Guidelines and Best Practices for MSMEs to assure resiliency and progress towards a circular economy in sustainable resource management and critical raw material supply chain solutions in Kyrgyzstan.

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Executive summary

The development of micro, small and middle-sized businesses/enterprisers (MSME) demonstrates the solvency of countries' economies. Not always the prominent enterprisers or corporations can satisfy the population's needs in some products, especially in services. The MSME occupy the most significant number of niches.

The MSME mainly saturate a market with goods and services of the required quality. At that, additional workspaces are created that allows settling the actual problems in the economic and social area of the state.

Small business is limited included in the economic structure, competitive environment and social division of labour. But, at that, its role in the modern dynamic life rises steadily.

Despite its attractiveness, MSME has their weaknesses; such as the low sustainability during the crisis. Upon an economic decline or even crisis, it is more difficult for small businesses to survive than large corporations or enterprises. The latest can get the tax remissions or the other bonuses from the state. It is more challenging to get the same bonuses for a small firm. During the economic or other crises, the MSME become bankrupts firstly. Unfortunately, it was one more time proved in 2020.

Starting from March 22, 2020, the emergency situation regime was introduced across the whole territory of Kyrgyzstan due to the increasing COVID-19 incidence rate. The restrictions for the public transport movement were introduced too. The same decision in Osh city was taken on March 20, 2020.

On March 24, the Republic's COVID-19 combating emergency operations centre informed that 24 persons were infected. The total number of people infected by COVID-19 achieved 42 persons.

In connection with this fact, it was decided to introduce the emergency situation regime (ES) in Bishkek, Osh and Djalal-Abad cities, Nookat and Kara-Suu districts of Osh Province (Osh Oblast), as well as Suzak district of Djalal-Abad Province (Djalal-Abad Oblast). At the time of ES operation, the curfew was introduced.

At the beginning of June, some quarantine restrictions were cancelled in Kyrgyzstan. People started to come back to their ordinary everyday lives. Assumptions refuting the existence of COVID-19 were distributed in society, and people stopped wearing protective masks and kept their distance and started to visit places of mass gathering.

It caused a sharp increase in COVID-19 infection and death cases. The number of pneumonia cases with positive results of COVID-19 analyses among the population started to grow.

During that period, the Government of the Kyrgyz Republic and senior management staff of the administrative centres were taking all possible measures to decrease the threat of disease rate and its distribution. At the same time, the measures for decreasing load to the business started to be introduced.

The load decreasing implied the introduction of social and tax exemptions for the business entities.

According to the data of the International Monetary Fund, in 2020, the global economy was decreased by 3.5%; the gross domestic product of Kyrgyzstan was decreased by 8.6%. Therefore, Kyrgyzstan became the country with the most significant economic collapse in Central Asia.

In 2020, the small and middle-sized enterprisers (without peasant (farmer) enterprisers and individual entrepreneurs) got 135.3 billion KGS of revenue (gross profits) from sales of products (goods, works, services). Their share in revenue volume of enterprisers of the real sector of economy amounted to 27.4 %.

The main volume of revenue (80.2 billion KGS or 59.2 % of the total volume) was received by the small and middle-sized enterprisers of Bishkek city.

Compared with 2019, the revenue volume was decreased by 8.5 %, or by 12.6 billion KGS [13].

Revenue decreasing was caused by reduced income received from goods and services sales, closing of markets, roads and borders (impossibility to import required goods and export final products), decreasing number of tourists, and reduction of investments and remittance from labour migrants.

Officially, Bishkek requested 774 million USD from foreign donors to fight COVID-19. 343 million USD of them were received.

The COVID-19 pandemic, to some extent, gave an impulse for country history change. The parliamentarian elections conducted by the authorities during the pandemic and following disaffection caused by the election results led to the civil disturbances on October 4-5, and a new government came into power.

According to the Resolutions of the newly established Government and President, the set of exemptions have been introduced for the business society. At that, the number of legislation compliance inspections was increased.

By summer 2021, disease rate decline was registered in the Central Asian region. Unfortunately, the third wave of disease incidence was started in Kyrgyzstan, especially in Bishkek city.

Despite the insignificant decrease of revenue in 2020, in January-March 2021, the small and middle-sized enterprisers (without peasant (farmer) enterprisers and individual entrepreneurs) got 31.8 billion KGS of revenue (gross profits) from sales of products (goods, works, services). Their share in revenue volume of enterprisers of the real sector of economy amounted to 27.0 %. Compared with the similar period of the previous year, the revenue volume was increased by 1.5 times or by 10.4 billion KGS. The main volume of revenue (66.2 %) was received by the small and middle-sized enterprisers of Bishkek city [13].

Enough difficult economic situation in 2020 negatively affected the heating season 2020-2021. In the winter period, the number of days with smog increased, and the continuous duration of smog was also increased. The citizens, especially in the housing estates, could not buy coal, and people used wastes as fuel. As a result of such wastes combustion, the concentration of harmful and suspended particles in the air was increased. Heating with the assistance of electricity is hardly feasible due to the lack of electric energy.

In a sign of the existing economic, social, and environmental realities, Kyrgyzstan has faced with an issue to introduce the Resource management system into operation.

And one of such systems is (United Nations Resource Management System [18] developed with application of UN Framework Classification for Energy Reserves / Resources (UNFC) [17], that partially covers all items of sustainable country development.

Development and introduction into operation of the Resource Management System “can ensure favorable social and environmental results, facilitating equitable distribution, poverty reduction and conflicts elimination” [17, 18].

The sustainable resource management is impossible without close cooperation of the political and economic country's leadership from one side and the large and small -sized business from another side.

The condition of the Kyrgyz economy during COVID-19 period (2019-2021) and the status of the micro, small and middle-sized enterprisers in it are presented in this paper. Possible activities related to resource management are presented too. Management of the critical rare materials is considered as an example.

ADB	Asian Development Bank
EAEU	Eurasian Economic Union
GDP	Gross Domestic Product
GRP	Gross Regional Product
ICT	Information and Communications Technology
IMF	International Monetary Fund
IOM	International Organisation for Migration
MALIFC	Monthly Allowance for low-income families with children
MSME	Micro, small and middle-sized enterprisers
NBKR	National Bank of the Kyrgyz Republic
IPE	Individual Protective Equipment
PRC	People's Republic of China
SDG	Sustainable Development Goal
UN	United Nations Organizations
UNDP	United Nations Development Programme
UNFC	United Nations Framework Classification for Resources
UNECE	United Nations Resource Management System
WFP	World Food Program

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Introduction

The COVID-19 was signalized at the end of 2019 with the following declaration of a pandemic. Kyrgyzstan, as one of the members of the global society, did not avoid this infection.

Since the spread of COVID-19 detected in China, the Government of Kyrgyzstan has started to take measures on disease prevention.

The sanitary and quarantine control at the check points was strengthening. On January 23, 2020, all types of transfers with China was stopped. On January 25, the Republican COVID-19 busting emergency operations centre was established.

The Republican COVID-19 busting emergency operations centre segregated countries where the disease was detected in three and two categories. If the virus in a country was identified among more than 1,000 persons, the country was rated as the country of the first category. The second category included all other countries with registered disease cases.

It was supposed that the citizens of Kyrgyzstan (arrived from the countries of the first category) should be transported to the specially prepared hospitals for 14-day observation. The citizens who were arrived from the countries of the second category should be on two-week home quarantine.

Nevertheless, COVID-19 penetrated Kyrgyzstan not from neighbouring China but from completely another region.

On March 18, 2020, in the morning, it was informed that three citizens (among citizens who came back from umrah in Saudi Arabia) were infected with COVID-19. According to the official information from Jalal-Abad Oblast, the works associated with clarification of contacts of 1,122 persons - fellow villagers and relatives of people who were in umrah, were carried out.

On March 18, 2020, the Emergency Situation was announced on the territory of Suzak district. On the following day - March 19, COVID-19 was detected among three citizens of Nookat, where the ES regime also was introduced.

Staring from March 24, the Emergency Situation regime was introduced on the whole territory of Kyrgyzstan, including the cities of Bishkek, Osh, Djalal-Abad, as well as in Nookat and Kara-Suu districts of Osh Oblast, and Suzak district of Djalal-Abad Oblast. A lockdown was introduced in the cities of Bishkek and Osh.

The first death caused by COVID-19 was registered in Kyrgyzstan on April 3. In May, the number of death cases was 10.

Within the quarantine, the economic activity - especially among those enterprises and business entities that cannot work remotely – was decreased significantly.

Under COVID-19 pandemic conditions, Kyrgyzstan received humanitarian and financial support from several countries and international organizations.

After the Security Council meeting on March 31, the Ministry for Foreign Affairs was assigned to take proactive efforts to attract humanitarian, technical and grant assistance. Additionally, President Sooronbai Zheenbekov was conducting negotiations with colleagues from other countries, international organizations, and financial institutes [1].

The assistance was rendered by Russia, China, Japan, South Korea, Turkey, USA, Switzerland, Uzbekistan, Kazakhstan, Belgium, and the other countries in personal protective equipment, lung ventilators, express tests, etc. reagents for the total amount of 15 million USD.

The financial support was rendered through:

- International Monetary Fund allocated 120.9 million USD;

- The Government of Germany, through GIZ, provided a grant for 550 thousand Euro;
- Islamic Development Bank allocated 11 million USD and grant in the amount of 350 thousand USD in the form of 30,400 PCR tests with reagents;
- World Bank, in the framework of emergency response, allocated more than 12 million USD;
- European Bank for Reconstruction and Development was considering support in the amount of 100-150 million USD.

Invaluable help was rendered by the fellow citizens living abroad, who were able to arrange supply of pharmaceuticals, medical equipment, and products under conditions of quarantine and closed borders.

The Law "On Ratification of the Financing Agreement between the Kyrgyz Republic and the International Development Association (COVID-19 Emergency Response Project)" was signed on April 7, 2020.

According to the Agreement, the World Bank, as one of the development partners responsible for financial support of COVID-19 Emergency Response Project implementation, has provided concessional financing in the amount of 12.150 million USD, including in the form of grant in the amount of 6.075 million USD and loan in the amount of 6.075 million USD (loan to be provided based on standard conditions of the International Development Association for 38 years with 6-year grace period with an interest rate of 0.75% per annum).

The KR Law "On Ratification of the Agreement between the Kyrgyz Republic and the Asian Development Bank (COVID-19 Active Response and Expenditure Support (CARES) Program)" was signed on May 5, 2020. The proposed COVID-19 Active Response and Expenditure Support (CARES) Program is a part of an integrated facilitation package of the Asian Development Bank (ADB) aimed at provision of critically needed support to help the Government of the Kyrgyz Republic to mitigate the severe health, social, and economic impact caused by the coronavirus disease (COVID-19) pandemic.

The financial resources for the implementation of the Program mentioned above are provided by ADB in the amount of 50 million USD as follows:

- ADB grant - 25 million USD;
- ADB loan - 25 million USD (loans are provided for 24 years, including an 8-year grace period with an interest rate of 1% per annum within the grace period and 1.5% - each next year).

According to the International Monetary Fund, the global economy was declined by 3.5% in 2020. The gross domestic product of Kyrgyzstan was decreased by 8.6%. Therefore, Kyrgyzstan became the country with the most significant economic collapse in Central Asia

The crisis affected all areas of business, including the mining sector. The investments were reduced drastically that causing decreasing in geological exploration rates. As a result of pandemic and challenging quarantine requirements, the consumer purchasing power declined, which caused slumping sales of the number of mining products.

Thus, in the winter period 2020-2021, the high coal prices did not allow procuring enough. The population was forced to use various wastes for heating that caused a sharp increase in air pollution in Bishkek and its vicinity. Bishkek was taken "the first" place in the air pollution rating.

