2017. Specifically, the strategy identified strengthening of transparency, validation, management of hydrocarbons and minerals, and community monitoring as key components to combat corruption in the extractive industry.

Building a regulatory framework based on sound public policy and legislation will enable regulators to transparently administer the industry's operations. Through policy and legislative reform, the Ministry will outline the direction for the extractive industries which also improves the rule of law, reduces sovereign risk, and attracts investment and its associated benefits, including economic growth.

Furthermore, Afghanistan is an Extractive Industries Transparency Initiative ("EITI") candidate country, and the Ministry is committed to achieving compliance with EITI Standards.

The Ministry, in collaboration with other government partners, will seek to establish structures for community monitoring, community benefit and where possible,

community ownership, including the necessary legal amendments and development of a practical mechanism for distributing a modest but appropriate percentage of mining revenues, production or profits through Community Development Councils (Citizen's Charter).

INTERVENTIONS

The following interventions are planned to enhance transparency and accountability in the sector.

1. Development of Integrated Policies and Strategies for the Sector

The Ministry had taken a minimal approach to policy development and implementation owing to limited capacity. The Ministry is now in a position to consolidate and finalize all policy documents into three clear policies for the sector: (1) National Minerals Policy, (2) National Coal Policy and the (3) National Hydrocarbons Policy.

2. Improvement of the Legal and Regulatory Framework

The Hydrocarbons Law has been passed and the Minerals Law is going through a process of amendments. The Ministry is currently developing regulations in a number of areas including Bidding Regulations, Financial Regulations, technical regulations, Mining Health and Safety Regulations and other regulations as required. The bidding regulations and Mining Healthy and Safety Regulations are planned to completed in 2018.

3. Development of Robust Minerals and Hydrocarbons

In the absence of minerals and hydrocarbons fiscal regimes that can be uniformly applied to all minerals and hydrocarbons projects, the Ministry has negotiated project-specific fiscal arrangements. This has resulted in the creation of different fiscal packages which increase the administrative burden. Furthermore, it makes it difficult to offer a reasonable assurance of fiscal stability for investors and ensure transparency and equity. In recognition of this, the Ministry will design a stable, predictable and internationally competitive fiscal regime which can be uniformly applied to all investors in the sector and which will ensure the country receives a reasonable share of the rents from the extractives sector while also encouraging responsible investment.

4. Ensure Compliance with Transparency Standards and Donor Benchmarks

The Ministry will align itself with transparency standards (EITI) and donor benchmarks for the extractive industries to ensure transparency, accountability, and participatory governance. Key priorities to strengthen transparency in the sector include amendment of Afghan laws to ensure compulsory publication of natural resource contracts as condition of their validity, disclosure of beneficial ownership, auditing of contracting companies and project level publication of production figures.

5. Curbing Illegal Mining and ASM Formalization

Illegal artisanal and small-scale mining (ASM) poses unique risks to the environment and safety of miners, whilst being a potential driver of conflict and corruption and representing lost revenue for the Government. The Ministry will take steps to develop a strategy to combat and formalize illegal mining.

6. Ensure Protection of Afghan Communities, Environment and Heritage

Afghan citizens are currently not empowered with the necessary information on the extractive industries to fulfil their role as effective overseers of the sector and become active participants in the sector's development. Whilst the Minerals Law puts forward important new provisions for community participation, there is more work to be done to ensure communities are fully involved in the decision-making process and for the necessary institutional coordination mechanisms to be put in place. Recognizing the importance of existing mechanisms, such as the Citizens Charter, the inclusion of civil society in meaningful dialogue around local extractives projects will be an important aspect of the Ministry's plans.

Furthermore, the Aynak project has raised concerns that sector operations could lead to a loss in cultural heritage and social displacement. However, the response to the project has shown that heritage can be safeguarded, with lessons that are important for this and future projects. The Ministry will develop policies and safeguards that empower communities with information and to enable them as active participants in the sector's development.

