

Chapter 5. Investment in sustainable infrastructure in the Kyrgyz Republic

This chapter describes sustainable infrastructure planning in the Kyrgyz Republic and presents current trends in investment in large-scale infrastructure projects. It compares the Kyrgyz Republic's infrastructure plans in the energy, transport, industry and water sectors against its international commitments under the Paris Agreement on climate change and the Sustainable Development Goals (SDGs). The chapter also explores the Kyrgyz Republic's strategic documents for long-term economic development, sectoral development and the environment, including those related to climate change mitigation and adaptation. It identifies misalignments between stated goals and observed investment flows and provides recommendations to improve strategic planning for sustainable infrastructure.

Overview

The Kyrgyz Republic is a lower-middle income country, the second poorest country in Central Asia after Tajikistan and the least urbanised country of the region. Remittances account for 33.2% of the country's GDP, and the economy is extremely vulnerable to commodity price fluctuation, as gold and other extractives represent 63.5% of total exports, and absorb 80% of FDI. The economy is also particularly vulnerable to climate change: as the temperature rises, the Kyrgyz Republic's glaciers are expected to melt unsustainably, which has important implications for the Kyrgyz Republic's agriculture and energy sectors. Agriculture employs 31.7% of the country's workforce and depends on water from seasonal glacier run-off, and hydroelectric power plants generate 87% of the Kyrgyz Republic's electricity.

The Kyrgyz Republic is also extremely dependant on the People's Republic of China: China provides more than 45% of the country's imports (mainly textiles and refined petroleum), and China's Export-Import Bank holds 40% of the country's total external debt. Almost half of FDI come from China, and close to 80% of FDI go to gold extraction and other metal industries. The Kyrgyz Republic is at moderate risk of distress regarding its debt levels, but extremely vulnerable to exchange rate shocks.

While the Kyrgyz Republic positions itself as a potential transit hub for goods and visitors between Chinese and Western markets, major infrastructure improvements would be necessary. The poor quality of Kyrgyz infrastructure and the country's mountainous geography impede trade flows and access to international markets. The Kyrgyz Republic's rail network is underdeveloped, and consequently road transport accounts for 95% of passenger and freight traffic. Regional initiatives are a great opportunity to unlock the country: The Kyrgyz Republic is in the centre of two CAREC corridors, and the cross-border electric grid initiative CASA-1000, which aims to establish interconnections between the grids of Tajikistan, the Kyrgyz Republic, Afghanistan and Pakistan, allowing the Kyrgyz Republic to export its seasonal surplus of hydro power.

The Kyrgyz Republic's government has actively produced, adopted and published strategic documents covering various timescales (to 2022, to 2040) and topics (sustainable development, export development, green economy) but the lack of a clearly defined hierarchy of documents, budget for the objectives and responsibility for implementation make it difficult to identify the government's key development objectives. For instance, although the Kyrgyz Republic strategic documents express a will to diversify the country's energy mix towards renewable energy, no such projects appear in currently planned projects, which are predominantly hydro projects. The alignment of infrastructure plans with long-term development goals in the Kyrgyz Republic is impeded by weak implementation capacity, including in environment, poor coordination between ministries and unclear legislation on strategic planning.

5.1. State of play: economy, investment and climate change in the Kyrgyz Republic

Economy and trade

Table 5.1. Key indicators on the Kyrgyz Republic's economy

Population (2017)	6 201 500
Urbanisation rate (2017)	36%
Annual population growth (2017)	2.0%
Surface area	199 950 km ²
GDP (USD, current price, 2017)	7 565 million
GDP per capita (USD, current price, 2017)	1 220
Real GDP growth (year-on-year change, 2019)	3.8%
Inflation (average consumer price, y-o-y change, 2017)	3.2%
Exports of goods and services (% of GDP, 2017)	35.4%
Imports of goods and services (% of GDP, 2017)	66.8%
FDI, net inflows (% of GDP, 2017)	-1.4%
General government net lending/borrowing (% of GDP, 2019)	-3.3%
Unemployment (% of total labour force, 2018)	7.2%
Remittances (% of GDP, 2018)	33.2%
Transparency, accountability and corruption in the public sector rating (1= most corrupt, 6 = least corrupt, 2017)	3