Reduction of remittances from the neighbouring countries (firstly from Russia) caused decreasing construction rates and, consequently, decreased sales volume of construction materials (gravel, sand, clay, concrete, cement).

2021 can be characterized as the post-COVID year – the year when the rehabilitation trend of economic activities of the entrepreneurs and business entities is outlined.

Complex and long geological development of the Kyrgyz Tian-Shan created a wide variety of the geological complexes, geodynamic conditions and favorable conditions for formation of various mineral deposits.

The Kyrgyz Republic has the significant capacity by different types of mineral raw materials. For almost 80-year history of the geological investigations (from the moment of the Kyrgyz Geological Administration establishment in 1983), the geologists discovered on its territory about 20 thousand of deposits and ore occurrences of more than 150 types of different minerals. The mining sector in the country always was one of the leading industrial sectors [15].

All mineral resources of the Kyrgyz Republic can be joined in four large groups - fossil fuels, metal, non-metal and underground waters (including therapeutic muds).

For accounting of the mineral resources in the Kyrgyz Republic, the system of the State Reserves Committee is applied. But, in a greater degree, the geological reserves are accounted and the social or environmental issues are considered at the Feasibility Study stage.

For accounting of deposit preparedness (or any energetic project) to the development it is more reasonable to use UNFC and UNRMS. Thus, UNFC allows accounting geological, social, and environmental aspects of the project, and UNRMS allows managing project strategically. At that, UNRMS covers many items of SDG that is enough important in recent period.

It is necessary to mention, that currently the legislation is in the process of modification and there is possibility to introduce the principles of UNFC and UNRMS.

1. Background

a. COVID-19 and the impact on micro-, small and medium enterprises (MSMEs) in Kyrgyzstan

The economy of the Kyrgyz Republic was seriously suffered as the result of the COVID-19 pandemic**.**

According to the International Monetary Fund, the global economy declined by 3.5% in 2020. The gross domestic product of Kyrgyzstan was decreased by 8.6%. Therefore, Kyrgyzstan became the country with the most significant economic collapse in Central Asia.

Table 1. GDP change forecast for 2020 [3]

	GDP growth, 2019	GDP growth forecast, 2020 (according to the estimates as of October 2019)	GDP growth forecast, 2020 (according to the estimates as of May 2020)	GDP growth forecast, 2021 (according to the estimates as of April 2020)
Afghanistan	+3%	+3.5%	-3%	+4.5%
Kazakhstan	+4.5%	+3.9%	-2.5%	+4.1%
Kyrgyzstan	+4.5%	+3.4%	-4%	+8.0%
Mongolia	+5.1%	+5.4%	-1%	+8%
Tajikistan	+7.5%	+4.5%	-2%	+5.5%
Turkmenistan	+6.4%	+6%	+1.8%	+6.5%
Uzbekistan	+5.4%	+6%	+1.8%	+7.0%

A significant difference from the initial forecast outlines the significance of the economic shock.

The official authorities took the set of measures for life saving and mitigation of influence on the economy. Such measures included the extra expenses for the health care, activation of food

security program for the vulnerable population, and temporary tax deferral and credits subsidizing for support of MSME.

A shock triggered by the COVID-19 pandemic has led to a total budget deficit of 3.3 % of GDP, growth of the state dept to 68 % of GDP, weakening of the total payment balance, and weakening of foreign currency exchange rate acceleration in the inflation rates. The NBKR increased the official discount rate two times from 4.25 % at the beginning of 2020 up to 5.5 % in February 2021, simultaneously rendering support to the banks by a liquidity injection, providing credit payment grace periods and temporary loosening of norms related to capital sufficiency, as well as creating reserves for covering of potential credit losses.

The Kyrgyz Republic became the first country that got emergency financial assistance from the IMF to combat the COVID-19 pandemic for about 242 million USD (100 % of IMF quota) within the Rapid Financing Instrument (RFI) and Rapid Credit Facility (RCF).

In 2020, Erkin Asrandiev, the Vice-Prime Minister of the Kyrgyz Republic, told about the support of the country economy and entrepreneurship during the COVID-19 pandemic.

The support was oriented to several directions: concessional financing of entrepreneurs for rehabilitation and development of their activity. A separate anti-crisis account was established for this purpose. And the second, the tax exemptions in terms of reporting and the deadlines for payment of various tax and non-tax charges.

It was planned to spend 14 billion KGS for support of business in Kyrgyzstan. These funds should be obtained through reallocation of expenditures items and donor support, e.g. from the side of the Kyrgyz-Russian Development Fund.

In May 2020, it was planned to open an anti-crisis account. Among the foreign donors, KfW Development Bank (30 million USD) and European Investment Bank (22 million Euro) have confirmed their participation in the financing of business restoration. The total amount in KGS is about 4.5 billion KGS.

Regarding the tax exemptions – all deadlines for tax reporting before the Social Fund and the National Statistical Committee were extended, penalties and forfeits were cancelled, the deadlines for the introduction of digital maintenance of tax records were postponed. Also, all on-site tax inspections were cancelled till the end of the year; the moratorium for inspections by the other state authorities was extended for one year.

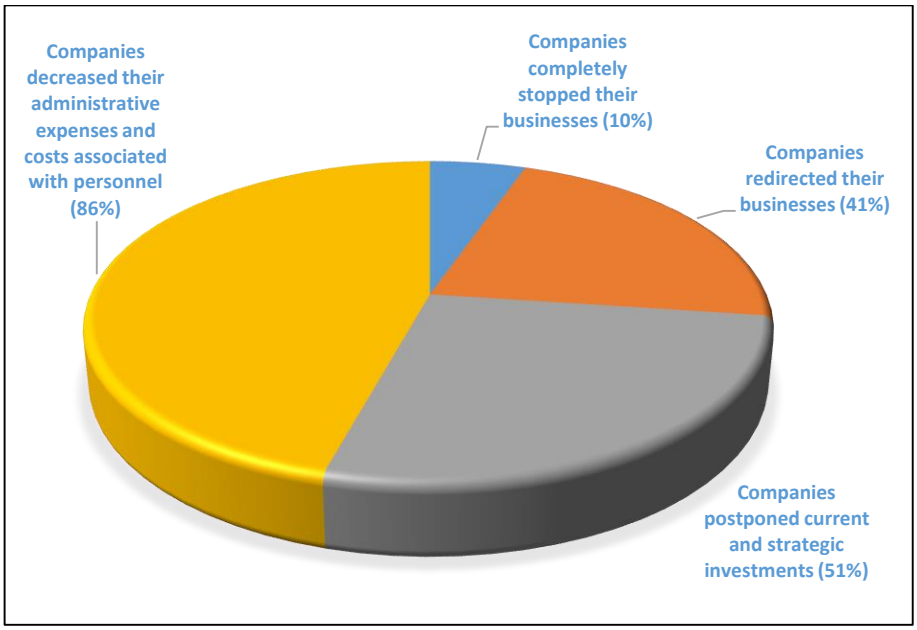
In 2018, 15.3 thousand enterprisers operated on the territory of the Kyrgyz Republic, 14.5 thousand enterprisers were small-sized enterprises, and 0.8 thousand - the medium-sized enterprisers.

In 2019, 17.0 thousand enterprisers operated on the territory of the Kyrgyz Republic, 16.2 thousand enterprisers of them were the small-sized enterprisers, and 0.8 thousand - the medium-sized enterprisers. More than 26% of operating enterprisers implemented their activity in wholesale and retail trade, and in the field of auto and motor-bicycle service; 15.2 % – in the field of industry; and 11.9 % - in the industry field of construction.

In 2020, the number of MSME was not changed significantly, i.e. 17.02 thousand enterprisers operated on the territory of the Kyrgyz Republic, 16.3 thousand enterprisers of them were the small-sized enterprisers, and 0.72 thousand - the medium-sized enterprisers. At that, 66.9% of operating small and medium-sized enterprises implemented their activity in Bishkek [13].

The social survey carried out by the American Chamber of Commerce in Kyrgyzstan (AmCham KG) among 49 companies (represented by the consulting, construction companies, commercial banks, touristic firms, companies operating in the field of services, and the other economic sectors) shown that the pandemic caused damping of demand for the goods and services for 54% of companies that consequently decreased their income. 45% of companies were entirely or partially affected by the legal restrictions of activity. 37% of interviewed respondents were suffered from the shortage of raw materials and/or failure in the supply chain [7].

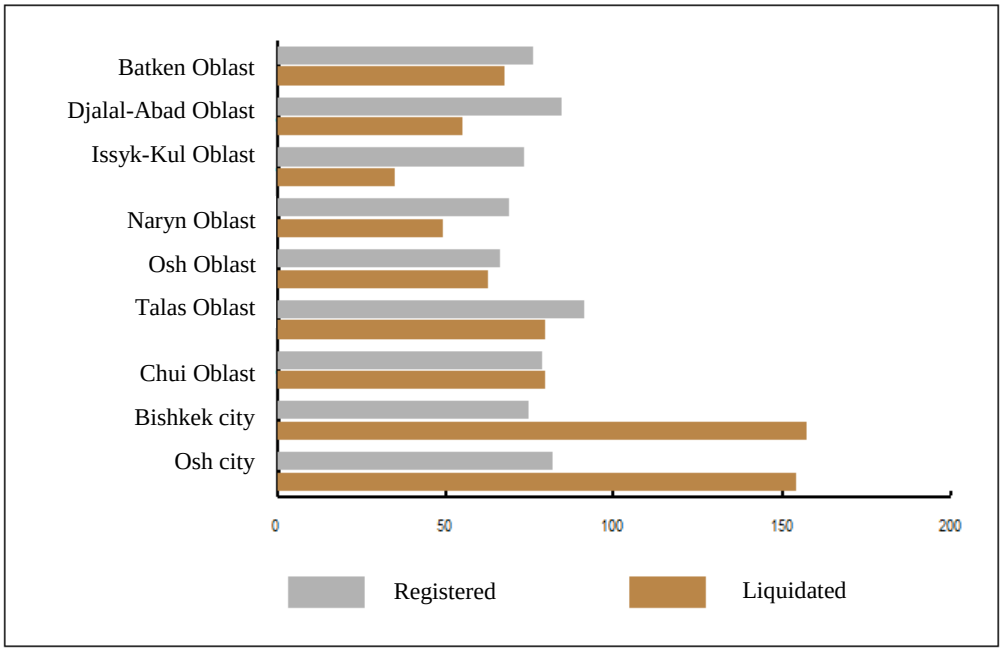
To mitigate the complex consequences, 86% of companies decreased their administrative expenses and costs associated with personnel. More than half of companies postponed current and strategic investments. 41% of companies redirected their businesses. 10% of companies completely stopped their businesses.



Pic.1 Diagram: Chingiz Kerimbekov, financial portal "Akchabar". The source: AmCham survey

Due to the coronavirus infection outbreak, 6% of companies have decreased their personnel to 30%. Employees of 39% of companies worked remotely; 13% of companies placed their employees on unpaid leave; 16% cut down the working hours. 26% of companies managed to keep their personnel completely.

According to the data of the National Statistical Committee, the correlation of opened and closed business entities is following (pic.2):



Pic.2 The number of newly registered and liquidated business entities on the territory of Kyrgyzstan in 2020 [13].

Based on the light industry example, the significance of covid-quarantine period influence on the industry could be demonstrated.

Thus, the part of garment manufacturers in Kyrgyzstan was forced to be closed and release their staff (to 70%). Due to pandemics and the absence of sales, only those enterprisers that arranged their work within the old network or based on the contracts for one or two years could continue their activity.