PILLAR 5

GROWTH & ENABLING ENVIRONMENT

The Ministry acknowledges that economic development based solely on resource extraction is not sustainable, since it is constrained by the price of the commodity and access to technology and capital. Afghanistan's opportunity for long term economic growth will come from making strategic choices to develop the sector that will assist in developing the economy beyond only extracting resources, to also supporting the value chains in order to build refining and processing capacity in the country.

This will involve infrastructure development, provisions for benefits to accrue to the local communities, training the work force and attracting investment. Community benefits from local extractive projects will add a further level of economic benefit to communities if projects are planned in consultation with local communities. The Ministry will explore linkages that will support economic development through the integrated development of resource corridors, infrastructure and transmission projects and ancillary industries that are developed near extractive industry sites. This integrated planning will also include linking extractive industry development with energy infrastructure development.

Private sector investment, especially foreign direct investment, can introduce more efficient extraction and processing technologies to the sector that will increase the value of the country's natural assets. Domestic operators can increase capabilities by working alongside international investors; this will also multiply the sector's economic performance. In order

to further catalyze the sector, the Ministry will formalize the ASM sector and establish a conducive business and investment climate that will include promoting exports, establishing more transportation corridors and targeting investment.

The Ministry will promote local content, economic linkages and value added activities to maximize the economic multiplier effect from the extractive industries. This will not only help improve the standards of living of Afghan people but also diversify the economic base from solely extracting resources to also processing those resources in Afghanistan for more sustainable long-term growth.

INTERVENTIONS

The following interventions are planned as part of the Strategy to ensure a favorable and conducive business environment, engage the private sector and communities and ensure that mining projects address strategic priorities of Afghanistan:

1. Conduct Value Chain Studies of Priority Commodities and Industries (Coal, Marble, Talc, Chromite, Cement, Gold, Gemstones, Salt, Copper, Aluminum and Construction aggregate)

The Ministry will conduct value chain analysis on nine priority commodities to determine where there is a comparative and competitive advantage in refining, developing and processing resources within Afghanistan, and to attract and entice investment to value addition activities.

2. Ensuring the Implementation of Medium & Large Projects (Turkmenistan-Afghanistan-Pakistan-India Pipeline, Ghazanfar and Bayat IPPs)

Key energy and hydrocarbons projects have the potential to transform Afghanistan's economic fortunes. Successful implementation of the TAPI project is one of the key priorities for the Ministry in the next two years. The Ministry plans to operationalize Ghazanfar and Bayat IPPs and other projects that are pending.

3. Local Content Strategies

These strategies will aim to create jobs, promote enterprise development and accelerate the transfer of skills and technologies to local communities. The objective of developing local content strategies is to create and share value from extractive sector development. The Ministry will aim to ensure all contracting companies provide for and adhere to local content requirements.

4. Explore the Potential for Regional Cooperation in the Extractive Sector

The extractives sector has the potential to promote regional cooperation and integration. Specifically, Afghanistan has the potential to collaborate further with neighboring countries on joint work in the extractives sector. Increasing regional cooperation will foster economic growth and promote knowledge sharing.

5. Conducting Studies for Potential Collaborations in Regional Market Development

The Ministry will explore linkages through the integrated development of resource corridors, where ancillary industries are developed near extractive industry sites (or on transit routes,

as in the case of the TAPI Pipeline project). This integrated planning will also include linking extractive industry development with energy and infrastructure development.

6. Develop a Corporate Social Responsibility (CSR) Window

In the context of the extractive sector, Corporate Social Responsibility (CSR) refers to activities undertaken by mining companies to either improve the living conditions (economic, social, environmental) of local communities or to reduce the negative impacts of mining projects. The Ministry will work on institutionalizing and formalizing CSR norms to encompass all economic activities related to the sector.