Source: World Bank (2019^[1]), *World Development Indicators (database)*, World Bank, <https://datacatalog.worldbank.org/dataset/world-development-indicators>; IMF (2018^[2]), *World Economic Outlook: October 2018*, International Monetary Fund https://www.imf.org/external/datamapper/GGXCNL_NGDP@WEO/OEMDC/ADVEC/WEOWORLD

Economy and demographics

The Kyrgyz Republic is a lower-middle income country and the second poorest country in Central Asia after Tajikistan. The population of the Kyrgyz Republic reached 6.2 million in 2017, and it has grown by about 2% annually since 2013 (see Table 5.1). This growth rate is the second highest in Central Asia after Tajikistan. The population is young, with over 30% of the population under the age of 15, compared to about 27% in Kazakhstan and Uzbekistan, and 17% in the Russian Federation. At 36%, the Kyrgyz population is the second least urbanised in the region after Tajikistan, but its urban population growth is relatively high at 2.5% (World Bank, 2019^[1]).

The country's per capita income almost halved in the lead-up to and the aftermath of the breakup of the Soviet Union in 1991, and per capita GDP in the independent Kyrgyz Republic did not surpass its Soviet-era level until 2007, much later than the Russian Federation and other former Soviet states (World Bank, 2019^[1]). Since independence, growth has been irregular, marked by occasional contractions due to political upheaval (i.e. the 2005 and 2010 revolutions) and isolated years or short periods of rapid growth. The sectors that account for the largest shares of GDP are wholesale and retail trade (a category that also includes automobile repair) with 17.8%; agriculture, forestry and fishing with 12.5%, manufacturing with 15% and construction with 8.6% (National Statistics Committee of the Kyrgyz Republic, n.d.^[3]).