Closed borders caused an absence of raw materials supply and export of the final products. Based on the 9 months of 2020 (January-September), the export volume of clothing products decreased by 37%. For the 8 months of 2019, export amounted to 67.3 million USD; for the same period of 2020, an export was reduced to 42.5 million USD.

Considering the mining sector, it is possible to see the significant changes. Firstly, the investments in geological exploration were decreased; secondly, extraction of mineral resources decreased, although it is not always notable in monetary terms. It could be explained by increasing selling price to cover the cost of related products and services that caused decreasing purchasing power.

Table 2 The volume of industrial products (goods, services) breaking down by the types of economic activity for January – December

	Actually produced at the current price, thousand KGS		
	2018	**2019**	**2020**
The Kyrgyz Republic	**253,053 909.8**	**278,565 008.0**	**319,380 238.3**
From them			
Extraction of mineral resources	**15,657,653.2**	**19,872,107.7**	**17,876,760.9**
Mining of coal and lignite	3,089,005.6	3,275,084.9	3,380,162.2
Extraction of natural gas and crude oil	4,097,082.2	4,937,996.9	3,804,531.8
Mining of metal ores	7,583,775.7	10,643,879.4	9,934,231.8
Other mineral resources extraction	887,789.7	1,015,146.5	757,835.1

To trace changes in the mining production for January-May of 2019, 2020, and 2021, it is possible to consider the following information [13].

For January-May 2019, the share of mineral resources extraction within the total volume of industrial production was 5.1 %; processing production – 77.5%; supply of electrical energy, gas, vapour and conditioned air – 16.3%; water supply, treatment, wastes processing and generation of recyclable materials - 1.1 %.

The volume of mineral resources extraction for January-May 2019 was 5,325.6 million KGS. The quantity index number by January-May 2018 was 127.4 %. An increase of industrial production volume by 38.3% was registered in metal ores mining, by 19.8 % - mining of coal and lignite, by 15.5 % - extraction of natural gas and crude oil. Along with that, a decrease in production volumes (by 1.0 %) was registered in the other mineral resources extraction field.

For January-May 2020, the share of mineral resources extraction within the total volume of industrial production was 5.6 %; processing production – 79.7 %; supply of electrical energy, gas, vapour and conditioned air – 13.8 %; water supply, treatment, wastes processing and generation of recyclable materials – 0.9 %.

The volume of mineral resources extraction for January-May 2020 was 6,908.7 million KGS. The quantity index number by January-May 2019 was 113.0 %, and in May, correspondingly - 1,470.7 million KGS and 123.9 %.

An increase of industrial production volume by 23.5 % was registered in natural gas and crude oil extraction, by 15.3 % - mining of metal ores, by 9.4 % - mining of coal and lignite. Along with

that, decreasing production volumes (by 46.0 %) was registered in the other mineral resources extraction field.

For January-May 2021, the share of mineral resources extraction within the total volume of industrial production was 7.4 %; processing production – 76.1%; supply of electrical energy, gas, vapour and conditioned air – 15.2%, water supply, treatment, wastes processing and generation of recyclable materials – 1.3 %.

The volume of mineral resources extraction for January-May 2021 was 9,348.4 million KGS, the quantity index number by January-May 2020 was 95.7 %, and in May, correspondingly – 2,776.2 million KGS and 116.2 %.

Decreasing industrial production volumes (by 7.5 %) was registered in mining of metal ores and (by 6.8 %) - in the extraction of natural gas and crude oil.

Along with that, increasing production volume by 48.9 % was registered in the mining of coal and lignite, 1.7 times - in the field of the other mineral resources extraction.

b. Current status of MSMEs in critical raw material (CRM) value-chain in Kyrgyzstan

Notwithstanding the positive news in industrial development, establishment of new enterprisers in country, launch of mining pits, gradual restoration of previously existing production, the crisis associated with COVID-19 is still in progress in 2021.

In January- March 2021, about 12 thousand enterprisers operated on the territory of Kyrgyzstan, 94% of which were small-sized enterprisers. According to the data of the National Statistical Committee of the Kyrgyz Republic, almost 60% of the operating small-sized enterprisers implemented their activity in Bishkek.

The volume of gross added value produced by the entities of small and medium-sized businesses in January-March 2021 amounted to 38.2 billion KGS. Compared with the similar period of the previous year it was increased by 3%. At that, its share in GDP was kept the same.

It is necessary to mention that the inflow of direct foreign investments in January-March 2021 compared with the similar period of 2020 has been decreased by 24.4% and amounted to 112.1 million USD.

According to the data of the National Statistical Committee of the Kyrgyz Republic, the inflow of all components of the direct foreign investments was decreased in 2021 against the 1st quarter of 2020, excluding credits obtained from the non-residents, the volumes of which were increased by 3.3 times.

The main volume of the direct foreign investments (about 91%) has been forwarded to the enterprisers dealing with geological exploration, mining, processing industry, wholesale and retail trade, and the sector of financial intermediation and insurance. At that, the volume of investments forwarded to the geological exploration was increased 7.4 times, to the mining enterprisers – in 3.1 times, wholesale and retail trade – by 18.1%, while investments into processing industry enterprisers were decreased by 7.7 times, into the sector of financial intermediation and insurance – in 2.9 times.

The negative tendency is also traced to the outflow of investments. An outflow of the direct foreign investments in January-March 2021 compared with January-March 2020 was increased by 16% and amounted to 479.1 million USD. The National Statistical Committee of the Kyrgyz Republic calculated that the outflow exceeded the inflow level by 367 million USD.

Table 3: Extraction of the main types of mineral resources or the period of January-May of 2018 - 2021 [13]

	Produced - in total								In % to a related period of the previous year							
	2018		**2019**		**2020**		**2021**		**2018**		**2019**		**2020**		**2021**	
	May	**January -May**	**May**	**January -May**	**May**	**January -May**	**May**	**January -May**	**May**	**January -May**	**May**	**January -May**	**May**	**January - May**	**May**	**January - May**
Mining of coal and lignite																
Coal, thousand tons	12.6	61.9	13.5	98.8	46.8	165.4	49.5	208.1	326.8	103.5	107.0	159.6	347.3	167.4	105.8	125.9
Lignite, thousand tons	38.4	424.1	18.1	467.9	21.9	428.3	77.1	697.5	73.1	105.1	47.0	110.3	115.8	91.4	351.5	162.9
Extraction of natural gas and crude oil																
Crude oil, thousand tons	17.0	78.5	19.0	91.4	21.4	114.0	22.1	106.1	153.1	146.7	111.8	116.4	111.5	124.6	100.9	93.6
Natural gas in liquid or gaseous condition, million m^3	2.3	12.1	2.1	11.6	2.0	11.2	1.0	8.7	169.2	90.1	91.3	95.9	95.2	96.6	50.0	77.7
Other mineral resources extraction																
Granite, sand-rock and the other stones for monuments, decoration or construction, tons	140.8	13,100.6	54.1	192.4					9.7	585.0	38.4	1.5				
Dolomite noncalcified, non-processed, tons	4,598.0	11,949.3	540.1	7,926.1					133.6	131.0	11.7	66.3				
Marble and stone calciferous, the other stones for monuments, decoration or construction, tons			0.6	4167.8	770.0	2675.2	-	7 359.6			0.0	33.0	128,333.3	64.2	-	275.1
Natural sand, thousand tons			59.5	200.4	34.7	120.3	57.3	147.5			93.4	98.5	58.3	60.0	198.3	124.7
Granulate, chips, pebble stones, gravel, crushed rock, thousand tons	101.2	365.2	115.1	316.8	90.2	229.8	116.4	330.2	101.3	122.5	139.3	97.1	78.4	72.6	133.1	141.4

In the structure of the direct foreign investments, compared with the corresponding period of 2020, an increase of own capital outflow by 5.5% has been noted, as well as reinvested profits – in 2.5 times (the volume of which depends on undistributed profits (losses) of an enterprise and paid-out dividends).

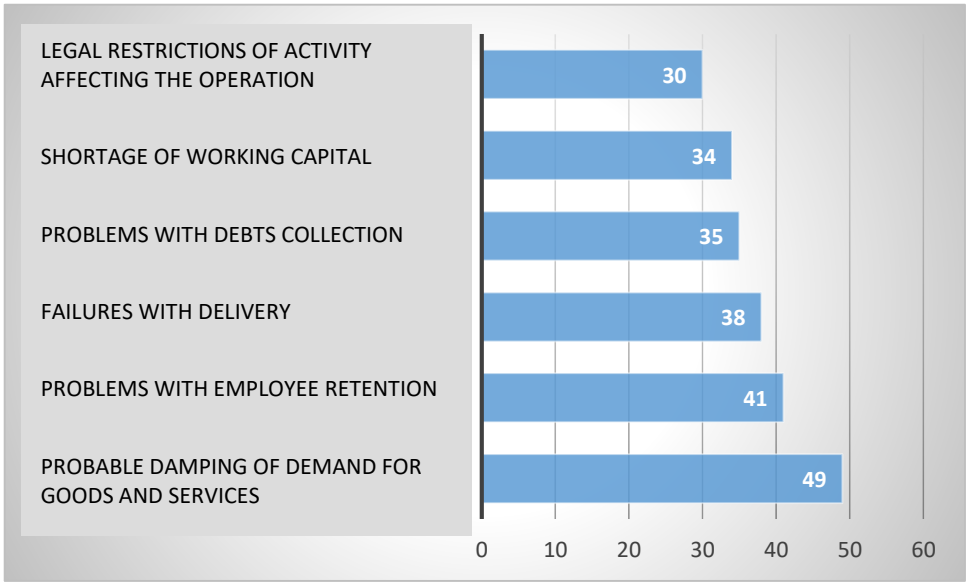
In assessing the consumer price index for the goods and services across the Kyrgyz Republic territory, it is possible to mention that about the period January – May 2021, the consumer price index for the same period of 2020 is 110.1%. The maximal price index increase is registered for the food products and alcohol-free beverages– 116.6%, while the minimum is for the services– 103.6%.

There were several proposals to the Government to take under control the foodstuffs pricing.

c. Opportunities for CRM supply MSMEs in economic recovery in Kyrgyzstan

As the AmCham survey had shown, only 34% of enterprisers did not observe recession in their activity in 2020. But the central part of enterprisers needs several months or a couple of years to recover to pre-crisis levels. In general, the companies are ready to render their service online. 22 % of companies are ready to be wholly digitalized; 10 % are ready to render their services in online format partially (audit, consulting, part of outsourcing services); 8% of companies can remotely conduct negotiations and conclude contracts.

Together with that, the enterprisers continue to expect the other problems within the next 6 months. Thus, 49% of enterprisers remark possible damping of demand for their goods and services. 41% of companies can encounter a problem with employee retention.



Pic.3 Diagram: Chingiz Kerimbekov, financial portal "Akchabar". The source: AmCham survey

The representatives of Kyrgyzstan's business society assume the set of activities for development and restoration during the post-covid period:

- Postponement of tax liabilities;
- Decreasing of the tax burden;
- Introduction of tax holiday and tax exemption.

All these are possible only under conditions of effective dialogue and close cooperation of the business community with the governmental bodies.

For alleviation of economic burden, it is necessary:

- To refinance debts by interest-free financial support for two years;
- To render direct financer assistance to the entities suffered from the quarantine measures;
- To elaborate subsidizing mechanisms for business establishment or development;
- To reduce administrative charges;
- To suspend inspections from the side of the state authorities.

Notwithstanding that the part of the items mentioned above has already been arranged, it is not sufficient.