7. Promote Private Sector Engagement

The private sector represents the largest shareholder in the extractive sector in Afghanistan and serves as the engine for growth. Historically, insufficient attention has been given to the requirements of the private sector so as to optimize efficiency and value for both the private companies and the country. The Ministry will continue to assist companies to manage security risk by working with the Ministry of Interior and other security departments. We will also collaborate with the three chambers (ACIM, ACCI and AWCCI) to create a business-friendly regulatory and policy framework.

The Ministry will also work with international agencies such as the World Bank Multilateral Investment Guarantee Agency, Overseas Private Income Corporation for US investors and the Asian Development Bank, to help companies mitigate commercial risks that are specific to Afghanistan.

Implementing Afghanistan's Extractive Industries Sector Strategy requires integrated planning - within the Ministry, as well as with other stakeholders. The Ministry will determine an appropriate coordination mechanism to ensure the full participation of all relevant actors in Strategy implementation.

For internal coordination, the Ministry will establish a steering committee, led by the Minister. Each Deputy Minister will be charged with implementing activities under relevant pillars outlined in the Strategy. To ensure that targets are met, and that activities in the Ministry align with available internal and external resources, a risk management mechanism with a robust monitoring and evaluation unit will be established.

All strategic interventions and activities have been mapped to two phases and sequenced based on their importance and availability of resources.

Transferring the Strategy from paper to practice requires development of a comprehensive practical implementation plan which will include:

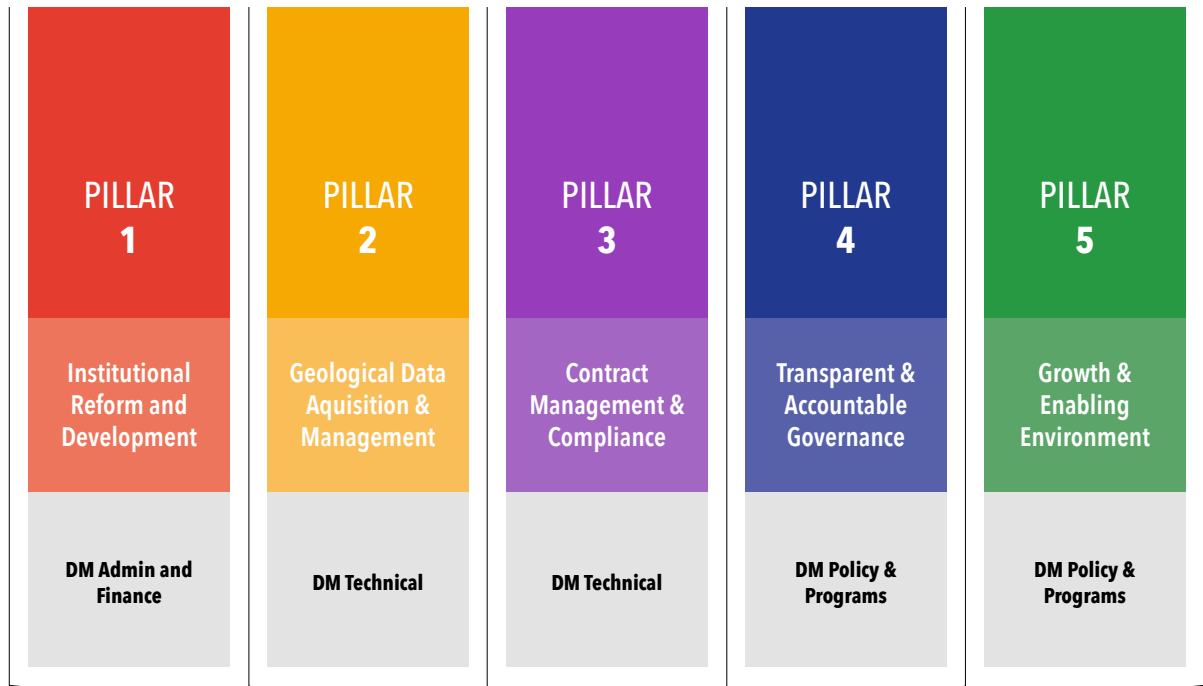
1. Communicating the Strategy internally within the Ministry so that all the relevant departments understand the document and take ownership for the parts that are relevant to them;
2. Developing the detailed implementation plan in consultation with all the departments so that they are a part of the process and link their daily activities with interventions identified of the Strategy;
3. The responsible Deputy Minister assigning all activities to relevant individual directorates; and