IMF remarks that under the condition of absence of the virus recurrence, an economy (according to the forecasts) can grow by 3.8% in 2021 and by 6.4% in 2022. It will be facilitated by improving global economy perspectives, restoration of internal and external economic activity, growth of gold mining volume, increasing of remittance from the neighboring countries, and reactivation in the field of tourism, transportation, and associated services. From a medium-term perspective, the growth rate shall gradually achieve its potential 4 % level. Annual inflation rates within the nearest months will be kept high due to a low base. However, by the end of 2021, the inflation rates will be decreased preliminary to 7.4%. Further, they will return to the scope of the Central Bank's target range within the 5-7% limits.

The price-cutting for gold or decreasing remittance can weaken Kyrgyzstan's already weak payment balance and the business community, especially MSME.

In case of these risks materialization, stimulating macroeconomic Policy measures should be kept valid for a more extended period. The expenses for the healthcare and social area should be increased.

The total inflation level was increased to 10.6 % in February 2021, mainly due to the pass-through of the exchange rate and prices to the imported foodstuffs that were increased around the globe. The decision of the NBKR to increase the official discount rate by 50 essential items in February 2021 was justified, from one side by the efforts to control inflation and, from another side, by prevention of early closing up of incentives taking into account uncertainty of the economy restoration perspectives.

The IMF recommends NBKR to continue monitoring prices for food and non-food goods, wages, remittance flow, growth of credits and imports, and the other indicators that can demonstrate pressure from the side of demand. And it is necessary to be ready to follow the tightening of monetary Policy in case of inflation rate growth and the occurrence of second-round inflationary pressure elements.

d. Progress toward sustainable resources management and circular economy: application of UN Framework Classification for Energy Reserves / Resources (UNFC) and UN Resources Management System (UNRMS) in Kyrgyzstan

Political stability, predictability of economic policy trends, and thoroughgoing reforms toward improving business climate will facilitate confidence enhancing from the side of the business sector.

After the presidential elections in January 2021, the Decree "On reformation of the mining industry in the Kyrgyz Republic" was signed by the new President as one of the first-priority decrees (President Decree (УП), No 5 dated January 29, 2021).

The availability of such a Decree demonstrates the importance of the mining industry in the economy of the Kyrgyz Republic. Accounting for national wealth is one of the essential functions of the state.

Currently, Kyrgyzstan uses the "Classification of reserve and predicted resources of solid mineral deposits" adopted in 2000. This classification is based on the reserves recording system of the former USSR.

The Classification of solid mineral deposits of the Kyrgyz Republic mainly specifies qualitative requirements to the completeness of deposits exploration degree, ensuring availability of background information for the feasibility study of the design parameters and reserves estimation.

According to the state of geological exploration, there are four categories of the reserves (A, B, C_1, C_2) and three categories of predicted resources (P_1, P_2, P_3).

Based on the economic value, the reserves of the solid minerals and commercial components contained in them (subjected to the state recording) are divided into two main groups subjected to separate estimation and recording:

- balance (economic);

- off-balance (potentially economic).

The balance (economic) reserves imply the cost-effective development of reserves at the time of estimation according to the feasibility study under conditions of the competitive market using machinery, mining technology and processing of mineral raw materials ensuring compliance with sustainable subsoil use and environmental protection requirements.

The off-balance (potentially economic) reserves imply:

1) commercially unfeasible (loss-making) development of reserves at the time of estimation according to the feasibility study under conditions of the competitive market due to low technical-and-economic indexes; but the development of which could be economically feasible under changing of minerals prices, the occurrence of optimal sales markets and new technologies;

2) reserves that meet the requirements for balance reserves, but the use of which at the time of estimation is impossible due to their location within the boundaries of protective water areas, populated settlements, structures, facilities of agricultural purposes, nature, culture and history monuments.

The off-balance reserves are estimated and recorded if the feasibility study determines the possibility of their further extraction or feasibility of their pre-production mining and storage for the following use.

In principle, the reserves and predicted resources of the "Classification of reserve and predicted resources of solid mineral deposits of the Kyrgyz Republic" can easily be compared with the international systems of reserves recording, e.g. with the UN Framework Classification with the assignment of corresponding codes [16].

The Classification system of reserve and predicted resources of solid mineral deposits of the Kyrgyz Republic is relatively comparable with UNFC. Still, they have several significant differences (Table 4):

1. While UNFC [10, 17, 18] is based on three fundamental criteria: economic and social project viability (E), status and feasibility of deposit development project (F), and the state of geological exploration (G), the Classification of the Kyrgyz Republic (KR) is based on two criteria: a) the level of readiness for industrial development and mining profitability (balance and off-balance reserves); b) the state of geological exploration. The first criterion of the KR Classification combines two first criteria of UNFC (axes E and F).

2. UNFC reserves classification includes three confidence levels according to the state of geological exploration for known (discovered) deposits: "high", "medium", and "low" represented by categories G_1, G_2 and G_3; these levels in the KR Classification are represented by the categories A (high), B (medium), C_1 and C_2 (low). Category G_4 is applied for the deposits known based on

indirect data. In contrast, the resource category P_1-P_3 is used in the KR classification. A significant difference between the KR and UNFC classifications is that the resources of categories P1-P3 are not classified in UNFC and are entirely referred to as the "probable" category.

3. The main difference between the two classifications is the fact that UNFC applies a numerical code system. In contrast, the KR Classification applies text descriptions of all conditions. But experts, in any case, will understand the degree of study of the object.

Table 4. Comparison of UNFC classes and subclasses with the Classification of reserve and predicted resources of solid mineral deposits of the Kyrgyz Republic [16].

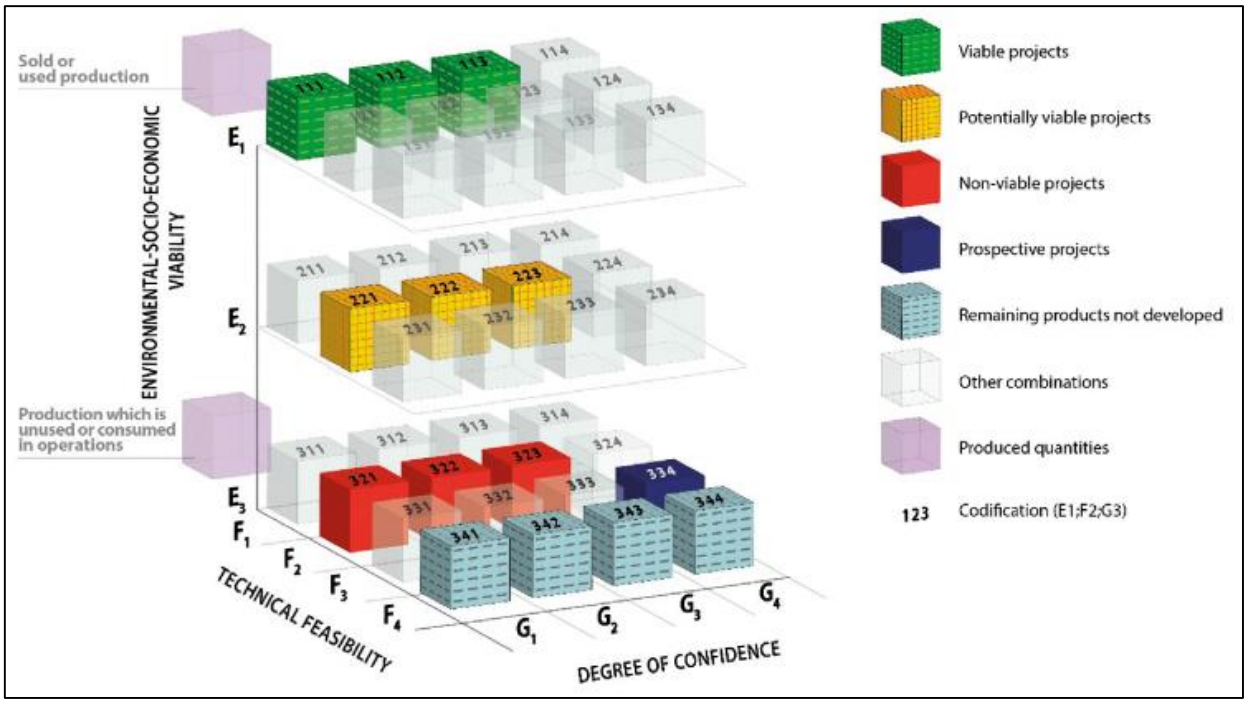
Class	Subclass	UNFC			KR classification	
		E	F	G	Degree of readiness and profitability of mining (E and F)	Reserves category (G)
Industrial project	Under development	1	1.1	1, 2, 3	Balance reserves that are ready for development	A, B, C_1, C_2
	Approved for development	1	1.2	1, 2, 3		A, B, C_1, C_2
	Justified for development	1	1.3	1, 2, 3		A, B, C_1, C_2
Prospectively industrial projects	Expected development	2	2.1	1, 2, 3	Balance reserves that are perspective for industrial development	A, B, C_1, C_2
	Delayed development	2	2.2	1, 2, 3		A, B, C_1, C_2
Non-commercial projects	Unclarified development	3.2	2.2	1, 2, 3	Preliminary estimated reserves requiring additional exploration	P_1, P_2, P_3
	Unviable development	3.3	2.3	1, 2, 3		P_1, P_2, P_3
Additional QTY		3.3	4	1, 2, 3	Unprofitable for industrial development or unextractable	A, B, C_1, C_2
Geological exploration projects	Subclasses are not identified	3.2	3	4	Non-identified for this class	P_1, P_2, P_3
Additional QTY		3.3	4	4		P_1, P_2, P_3

The reserves and predicted resources of the "Classification of reserve and predicted resources of solid mineral deposits of the Kyrgyz Republic", in principle, could be quickly enough identified in the framework of Project of the UN Framework Classification with the assignment of corresponding codes.

The scheme of Classification within the UNFC project is mainly based on assessment experience of deposits with the ore bodies with clear geological boundaries. Only for these objects and mainly theoretically, it is possible to imagine the situation when already explored reserves have a low degree of their economic and technologic exploration (codes 331 and 332). For most of the solid mineral deposits without clear geological boundaries, estimation of reserves - as it is commonly known – is performed based on limit values of cut-off grade (minimal industrial content of ore) calculated analytically and corrected continuously in the process of geological exploration works. Formulated differently, the economic and technological assessments with a related degree of details usually support the corresponding stage of deposit exploration, and it is practically

impossible to do it separately. That is why, in practice, the reserves of codes 331 and 332, as a rule, are without distinct values and occasionally outlined on the sites (horizons) of detailed explored deposits located outside the contour of planned mining.

Besides that, under the segregation of reserves/resources, the proposed UNFC codification principle based on priority ***"Economic effectiveness" (axis E)*** is slightly vulnerable. To some extent, the economic assessments are subjective and associated with project preparation's technical and technological level. On the other side, the economic conditions of projects implementation are often incomparable in different countries (physical and geographical conditions, national taxation system, and conditions of capital raising, etc.). In other words, the reserves, quantity and quality of which allow qualifying them in one country as economical in another country can be uneconomical and vice versa. That is why, based on this principle, "reserves/resources" will probably be impossible in different countries to ensure correct comparability at the international level. Firstly, the more objective criteria are based on geological assessments obtained at the related stages of geological exploration. For example, the coal bed identified and delineated in the exploration process is a coal bed in Kyrgyzstan and any other country, independently of the status of the economy. Its qualitative, quantitative and energetical properties are comparable in transnational scope that is impossible to say about economic aspects of mining.



Pic.4 Block diagram UNFC

Following the National Development Strategy of the Kyrgyz Republic for 2018-2040, the industry will be developed in an integrated manner. It will effectively use its own mineral raw material base and production capacities. At that, the rational allocation of enterprisers across the country will be necessary.

It is necessary to achieve growth of mining effectiveness and introduce modern mining technologies with minimal influence on the environment. Mining should ensure the formation of financial resources for development. An income should be forwarded to the settlement of existing problems, ecology development, and strategic goals.

The priority will be to transition to high-quality fuel combined with extended use of alternative energy sources. Development of the industrial zones in different regions will be encouraged.

The development projects of Kyrgyzstan stipulate that the Republic could be the cluster of high-technology production. But, the production and extraction of rare-earth elements, which usually

are available together with the radioactive elements, are required for the purposes mentioned above. Kyrgyzstan has experience in this type of production.

Currently, the Code "On subsoil" is developed. This Code considers State Reserve Commission as the primary system for accounting and control of the geological reserves. Currently, the issue associated with introducing the recording/reporting systems of UNFC in Kyrgyzstan is at the level of technical consultations or memorandum on introduction.

Introduction of UNFC into operation will allow taking into account and characterizing not only minerals available in the subsoil of the state, but also the energetical resources on the land surface. UNFC was develop for satisfaction of the maximal possible degree of needs associated with investigations related to energetical and mineral raw materials, resource management, corporate business processes, and the standards of financial reporting [17].

The logical continuation of UNFC development was the United Nations Resource Management System (UNRMS). Development and introduction into operation of the UNRMS “can ensure favorable social and environmental results, facilitating equitable distribution, poverty reduction and conflicts elimination” [17, 18].

The doubtless value of the UNFC and UNRMS is presence of the social and environmental components that, as mentioned above, allows evaluating the object completely and not only from the viewpoint of resources availability, their quality and quantity.

UNRMS is the voluntary global standard of the complex resource management in the framework of partnership of the public and private sectors as well as the civil society, uniformly applied to all resources. Its use will allow mitigating the existing miscommunication of all participants of the economic and social relationships that in present time is very important, especially in the post-COVID period.

The above-mentioned National Development Strategy of the Kyrgyz Republic till 2040 partially responds to the UNRMS issues and it is the significant step toward the country development.

2. Brief overview of opportunities for MSME in the field of critical raw materials supply in Kyrgyzstan

Firstly, it is necessary to mention that the complex and longtime geological development of the Kyrgyz Tian-Shan has created a wide variety of geological complexes, geodynamic conditions and favourable situations for the formation of deposits with various mineral resources.

The Kyrgyz Republic has significant capacity related to different types of mineral raw materials. For almost 80-years of history of the geological explorations (since the establishment of the Kyrgyz Geological Administration in 1938), the geologists have discovered about 20 thousand of deposits and ore across the territory of Kyrgyzstan occurrences of more than 150 types of minerals. The mining industry is always one of the leading industrial sectors in the country [15].

All minerals of the Kyrgyz Republic can be combined in 4 large groups – fossil fuels, metallic and non-metallic minerals, underground waters (including therapeutic muds).

The rare earth deposits predominantly belong to the rare complex metal. Only a few in the world own rare earth, one of which is (Kutessai II deposit) located in Kyrgyzstan. The content of cerium and yttrium in the crust of earth exceeds the Clarke of metals like Pb, Zn, Cu. The total Clarke of all lanthanides and yttrium is 168 g/t. The world reserves TR_2O_3- more than 100 million t. The annual output of rare earth raw material is about 80-100 thousand t. The primary producers of raw materials are China and USA. There are more than 100 areas where rare earth can be applied: catalysis in oil-cracking, metallurgy, glass and ceramic industry, agriculture and others. About 120 own rare-earth minerals were discovered, and 5 of them are of industrial significance: loparite,

monazite, xenotime, bastnaesite, ittrosynchisite. The most important types of yttrium-earth deposits include rare metal alkaline granite and its metasomatites. The most significant types of cerium-earth deposits are carbonatites of alkaline syenites.

About 20 occurrences of rare earth are found on the territory of the Kyrgyz Republic, one of which is the large-sized deposit (Kutessai II), one - medium-sized deposit (Sarysai), and the others - ore occurrences. They have distributed across many areas of Kyrgyzstan: 5 sites - in Talas region, two – I Naukat district, the largest site (Kutessai II deposit) – in Kemin district. Kutessai II deposit had been exploited from 1958 till 1994. It was partially developed by an open pit and preserved. Prospecting and evaluation operations had been carried out on Sarysai deposit, Karadzhylga and Kyzyl-Tash occurrences. The rest of ore occurrences are underexplored (only from the surface). During the period of Kutessai II deposit exploitation, 22.1 thousand t. of rare earth with average ore content of 0.41% were produced.

A wide variety (by composition and geological properties) of TR occurrences have been discovered. First, predominantly yttrium deposits and ore occurrences can be outlined: Kutessai II, Sarysai, Kenkol, Kyzyl-Tash; syenitic and cerium: Karadzhylga, Kundailyk-2, Taldyk, and Barskaun. But mineralogical and chemical information is not available for all ore occurrences to assign them to any group. Often, rare earth deposits and occurrences are complexes based on mineralogical composition, and often they are with radioactive elements.

The state balance (as of 2000) of Kyrgyzstan's accounted reserves of TR only at Kutessai II deposit with 0.26% average content in the amount of 51.5 thousand t. (category B – 40.4 thousand t., category C_1 -3.9 thousand t., category C_2 – 7.2 thousand t). The total reserves and predicted resources of TR_2O_3 are assessed in the amount of 75.1 thousand t. (category B – 40.4 thousand t., category C_1 – 3.9 thousand t., category C_2 – 14.4 thousand t., category P_1-12.0 thousand t., category P_2 – 4.4 thousand t.). This value is probably minimal due to improper exploration of the sites and the absence of quantitative assessments for many ore occurrences.

According to the available current information (as of August 2021), 2,603 licenses were issued; 58 of them – for oil and gas; 406 – for coal; 104 – for metals (excluding precious metals); 538 – for precious metals; 969 – for nonmetals; 518 – for underground waters; 2 licenses - financing by the state budget. 6 companies from the exclusive list deal with the exploration of rare-earth deposits.

Operations based on issued licenses are carried out by large companies (investments by the foreign partners) and small and medium companies (financing by the foreign partners and by the local investments.

MSME involvement in the mining industry most often is indirect. These enterprisers work in servicing and supporting production – supplying products and goods, manufacturing unique clothing, clearing residential premises, catering, transportation, etc.

Directly in mining, MSME is involved in business associated with construction materials, coal, and alluvial gold.

Notwithstanding the perceptiveness of rare-earth element extraction, the first priority is the energy security of the Republic. And this is supported by the availability of hydro-energy capacity of the Republic's rivers and deposits of oil, gas and coal.

Regarding radioactive minerals, it is necessary to mention that the Law "On the prohibition of activity associated with the geological exploration of subsoil with the purpose of prospecting, exploration and development of uranium and thorium deposits in the Kyrgyz Republic" was adopted on December 14, 2019 (No 139). And therefore, the companies implementing activities in this field experienced force-majeure.

The balance reserves of coal in the Kyrgyz Republic as of 01.01.2011 was 1,331,785 thousand t. (based on category A+B+C_1 -1,008,134 thousand t; based on category C_2- 323,651 thousand t.,

including the reserves of small-sized deposits and local sites amounted to by category A+B+C_1 - 3,129 thousand t.; by category C_2-1271 thousand t) [14].

Development of known deposits started at the end of the century before last, and at some deposits (Kok-Jangak, Tash-Kumyr, Sulukta, Kyzyl-Kiya) coal mining was carried out with interruptions during 100 years. For the 100-year history of exploitation operations, there were ups and downs in coal mining in the Republic. Currently, the reserves of small deposits or local sites are exploited.

The problem of Kyrgyzstan provision with hydrocarbons is still actual, and it determines the effectiveness of economic development.

Fifteen deposits have been discovered to this time, including 6 oil deposits (Changyrtash, Chigirchic, Mailisai, Karagachi, Beshkent-Togap-Tashravat, Tamchi), 5 gas-oil deposits (Mailisu IV Vostochny Izbaskent, Mailisu III, Niyazbek-Severny Karakchikum, Northern Rishtan), 4 gas deposits (Suzak, Southern Rishtan, Sarykamysh, Sarytok). The total perspective square for oil and gas exploration is 22.3 thousand km^2 in the Kyrgyz Republic. More than 5 thousand km^2 is placed in the Fergana depression. Produced reserves of oil are about 12,000,000 t., and reserves of gas are 6,500,000,000 m^3. It has been produced about 10,000,000 t. of oil and 75,000,000,000 m^3 of gas since the beginning of reservoir engineering in the Fergana depression.

a. Primary and secondary resources of CRM

The primary resources include materials in the subsoil and on the surface as the raw material for industry. Such resources include minerals in subsoil and resources on the surface of the land (rivers, forests). The primary resources can be divided into renewable and nonrenewable resources.

Renewable resources can be restored without human participation but can be used for the production of energy. These resources are required for human livelihood.

Nonrenewable resources are resources that cannot be restored in the foreseeable future. They include ore, non-ore, and fuel-energetical resources.

The secondary resources are the residuals of production and consumption, which can be reused for various needs.

Under the determination of material substance usefulness, the wastes, upon definite conditions, can be collected and prepared for recycling in the form of secondary resources. Such still increasing capacity is justified by an escalating scope of industry and consumption casing growth of wastes. The problem with their use includes collection and disposal methods.

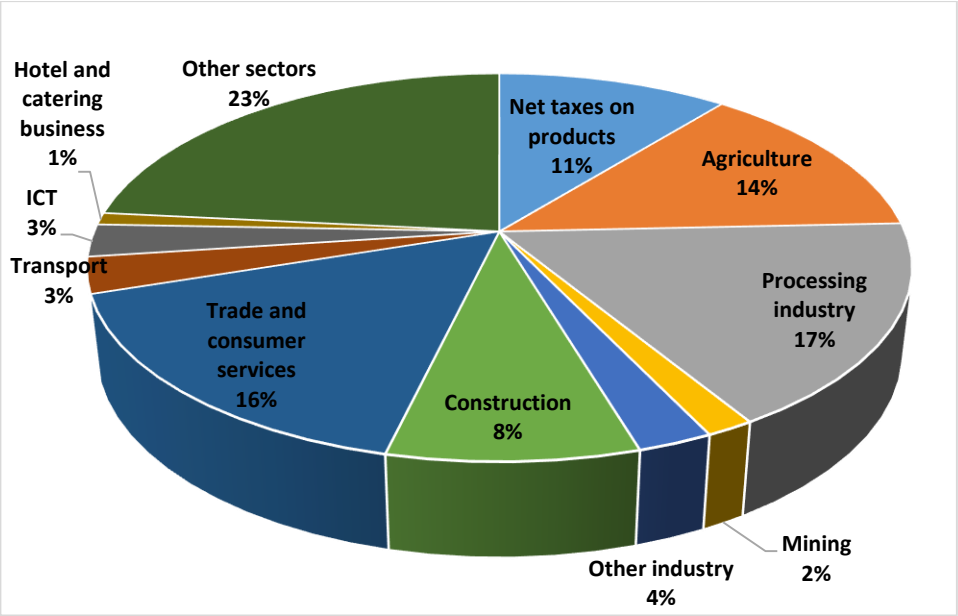
If, to consider rare earth elements (REE) from the viewpoint of the primary and the secondary resources, that the primary and the secondary REE resources can be outlined on the territory. From the primary resources, MSME uses construction materials, coal. Development of the private solar low-capacity electric stations has become recently. Also, the mini hydro-electrical stations are developed slowly.

MSME participate in works with both the primary resources and the secondary resources.