4. Each individual directorate implementing their part of the plan and submitting regular status reports. The individual directorates will need to be provided with technical advice to successfully complete this exercise.

Pillar 1, Institutional Reform and Development, is of paramount importance for the Ministry. The Deputy Minister for Administration and Finance will lead the pillar, which will focus on institutional relationships within the ministry, re-defining core functions, restructuring the Ministry, human resources development, e-governance systems, and transparent and streamlined business procedures.

The Deputy Minister for Policy and Programs is responsible for coordinating the implementation of Transparency and Accountable Governance (Pillar 2), and Growth and Enabling Environment (Pillar 5). Development of extractive industries' policies and strategies, improvement of the legal and regulatory framework, compliance with transparency standards and donor benchmarks, enhancing stakeholder engagement, collaboration with law enforcement agencies for protection of mines will be key in Pillar 2's work. Pillar 5 focuses on the implementation of large-scale projects, value chain analyses and recommendations for development of priority minerals and commodities, local content strategies, project prioritization and cooperation within the region.

The Deputy Minister for Technical Affairs is responsible for Geological Data Acquisition and Management (Pillar 2), and Contract Management and Compliance (Pillar 3).



This Strategy has been developed following extensive national and international consultations, and a detailed implementation plan has already been developed in full consultation with all departments of the Ministry. From 2018 onwards the Ministry’s budget, both development and operational, is being prepared based on the implementation plan of the Strategy. Expenses will be divided between ordinary and development budgets based on their nature. This process will help the Ministry not only to achieve more effective program budgeting but also to implement results-based budgeting and reporting.

International Technical Assistance

There have been considerable efforts in the past to align donor support and technical assistance with the goals of the Ministry. The Ministry is committed to ensuring that alignment is enhanced in the future and expects that the Strategy will provide donors with clear direction on the stated outcomes of the Ministry so that donor assistance can focus on the Ministry’s priorities.

The Steering Committee will oversee the alignment of donor involvement with the Strategy vision, create and maintain a Ministry led process for donor involvement to avoid duplication of efforts, establish clear channels

of communication to update international stakeholders, communicate progress made and inform external stakeholders.

Monitoring and Evaluation and Risk Management

The Deputy Minister for Policy and Programs will oversee the review of the status of interventions on a regular basis to assess percentage completion against targets. The responsible Directorates will also track long-term progress against timeframes, report on progress on a quarterly basis and provide details of present and potential risks to successful implementation of their work-plans.

Ongoing risk management is critical to the successful implementation of the Ministry’s vision for the sector. A major gap in the governance of the sector has been caused by the absence of effective risk management and M&E activities, including identifying risks and opportunities. This has resulted in the lack of identification of issues when corrective actions were relatively simple. A comprehensive risk management system is needed to ensure that all activities are being implemented as per the Strategy’s implementation schedule and to ensure that if any activity or intervention is at risk of going off-track, timely corrective actions can be taken and accountability ensured.

The following section provides an overview of when each of the interventions and activities outlined in the preceding sections will be implemented. The section is organized according to pillars, and the interventions and activities will be achieved in two phases: (1) two years, and (2) two to five years.