There are attempts to recycle the mining wastes (the secondary resources) –dumping sites and tailing storage facilities. But there are several technical problems with the tailing storage facilities. Often, commercial components are connected with the hardly soluble compounds. MSME will not settle these problems because severe scientific and technological solutions and tests supported by substantial financing will be required.

b. Supplements in the key sectors

The key sectors of the economy in the Kyrgyz Republic in 2020 were trade and consumer services (16% of GDP), processing industry (17% of GDP), agriculture (14% of GDP) and construction (8% of GDP). The state services, such as governance, education, healthcare and culture, are essential and amount to 23% of GDP. The other sectors have enough low percentage in the general GDP structure.



Pic.6 GDP breakdown in 2020

Following the development program of Kyrgyzstan for 2018-2040, it is planned to achieve partial import substitution. Production of high-quality oil products and construction materials is planned to ensure saturation of internal market by these products and develop export capacity. "The high dependence of Kyrgyzstan on fuel and lubricants import, lack of own reserves of hydrocarbon raw materials cause needs to implement Policy toward the promotion of mining output growth and production of fuel with high environmental quality standards.

The priority will be the transition to high-quality fuel and the extended application of alternative energy sources. At the same time, it is necessary to diversify the supply of energy carriers for country's economic needs."

Currently, the country's energy security is one of the critical priorities for Kyrgyzstan because Kyrgyzstan imports raw hydrocarbons from other countries, and its own coal reserves allow partially covering existing demand. Thus, the first priority is the development of own deposits of coal and hydrocarbons.

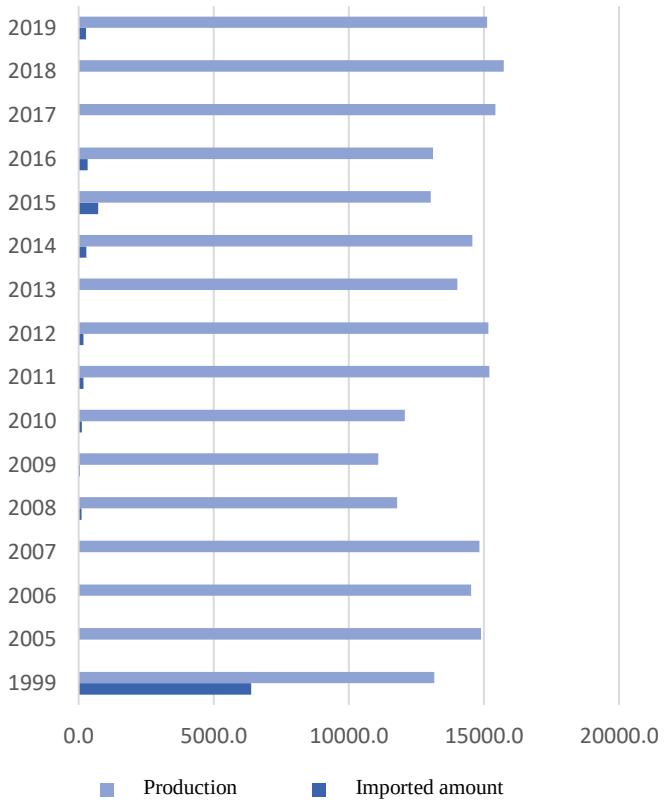
Notwithstanding a growth of oil and gas extraction output (pic.8, 9), it is insufficient. That is why a large volume of oil and lubricants are exported from Russia and Kazakhstan. Gas is mainly delivered from Uzbekistan.

As it is known, hydro-electrical energy is the primary industry of Kyrgyzstan's economy. It satisfies the internal country's demand for electrical energy. It covers electrical energy export to CIS and non-CIS countries (pic.7). Under the condition of production growth, the electrical energy industry is one of the life-supporting sectors of the economy and one of the economic development factors. And its reliable operation is the crucial factor of Kyrgyzstan transition to the high standard and life level.

For the successful development of energetics, the main direction is the construction of new and prospective hydroelectric power stations (HPS) and increasing electrical energy export.

The high mountain terrain of Kyrgyzstan ensures the accumulation of atmospheric moisture. Multi-year annual average river flow of the Kyrgyz Republic is about 45 billion m^3 that forms the total hydro-energetical capacity of the Kyrgyz Republic – 15,500 MWatt; and capacity is technically possible to use - 8,272 MWatt.

Pic.7 Electrical energy production and volume of import



Fossil coal plays an essential role in the modern fuel and energy balance of Kyrgyzstan. Its share is more than half of energy resources. The central mass of resources and reserves of fossil coal is located in the South of the Republic.

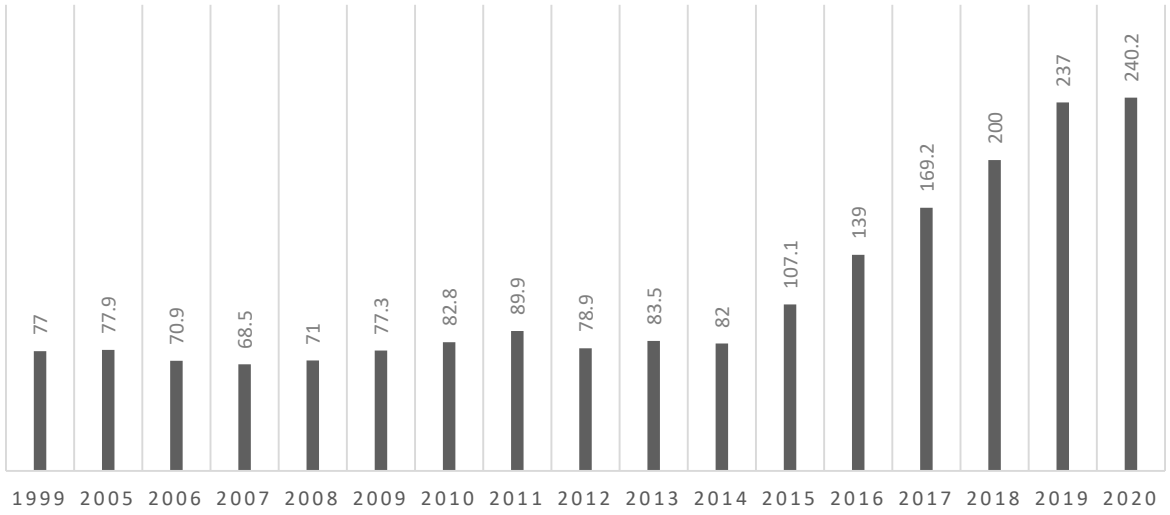
Kyrgyzstan has limited resources of oil and gas; coal is the primary fuel. The coal industry is one of the components of Kyrgyzstan's industry, including the set of organizational, technical and technological processes associated with exploration, prospecting, storage, processing, transportation and selling of coal and its derivative products.

It is possible to forecast that the demand for coal in the medium-term and long-term perspective will grow steadily (pic.10). In connection with the construction of alternative North-South road and China-Kyrgyzstan-Uzbekistan branch railway construction project, Kazakhstan will allow the country to become the prominent exporter of energy fuel in Central Asia.

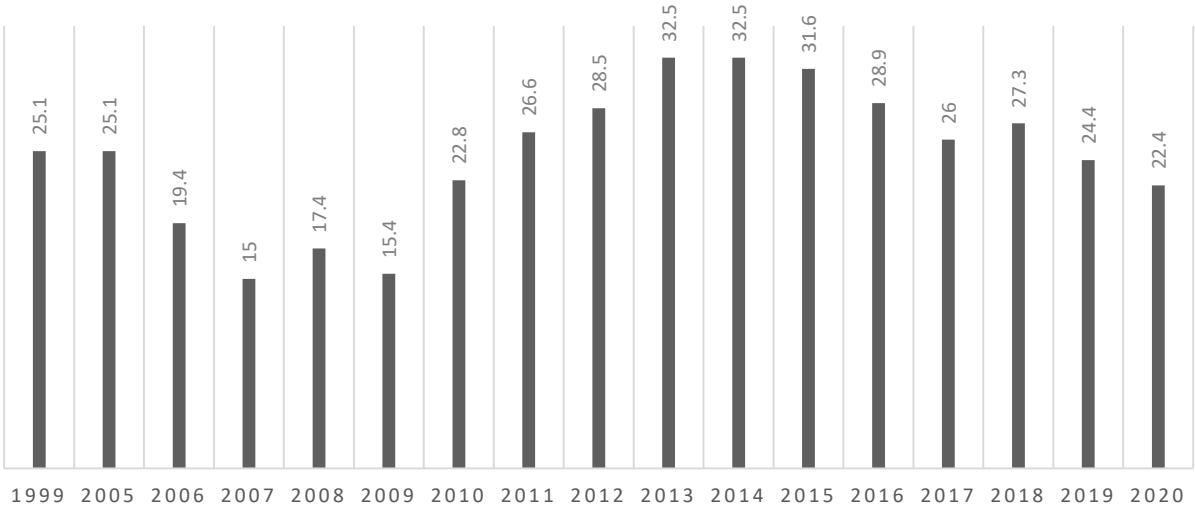
It is possible to expect the most significant number of MSME from the total number of enterprisers involved in the mining sector, specifically in the coal industry. Although, it is necessary to mention that MSME is involved in developing molybdenum, bentonite, manganese, agilite, graphite, calcium carbide, glauconite clay as phosphorus or phosphorus or potassium contained fertilizer, sternum, sodium chloride, halite, and bauxite, etc.

The specialists outline two sectors – "supporting" sectors (infrastructure, ICT, healthcare and education) and "non-supporting" or trading sectors (agriculture and food industry, light industry, mining industry and tourism, carmaking industry). Each group is characterized by its opportunities that allow developing the country and challenges hampering expected development.

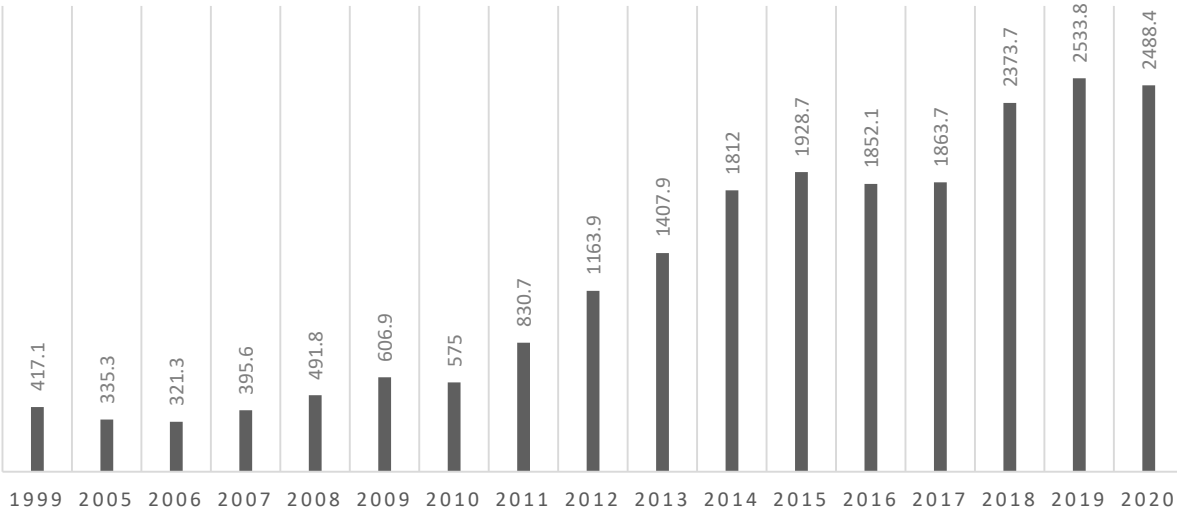
Pic.8 CRUDE OIL PRODUCTION, thousand tones



Pic.9 NATURAL GAS PRODUCTION, thousand tones



Pic.10 COAL AND LIGNITE PRODUCTION, thousand tones



c. Demand and supply

Many specialists recommend a new development model for Kyrgyzstan, which aims to diversify and provide more sustainable and rapid growth. The proposed model requires attraction and facilitation of Access for the private investments, inflow of which mainly depends on structural reforms in four areas:

Development of the most important energetic infrastructure as one of the key catalyzers of the growth. The necessary condition for attracting private investments and stimulating export diversification ensures reliable, affordable, and sustainable energy resources. Besides supporting an export capacity, an extension of Access to the sustainable and reliable electric power supply can release the state funds. Under conditions when pressure on budget increases, it becomes a more vital task for post-epidemic restoration, and the energetic sector becomes a severe burden to the public treasury. Consequently, one of the critical tasks within this area is attracting private investors to open the rich hydro-energetical country's resources.