PILLAR 1: INSTITUTIONAL REFORM AND DEVELOPMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
1. REFORM AND RESTRUCTURING OF THE MINISTRY	Define roles of the sector institutions and mechanisms to enhance coordination							
	Establish core institutional capacity executive task force and policy implementation/ coordination unit to tackle immediate needs							
	Comprehensive capacity needs assessment and plan							
	Restructure Tashkeel, – strengthen key directorates and units such as Gender							
	Establish Afghanistan Mining Regulatory Authority							
	Establish AGS as an independent technical agency; define roles							
	Establish the Afghanistan Oil and Gas Regulatory Authority (AOGRA); define roles and responsibilities							
	Establish and Operationalize the Research and Policy Development Directorate							
	Establish Donor Coordination Directorate							
	Establish Geoscience Research Centre							
Establish Afghanistan Professional Mining Institute								
2. REFORM AND DEVELOPMENT OF SOEs	Conduct a technical assessment of the four SOEs							
	Conduct performance and financial audit of all SOEs by reputable international firms and publish the results online							
	Document review on reform of each SOE							
	Implement institutional reforms for all four SOEs							
	Implement regulations on SOE governance, reporting, and transparency mechanisms							
3. HUMAN RESOURCES DEVELOPMENT PLAN	Analyze current HR needs for each department							
	Fill vacancies after finalization of <i>Tashkeel</i>							
	Finalize CBR and implement with CSC							
	Assess previous capacity building initiatives - develop capacity building and technical assistance guideline							
	Establish policy and planning, and regulatory task force groups and consultants to provide incremental support to the Ministry in the discharge of immediate tasks							
	Agreements with domestic and international academic institutions and sector-promotion organizations							
	Develop and implement strategy to attract and retain qualified staff and transition contractual staff to Ministry's <i>Tashkeel</i>							

PILLAR 1: INSTITUTIONAL REFORM AND DEVELOPMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
4. EXTRACTIVES SECTOR AND WOMEN	Develop and enact a gender mainstreaming policy							
	Implement affirmative action training and compensation structures							
	Include gender in annual performance review							
	Coordinate and lobby for research on the impact of the extractive sector on women							
5. DEVELOPMENT OF e-GOVERNANCE SYSTEMS	Establish e-governance system for core ministry functions							
	Install modern IT infrastructure to guarantee functionality of the system, connectivity, data back-up and online security and reliability							
	Provide e-Governance training to the Ministry staff							
6. EFFECTIVE COMMUNICATION	Develop communications strategy							
	Implement communications policy and protocols – external and internal							
	Develop the capacity of the Ministry’s communications team							
	Communicate regularly with relevant stakeholders through social media, print and broadcast media, conferences, transparency portals and website							
	Monitor impact of communications strategy							
	Engagement with stakeholders - donors, Government, civil society, private sector, security apparatus and communities							
	Establish the Mining Advisory Council							

PILLAR 2: GEOLOGICAL DATA ACQUISITION AND MANAGEMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
1. DEVELOPMENT OF A SINGLE COMPUTERIZED AND INDEXED INFORMATION MANAGEMENT SYSTEM FOR GEO-DATA	Review and analyse current databases with AGS and progress on digitization of data; acquire a compatible information management system							
	Review public domain indexing and retrieval systems (PPDM) and other commercially available software for suitability or commission the design of a customized system							
	Develop protocols and templates for geo data acquisition, data management and classification							
	Migrate data in existing databases to the new system; digitize and upload paper-based data for both minerals and hydrocarbons							
	Update software in GIS Centre							
	Provide capacity building programs for AGS staff							
2. ENGAGEMENT WITH INTERNATIONAL GEOLOGICAL SURVEY DEPARTMENTS	Collaborate with international survey departments, to develop mineral deposits and facilities, acquisition of geo data and satellite imagery, and staff training							
	Engage with the international Geological Survey departments to identify and acquire any data collected during fieldwork in Afghanistan							

PILLAR 2: GEOLOGICAL DATA ACQUISITION AND MANAGEMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
3. HUMAN RESOURCES DEVELOPMENT PLAN	Develop and implement procedures to obtain data collected by civil society and the private sector							
	Ensure implementation of data-sharing agreements within the context of existing contracts and donor programs							
	Map deposits of priority commodities							
	Analyse and interpret available data to inform Ministry decisions							
	Develop a mineral resources map of Afghanistan to show all known mineral deposits and aid identification of areas of potential mineralization							
	Strengthen AGS as a geoscience research centre							
4. DATA DISSEMINATION	Consolidate data room and assign responsibility for maintenance							
	Prepare data packages for potential investors and stakeholders							
	Provide bandwidth to and from the geo data bases							
	Prepare data for public access, electronic and printed, and monitor geo-data accessibility							
	Develop a monitoring and reporting system for newly acquired and uploaded data							
	Publish statistics on geo-data requests and downloads							
5. DEVELOPMENT OF THE CAPACITY OF THE AGS IN EXPLORATION AND DATA RECORDING	Conduct 3D seismic surveys in designated areas, evaluate results and designate acreage for international tender; review the most efficient investment incentives for accessing the lower cretaceous and upper Jurassic gas deposits							
	Review the role of the AGS; develop a strategy to increase expertise in advanced-stage exploration techniques, interpretation of geophysical data, and resource estimation							
	Develop MoU with an ISO-accredited laboratory for the assay of rock and mineral samples							
	Review the need for an in-house ISO-accredited laboratory with the capacity to conduct geochemical, petrographic and mineralogical analysis							
	Start natural gas exploration by conducting 2D seismic surveys on a limited scale in areas of high probability hydrocarbons deposits							
	Develop blocks, time tenders and control the expiration of exploration licences							
	Secure central facility for storing drill core samples							
	Build capacity in geological and geotechnical surveys and recording and analytical skills related to minerals, water resources, environment and geological hazard identification							

PILLAR 3: CONTRACT MANAGEMENT AND COMPLIANCE								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
1. REVIEW AND RESOLVE PENDING CONTRACTS AND PROJECTS	Comprehensive legal and economic analysis of large-scale projects; draft recommendations for HEC decision making process							
	Accelerate the work of the committee to review status of contracts and presentation of next steps to HEC							
	Evaluation and analysis of contracts with outstanding payments in center and the provinces and subsequently presenting the report to HEC for final decision							
	Renegotiate, resolve contracts: Amu Darya and Afghan Tajik blocks , and Mes-Aynak contract							
	Document lessons learned and incorporate lessons into model contracts and strategic plans							
	Develop and implement an M&E plan for each of the contracts signed							
2. PRIORITIZE NEW PROJECTS BASED ON THE NEEDS OF THE GOVERNMENT	Identify significant risks to large-scale contracts and desired projects							
	Identify small projects that can serve to mitigate one or more risk							
	Execute new mining projects in the AOIs already identified							
3. STREAMLINING AND DIGITIZATION OF CADASTER SYSTEM	Digitize the cadaster by fully implementing the MCAS and NTRS systems							
	Reform licensing and tendering procedures to meet international best practice standards							
	Develop and utilize standard model contracts for mining and hydrocarbons in consultation with the industry, civil society, local communities and other stakeholders, and incorporating international best practice on prevention of conflict, corruption and other abuses, and use these as the basis for any negotiation							
4. EFFICIENT REVENUE COLLECTION AND REPORTING	Streamline and simplify the revenue collection procedures							
	Lobby for establishing a dedicated account for extractive industries sector revenue							
	Develop and implement digitized non-tax revenue collection system							
	Coordinate and collaborate with Ministry of Finance on extractives revenue collection, management and reconciliation							
	Work in coordination with the Ministry of Finance to explore the possibility of establishing a natural resource fund for Afghanistan							
	Develop mechanisms to improve revenue forecasting for the sector							