Moreover, the energy economy requires profound financial contributions for rehabilitation and renovation. Depreciation of equipment, i.e. exceeding of normative operation period in the field of the energy system, has achieved its critical point. And the existing debt of consumers before energy suppliers is 10-12 million KGS.

Besides the large HPS, there is significant capacity in Kyrgyzstan to develop small HPS and solar energy.

Development of digital economy. The creation of competitive ICT infrastructure and the formation of the digital economy is the most essential condition for developing export-oriented service sectors. The Government of the Kyrgyz Republic urgently needs to accelerate the implementation of its digital transformation for extension of broadband Internet access, cost-saving for business (including associated with public services), increasing of labour performance, as well as the creation of a digital foundation that is capable of keeping country's efforts in the field of diversification and acceleration of growth. Digital development can also create associated effects with influence on the other target areas connected with MSME development and elimination of financing deficit and export diversification.

Aligning of economic management conditions for MSME and decreasing of available funds deficit. Development of export-oriented economy sectors depends on strengthening the country's private sector on account of alleviation of regulation burden, improvement of the state governance, and stimulation of development of the business environment favourable for growth. Simultaneously all these factors are interrelated and require conditions for ensuring equal conditions for activity of MSME compared with the other business entities. Besides that, the provision of MSME with Access to credit resources depends on their ability to use e-finance. An extension of Access to e-services and achievements in developing financial technologies will facilitate the competitiveness of expert goods. Investments into the attractiveness of the financing sector (first of all in digital finance) can promote formalization of the private sector activity. This will also reduce the financing cost for MSME and simultaneously increase accessibility, quality, and variability of financing types for MSME due to stimulation of innovative financial products. All these aspects will support MSME growth and the creation of workplaces.

The Kyrgyz Republic can achieve more sustainable, rapid, and more diversified economic growth on private sector role extension in the economy. Carried out studies have identified the most severe restricted factors that prevent stimulation of the private investments in the country. Efforts toward the formation of a more transparent and predictable environment inform investors about the return of Kyrgyzstan on the way of reforms and play an essential role in the transition to the new development model, where the private sector has the leading position.

The investments into transport infrastructure can facilitate the attraction of private investors, the creation of new workplaces, access to the markets, and decrease selling overheads. Additionally, they can facilitate the rendering of services and increase the internal mobility of labour resources. Besides that, associated growth of effectiveness can promote decreasing of business costs, as well as can reduce demand for natural resources and dependence on them. Improvement of transport connectivity in a rural area can stimulate the development of rural MSME, providing lagging regions with the opportunity to improve their economic development. The first-order tasks that must be settled by the Government for overcoming of transport connectivity problems are (a) support of successful public and private enterprises; (b) fundraising based on commercial conditions for the public enterprisers; (c) support of regional integration of all types of transport for facilitation of access to the markets, and (d) use of Belt and Road Initiative benefits (BRI) for development of transport and the other sectors.

Even under conditions of the difficult budget situation caused by the crisis, the Kyrgyz Republic can open the markets and facilitate investments required to achieve the high rate of growth on account of existing and new markets, concentrating on the primary reforms and tourism development. The content of these reforms is generalized in theoretical justification of changes needed to achieve sharp growth of investments into the touristic sector and increase the sector output. To establish a basis with the assistance of which tourism will be able to stimulate growth, first of all, it is necessary to recognize tourism as the priority direction during crisis response. It can play an essential role in supporting enterprisers survival and their ability to return to their activity at the stage of recovery. The authority and functions of the Department of Tourism shall be extended to overcome the sectoral crisis. Then, the creation of favorable conditions for maintenance of proper level and development of the services and infrastructure of air transport is required in short-term and medium-term perspectives to satisfy the country's needs in transport connectivity. Finally, there is an acute need to coordinate actions of all interested sector stakeholders representing public and private organizations and donor communities. It will guarantee effective use of the scarce resources by supporting sectors across the whole country and concentrating on the development of two market segments with the largest capacity.

Agriculture and agribusiness. As it is known, the more significant part of Kyrgyzstan's population lives in the rural area (4.3 million of rural citizens against 2.2 million of urban citizens, as of 2020). Their livelihood is associated with agricultural production. Development of this sector could facilitate social integration of agricultural producers, who maintain self-sufficient farming, providing them with the opportunity to enlarge production scope and enter the commercial markets with definite opportunities for the creation of workplaces both in the field of raw food production and processing area. And it essential aspect for MSME.

Light industry. There is a small cluster in the vicinity of Bishkek consisting of about 500 garment manufacturers (MSME) with up to 300,000 employees (mainly women).

Under favourable conditions, the opportunity for competitiveness can occur at the niche markets of EAEU, as far as the Kyrgyz Republic occupies the fifth place among exporters of garments in Russia.

In the ulterior future, domestic firms will encounter difficulties in the competition framework with firms from countries with larger scopes of production. In this case, the Government of Kyrgyzstan needs to support MSME at both the economic and political levels.

Mining industry. In the European and Central Asian region, the Kyrgyz Republic has the lowest natural capital. It is one of the poorest countries based on per-capita income, belonging to 20% of countries worldwide. At that, the gold and the other metals and mineral raw materials ensure 63% of export. This share has been unchanged since 2000. Together with fuel, indicated export items amount to 72% of the total volume of the country's export. This indicator can be compared with an export ratio of raw commodities in the export structure of 6 more well-resourced countries of the ECA region. Similar to the other countries with natural resources, the Kyrgyz Republic has

been integrated into the global economy on raw material export: more than one-third of the entire country's export (predominantly gold) is forwarded to Switzerland and the United Kingdom. The other 30% are procured by Kazakhstan and Russia; however, companies in this sector have created insignificant feedback on the domestic economy. They provide less than 3% of the workplace. Production of raw materials is operated as a kind of enclave – "economy inside economy" (World Bank, 2020). In terms of the other minerals (both ore and non-ore) - their production is only for the domestic market. And MSME is explicitly involved in this area. Also, MSME is often involved in the other part of mining production – geological exploration. The result (explored deposit) can be resold to large companies for full-scale production.

d. Post COVID-19 outlook

Kyrgyzstan was seriously affected by COVID-19. In 2020 the budget funds were quickly consumed; the central part of the national economy was paralyzed. To withstand the crisis, the Government was forced to execute measures to support the private sector, strengthen the social defence system, and track the currency fluctuations carefully.

From the long-term perspective, alleviating a budget deficit is one of the Government's primary tasks. Achieving sustainable growth will require implementing measures associated with improvement of the legal business environment, legalization of entrepreneurial activities, and further decreasing of external trade barriers.

3. Guidelines and the best practices for settlement of MSME problems within the business environment in the field of raw materials supply in Kyrgyzstan (with examples).

a. Facilitation and registration of business

The Government of the Kyrgyz Republic shall aim to create a business climate favourable for the market, sustainable legislation base, competitive environment, and opportunities for human capital development.

According to the data of WB rating "Doing business" 2018, Kyrgyzstan occupies the 29th position among 190 countries based on the simplicity of enterprise establishment. This impressive indicator is higher than the indicators of similar countries, excluding Armenia (the 15th position) and Georgia (the 4th position). The position of Kyrgyzstan in WB rating is practically similar to Russia (the 28th position). For the creation of an enterprise, it is required to fulfil four procedures. Almost all of them are executed in registration through the "single-window" system for 10 days. The price is 2.1 % of income per capita. There are no requirements for minimal capital. The most crucial reform implemented by the state power authorities for several recent years is connected with cancelling the requirement to have founders' signatures attested by the notary in the company establishment process. The following state authorities are involved in the execution of 4 bureaucratic procedures required for opening of business: the Ministry of Justice (the "single-window" system, online registration is not available yet), the State Tax Service, the Social Fund, as well as firm dealing with manufacturing of stamps.

Notwithstanding the high position in the rating based on these procedural indicators, the weak aspects are apparent. The weak aspects are associated with the broader framework conditions for the startups, especially in the innovative area and advanced technologies. Currently, there is no state programme supporting startups. However, the Ministry of Economic and Finance plans to create a business support fund and monitor the startup activities. So far, the state or the other

financial authorities have not established venture capital funds or investment funds. The guarantee fund mainly deals with MSME, but not with startups.

b. Policy, legal norms and regulations

The new state anti-corruption policy aims to combat systematic corruption by strengthening the civil society role, increasing transparency and reporting of the state authorities, enhancing confidence in the courts and law enforcement bodies. Achievement of these goals can be facilitated by:

(i) Further improvement of the management system and increasing of transparency among the state enterprisers;

(ii) Further strengthening of Anti-Money Laundering/Combating the Financing of Terrorism system (AML/CFT);

(iii) Publication of comprehensive declarations about assets and income of the senior state officials and investigation of unlawful enrichment cases;

(iv) Strengthening of the public finance management system on account of automation and digitalization. Revised Public Procurement Law stipulates disclosure of information about beneficiary owners in all public contracts that are encouraged in the framework of the institutional reforms. The contract's complete text indicates the beneficiary owners, including all contracts within the emergency expenditures, and audit reports shall be published following the obligations within Rapid Financing Instrument (RFI) / Rapid Credit Facility (RCF). The following strengthening of the public procurement system will be supported by increasing the effectiveness and transparency of the consideration process with the possible involvement of MSME.

(v) Introduction of new Classifications that meet current requirements of the International Classification for Fossil Energy and Mineral Reserves and Resources, such as UNFC. And as the logical continuation of UNFC - introduction of UNRMS.

Steadily reforming will have a decisive importance for the obtainment of the following support from the side of the international society. Many of these reforms require limited budget resources but can be of significant benefit. IMF is ready to support the Kyrgyz Republic in its efforts in terms of reforms implementation.

c. Access to data, information, and knowledge

ICT can become an equalizing factor to help the Kyrgyz Republic to overcome restrictions caused by the land-locked location of the country.

The markets of ICT services and mobile communication in the country are enough opened and sustainable.

The broader use of ICT systems by businesses leads to the performance increase that stimulates economic activity facilitates GDP growth.

An extension of Access to the internet and broadband networks shall positively correlate with creating new workplaces (1.38 % in average for countries with low- and medium-income levels).

This sector is considered as the basis of the national development strategy till 2040.

Notwithstanding the continuing introduction of e-government programs, the public sector has no proper capacity (to be aware of rapidly changed issues, such as open data policy and cyberdefense, the significant efforts in terms of digital literacy increasing will be required).

Digital literacy and related qualification shall be developed in the private sector too.

The high-speed internet connection is still expensive both for physical persons and legal entities. Still, the implementation of WB Project DIGI CASA shall improve the situation.