PILLAR 3: CONTRACT MANAGEMENT AND COMPLIANCE								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
5. STREAMLINING AND DIGITIZATION OF MINING INSPECTION SYSTEM	Digitize and implement existing Contract Management System (CMS)							
	Develop inspection capacity in the Ministry in Kabul and in provincial offices							
	Develop and implement mining inspection procedures							
	Establish audit committee, chaired by the Minister, to evaluate and ensure functionality and follow-up on remedial recommendations following inspection							
6. ESTABLISH CREDIBLE DISPUTE RESOLUTION MECHANISM	Develop and implement credible dispute resolution structure, policy and mechanisms							

PILLAR 4: TRANSPARENT AND ACCOUNTABLE GOVERNANCE								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
1. DEVELOPMENT OF POLICIES AND STRATEGIES FOR THE SECTOR	Finalize and implement the National Minerals Policy							
	Finalize and implement the National Hydrocarbons Policy							
	Develop and Implement a National Coal Policy							
	Implement the Extractive Industries Sector Strategy							
2. IMPROVEMENT OF THE LEGAL AND REGULATORY FRAMEWORK	Conduct overall review and assessment of legislative and regulatory framework							
	Finalize amendments to the Minerals Law							
	Evaluate existing legal, regulatory framework for oil and gas; develop a consolidated legal framework for oil and gas							
	Draft and finalize the Coal regulation							
	Develop and enact Bidding Regulation, Financial regulation, Technical Regulations and Mining Healthy and Safety Regulations							
	Continue Aynak regulatory monitoring system and create scorecard monitoring system							
	Assess and supplement regulatory framework: introduce regulations on Gas (wellhead) Pricing, Gas Transport and Gas Distribution							
	Monitoring the implementation of legal and regulatory framework, including training employees to implement, and develop proper M&E mechanisms							
3. DEVELOPMENT OF ROBUST MINERALS AND HYDROCARBONS FISCAL REGIMES	Revise and approve the draft minerals fiscal regime policy							
	Revise and approve the draft hydrocarbons fiscal regime policy							
	Incorporate minerals and hydrocarbons fiscal regime policies into the respective financial regulations							

PILLAR 4: TRANSPARENT AND ACCOUNTABLE GOVERNANCE								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
4. COMPLIANCE WITH TRANSPARENCY STANDARDS AND DONOR BENCHMARKS	Implement the anti-corruption plan with monitoring and evaluation mechanism							
	Aggressively pursue compliance with EITI Standard							
	Develop and implement a system for beneficial ownership to ensure transparent disclosure of information							
	Publication of non-tax revenues (royalty schedule, payments, contracts)							
	Improve Afghanistan's standing in Resource Governance Index							
	Contribute in improving ranking on Transparency International's Corruption Perceptions Index							
	Pursue compliance with donor benchmarks (US, EU, WB and IMF) that are aligned with EITI Standard							
5. ILLEGAL MINING AND FORMALIZATION	Develop and implement strategy in consultation with various stakeholders to capture illegal mining							
	Map illegal mining activities, and create a registry of companies and actors involved in illegal mining							
	Establish a Security Coordination Committee for protection of mining sites and prevention of illegal mining within National Security Council (NSC)							
	Support the committee in the development of security strategy for mining sites and preventing illegal mining							
	Improve coordination with customs agencies for monitoring mining exports at the border points							
	Develop and implement ASM formalization strategy							
	Prepare and operationalize a comprehensive ASM regulatory framework and strengthen the functions and capacity of ASM and Mining Inspectorate Directorates							
6. PROTECTION OF AFGHAN COMMUNITIES, ENVIRONMENT AND HERITAGE	Develop cross-government coordination mechanism to address issues affecting communities, the environment, and the national heritage, including citizen consultation on national level							
	Develop and ensure implementation of community development, environment protection, social services, human rights and heritage protection guidelines							
	Establish and implement Grievance Redressal Mechanisms (GRMs)							
	Ensure compliance with NEPA environmental performance benchmarks, Ministry social performance, MoIC cultural protection activities, performance evaluation through publication of environmental and social scorecard							

PILLAR 5: GROWTH AND ENABLING ENVIRONMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
1. CONDUCT VALUE CHAIN STUDIES OF PRIORITY COMMODITIES AND INDUSTRIES (COAL, MARBLE, TALC, CHROMITE, CEMENT, GOLD, GEMSTONES, SALT, COPPER, ALUMINUM AND CONSTRUCTION AGGREGATE)	Conduct value chain analysis of Coal, Marble, Talc, Chromite, Cement, Gold, Gemstones, Salt, Copper, Aluminum and Construction aggregate							
	Use evidence based prioritization of extractives projects beyond the eight priority commodities							
	Conduct studies and present recommendations on licensing arrangements							
	Assess and identify infrastructure required for the priority projects							
	Sign MoUs with Ministry of Urban Development Affairs, Ministry of Public Works and Kabul Municipality to ensure awarded contractors are made to sign a separate contract with Ministry to ensure the use of licensed construction materials							
2. ENSURING THE IMPLEMENTATION OF MEDIUM AND LARGE PROJECTS (TURKMENISTAN-AFGHANISTAN-PAKISTAN-INDIA PIPELINE, GHAZANFAR & BAYAT IPPS)	Work with WB, IFC, private sector and government departments to ensure the further development and implementation of gas-to-power IPPs							
	Closely work with regional countries towards the successful implementation of the TAPI project							
	Implement Aynak, Amu Darya and other pending resource contracts							
	Map the prerequisites and implementation of prerequisite activities to ensure the implementation of the projects							
3. LOCAL CONTENT STRATEGIES	Development of policies for local content and benefits sharing, and distribution to license holders							
	Benefits sharing for all project enacted as part of renegotiation of contract							
	Ensure resource corridor development/ local content is included within mining contracts							
	Local content monitoring system for contractual compliance developed							
	Publication of local content compliance guidelines							
	Ensure capacity building and participation of local firms							
	Promote economic linkages and value-added industries							
Conduct extractive industry vocational trainings								
4. EXPLORE THE POTENTIAL FOR REGIONAL COOPERATION IN THE EXTRACTIVES SECTOR	Execute joint studies with neighbouring countries on mineral and hydrocarbons deposits and exploring possibilities for collaboration							
	Establish cross-border transit agreements							
	Establish agreements on cross-border oil and gas fields already under exploration which could yield near term results							

PILLAR 5: GROWTH AND ENABLING ENVIRONMENT								
Interventions	Activities	2018	2019	2020	2021	2022	2023	2024
5. CONDUCTING STUDIES FOR POTENTIAL COLLABORATIONS IN REGIONAL MARKET DEVELOPMENT	Undertaking an options analysis for regional development corporation for mining infrastructure public private partnerships (PPPs)							
6. DEVELOP A CORPORATE SOCIAL RESPONSIBILITY (CSR) WINDOW	Include a tariff on profits in the contract language directed to local municipalities to cover the indirect costs of mining, such as security and waste management							
	Establish a mechanism to spend any top-up funds received via NPP programs like the Citizens Charter							
	Adhere to EU's strategy for CSR and Sustainable Consumption and Production and Sustainable Industrial Policy							
	Ensuring companies adhere to United Nations Global Compact initiative and its 10 principles							
	Implementing the Sustainable Mining initiative							
7. PRIVATE SECTOR ENGAGEMENT	Establish a mechanism to regularly engage with private sector representatives							
	Establish information management channels							
	Establish a communications protocol for responding to private sector issues							

“

The Government of Afghanistan is committed to open and accountable mining sector, as it represents the largest opportunity to increase growth rates in the country. To sustainably utilize our natural capital to create the financial capital to expand and ensure the freedoms, rights and securities enshrined in our constitution is the vision that guides us.

H.E. Mohammad Ashraf Ghani
President of Islamic Republic of Afghanistan

2019 © All rights reserved.
Ministry of Mines & Petroleum
Islamic Republic of Afghanistan