The changes in legislative base affect business in an ambivalent manner: they do not restrict freedom to such extent as it is done in the neighbouring countries, but they presuppose more considerable expenses connected with security arrangements.

Under development of the digital technologies, especially in the process of reserves and resources estimation of the geological and energetical objects, the data access issues play enough important role. Very often, the number of factors shall be taken into account for the object assessment, but not always there is a possibility to link them with each other. But UNFC allows linking the geological, social and environmental aspects of the object. Under the following analysis of the obtained data, there is an issue about sustainable use of available resources and the UNRMS can help with this. Under the definite conditions, MSME can take part in the preparation of small blocks under object assessment and their integration into the country's resources management system.

d. Facilitation of entrepreneurial skills development

The Kyrgyz Republic spends more money on education about the population. However, there are still low indicators of school attendance and tests results. The central part of expenses for education is spent on wages. At the same time, expenses for increasing education quality are low. Alteration of budget prioritization for education and development of education reform strategy will be of decisive importance. Also, economic growth can be facilitated by the broader integration of women into the labour market and support of youth employment.

e. Access to the market

The poor infrastructure, ineffective quality control system and phytosanitary control, and lengthy procedures of customs clearance of goods are severe nontariff barriers. For settlement of some of these problems, the official authorities plan to accelerate the implementation of the WTO Agreement on Trade Facilitation, including on account of digitalization, to enhance quality control, to eliminate duplication of functions of phytosanitary inspectorates, to adopt legislation in the field of e-commerce and to develop the corresponding infrastructure. Rapid progress in these areas will positively affect the Kyrgyz export of the prominent enterprisers and MSME.

f. Access to financing

Elimination of informational asymmetry and increasing competitiveness will help decrease the high spreads of interest rates and high requirements of banks related to collateral security. There is the capacity for extension of credit rosters coverage and improvement of creditors access to the information about borrowers; creation of conditions facilitating the occurrence of new banks at the market, and improvement of mechanisms for regulation of troubled banks to simplify the process of bankrupt bank operative withdrawal from the market; elaboration of competition law; creation of automated information exchange system between financial institutes and tax bodies; and development of capital markets and financial technologies. The efforts of NBKR related to increasing the financial awareness of the population are encouraged.

g. Access to technologies

Startups play an essential role in updating industrial sectors, innovative systems, and the economy in general due to innovations and new technologies being developed by new companies. Such companies create workplaces and can stimulate adult companies and developed sectors to more

active innovative activity. In other cases, new companies can create new markets. The startups in the sector of services are often characterized by the lower level of innovations - and excluding science-intensive business services – they are not targeting a group of innovative Policies.

But, besides the startups, there are developed technologies in different sectors of Kyrgyzstan's economy. Procurement and operational commissioning of up-to-date technologies will allow Kyrgyzstan to become more competitive and enter neighbouring and distant sales markets. The task of the Government shall be a legal regulation and protection of new entrepreneurs (newly entering the markets) and already available at the market of Kyrgyzstan from various legal collisions or illegal actions.

h. Logistics and supply chains

The energy sector is in a difficult financial position, characterized by bad governance. It urgently needs investments to increase services quality. To strengthen its financial and operational feasibility, the WB mission recommends developing a medium-term reforming plan for optimization of costs, strengthening of management and reporting system, and income increasing. Although the commercial tariffs exceed the level of cost recovery, the tariffs for the household consumers are lower than this, causing ineffective cross-subsidization. Correction of tariffs for population (that has been recently announced by the official authorities) shall be supported by the addressed social assistance to protect more vulnerable households.

Since the second half of 2020, the gradual opening of air borders for passengers has started. The land frontiers are opened only for cargo transportation. It allows restoring delivery of raw materials and delivery of products to the customers, especially to the neighbouring and CIS countries. It is necessary to improve phytosanitary control for agricultural products. The transparency of the customs control is also doubtful, causing issues from the side of Kazakhstan that leads to the long delays in the process of Kyrgyzstan-Kazakhstan state borders crossing. This destroys the logistic chain and leads to financial losses, especially in terms of fruits and vegetables.

4. Summary version of guidelines and the best practices in the field of supply of the raw materials critically important for MSME and conclusions

a. Recommendations for MSME in Kyrgyzstan

Based on the above-mentioned, MSME are available in the following sectors of the economy:

1. Hydropower industry
2. Coal industry
3. Mining industry
4. Construction materials industry
5. Light industry
6. Machine-building industry (carmaking)
7. Agriculture
8. ICT, etc.

Notwithstanding existing consequences of COVID-19 pandemic:

- Closing of borders to prevent invasion and spread of the disease;
- As a consequence of border closing, breakdown of logistic chains for raw materials supply and goods sales caused staffing cuts, reduction of costs, and at the worst scenario – complete suspension of production;

- Significant decrease in demand for goods and services. Although it is necessary to mention that the number of services, vice versa, has been developed more, especially online services;
- Breakdown of logistic chains and decreasing of demand for goods and services caused for many entrepreneurs, not only for MSME but also for the prominent enterprisers, impossibility to pay credit, social and tax charges;
- Inability to pay tax and charges causing a significant reduction of county's budget revenue that is very tangible;

So far, commenced economic recovery is insignificant, and several years are needed for complete economic revitalization and starting growth:

1. Rehabilitation of existing capacities in the electrical energy industry and construction of new facilities will ensure sustainability in consumers development. Besides the large electrical generating systems, which are very perspective for both the state and for MSME, the alternative sources of electrical energy are small HPS and solar panels;
2. Large or state developers, but also MSME are involved in the coal industry, especially into the logistic chain of coal industry products delivery to the consumers, or the development of small opencast coal mines, which is not profitable for the prominent enterprisers. The gradual growth of the customers' paying capacity will allow restoring and increasing of output and transportation of coal;
3. So far, the mining industry is based on several prominent mining enterprisers, especially gold mining enterprisers. MSME are mainly involved in the service part of mining production or artisan mine;
4. A gradual recovery and growth of industrial structures construction and civil engineering will allow restoring and increasing of construction materials production that facilitates MSME to restore lost market niches or to occupy the part of market dealing with the production of construction materials and its delivery to the customers;
5. The light industry is almost wholly distributed among various MSME. Restoration of logistic chains will allow recovering the number of manufactures and create new ones in case of production demand growth;
6. Unfortunately, for the last decade, the giant machinery manufacturing plants almost stopped their operation. The existing enterprisers can be primarily referred to the scale of MSME. The absence of the number of manufactures and impossibility of their arrangement has determined the vector of carmaking manufacture; moreover, the experience of such products is available.
7. Currently, agriculture is mainly serviced by MSME, restoring sales markets will allow revitalizing, increasing and diversifying the list of produced goods.
8. ICT is one of the sectors of the economy that is entirely occupied by MSME. ICT activity was not significantly affected by the pandemic. Mainly, ICT was suffered from decreasing in customers paying capacity. Economy recovery will restore relationships of the customers with the representatives of ICT. And, the growth of producers interest in ICT products can be forecasted with the higher confidence that allows extending the sales market on account of foreign customers.

b. Policy recommendations applicable for Kyrgyzstan

All above-mentioned is impossible without the operation of the government machine. A lot of experts recommend the number of activities aimed at mitigation of COVID-19 pandemic consequences. But the main idea of these activities is facilitation.

Facilitation by:

- Development and adoption of more reasonable regulatory legal acts that will allow attracting new investors and ensuring more sustainable operation of investors available at the market of Kyrgyzstan;
- Awareness-raising events for both large-scale business and MSME that finally will affect (increase) the competitiveness of Kyrgyzstan's products;
- Access to financing. COVID-19 pandemic has shown that there is often a shortage of funds for MSME to do full-scale business and to invest in new technologies and training of their staff. That is why it is necessary to develop such financing and crediting mechanisms, especially by local operators, that help to pay debts and charges without the bankruptcy of these enterprisers;
- Provision of tax holidays and prolongation of credit payments with charges payment by instalments. Such a mechanism will allow enterprisers to recover smoothly.
- Access to technologies by negotiations and support agreements with different states or companies, where these technologies are developed and introduced;
- Access to the markets by negotiations and support agreements with different states, which have required goods and services, technologies and to which it is possible to sell manufactured products;
- Assistance with the creation of logistic chains. Restoration and creation of new delivery ways by both air and ground transportation. Rehabilitation and support of overland freight links across the territory of Kyrgyzstan.
- Development of ICT sector by introduction of e-document turnover, introduction and development of public services related to the issuance of references and provision of information, and data collection that is not contradictory to the freedom of private information.
- To start introduction of the International Classification for Fossil Energy and Mineral Reserves and Resources, such as UNFC. And into continuation of this Classification introduction, to develop the UNRMS, which will complete the Sustainable Development Program.

If to consider economic sectors that the state authorities of Kyrgyzstan shall pay specific attention to the following aspects:

Many specialists and consultants of the energy sector speak about the need for immediate rehabilitation of existing capacities, most of which have been available since the 70-80th of the last century. Unfortunately, unpopular decisions shall be made – increasing tariffs for the start of modernization; otherwise energy infrastructure can go out of service like an avalanche, and this is the country's energy security. But increasing tariffs shall be implemented, taking into account socially vulnerable groups of population related to which the concessional terms should be applied.

One of the possible directions of country's energetic security strengthening can be attraction of both large investors and MSME for commissioning of alternative energy sources – small and medium HPS for which it is not necessary to construct dams to arrange water head; development of solar and wind electric power industry, design of biogas installations and thermal electric power industry.

The set of legal and financial-fiscal acts shall be adopted to develop this sector, allowing various investors to enter the Kyrgyzstan energy market comprehensively and without hesitation.

The mining sector is one of the long-suffering sectors of Kyrgyzstan's economy. For the last 30 years, there have been a lot of changes that were not always positive. Many laws and by-laws had been prepared and adopted without taking into account amendments made by the representatives of the mining sector business society. The populistic laws were adopted without considering of

economic effectiveness of such laws. That is why currently, there is the cautious attitude of investors due to the state was not being able to fulfil one of its essential obligations stipulated in laws – protection of investors' contributions (repeatedly attempted actions related to the investors' assets caused multi-million financial losses) – and as a consequence decline of Kyrgyzstan's rating in the field of safe doing business.

Notwithstanding that one of the first adopted President's Decrees was related to improving the situation in the mining sector, the time was lost. Currently, Kyrgyzstan elaborates the Code "On subsoil" based on the previous Law "On subsoil". Living in the hope that the new Code will take into account all remarks of the business community.

Also, there is an urgent need to assign the international system of mineral raw materials reserves recording, but taking into account the practice of deposits geological exploration gained for the long-term period.

Undoubtedly, the UNFC can be such system. And the first steps toward this direction have been done. The agreement with the Russian colleagues related to the introduction of oil and combustible gases reserves and resources classification, associated with the United Nations Framework Classification for Fossil Energy and Mineral Reserves (UNFC 2009), was achieved in 2017.

Application of UNFC will allow accounting not only the geological resources, but also the environmental and social aspects within the mining production. And application of UNRMS will allow building the strategic development of not only mining projects (geological exploration, mining works), but also energetical projects; under certain specific conditions it is possible to use for another production too.

UNFC and UNRMS do not cancel the earlier applied system of the State Reserves Committee. Still, it complements it, which allows making the decision on deposits exploitation in total capacity and take into account many factors, including the alignment to SDGs. It helps in attaining a circular economy in the production and use of critical raw materials.

An introduction of new comprehensive Laws and by-laws will attract large investors in the mining sector, but also MSME to the deposits that are not interested in the large business.

But the most important that getting Kyrgyzstan out of the consequences of the COVID-19 pandemic is a collaborative work of the society, business community, and the state authorities.

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