Trade

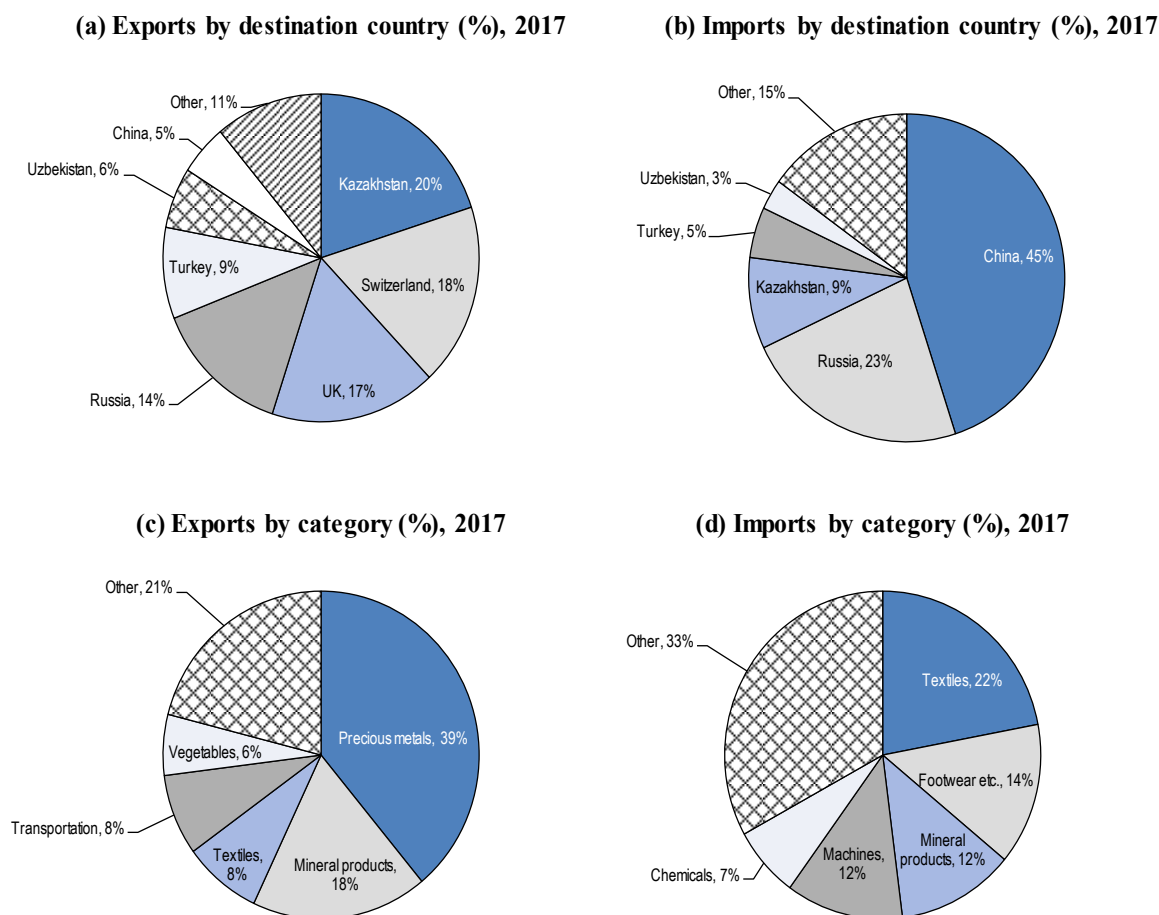
In 2014, the Kyrgyz Republic joined the Russian-led Eurasian Economic Union, which consists of Armenia, Belarus, Kazakhstan, the Kyrgyz Republic and the Russian Federation. As part of its integration into the Union, the Kyrgyz Republic reached an agreement with the Russian Federation to establish the Russian-Kyrgyz Development Fund, which approved USD 261.5 million in credit in 2017 (National Council for Sustainable Development of the Kyrgyz Republic, n.d.^[4]). Eurasian Economic Union member countries Kazakhstan and the Russian Federation account for 20% and 14% of the Kyrgyz Republic's exports, but non-Union countries are also very important, especially Switzerland (18%), the United Kingdom (17%) and Turkey (8.4%) (see Figure 5.1 (a)). On the import side, flows from Union members – the Russian Federation (23%), Kazakhstan (8.9%) and Belarus (2.1%) – are dwarfed by imports from China (45%) (see Figure 5.1 (b)).

The Kyrgyz Republic is heavily indebted to China. Approximately 40% of the country's total external debt is to China's Exim Bank, and loans from China for large-scale infrastructure projects as part of the Belt and Road Initiative are expected to worsen the Kyrgyz Republic's debt situation (Hurley, Morris and Portelance, 2018^[5]). In the Strategy for the Management of State Debt for 2016-2018, adopted in 2016, the government aims to diversify its creditors and limit its debt to any one particular creditor to 50% of the total external state debt (Ministry of Justice of the Kyrgyz Republic, 2016^[6]).

The Kyrgyz Republic is a net importer with a negative trade balance of USD 4.07 billion in 2017. Gold is by far the country's most important export; it alone accounts for 37% of total exports. Extractives – including gold – make up 63.5% the lion's share of exports, and agriculture and foodstuffs (11.7%), manufactured goods (11.6%) and textiles and garments (11.6%) are the country's other main export industries (see Figure 5.1 (c)). The Kyrgyz Republic's main imports are rubber footwear (12%) and refined petroleum (9.9%). 36% of imports are categorised as textiles and footwear, and smaller shares come from extractives (including refined petroleum, 20.4%), manufactured goods (15.7%), agriculture and foodstuffs (12.8%) and chemicals and plastics (10.7%) (see Figure 5.1(d)). Trade activity decreased significantly between 2013 and 2017: imports fell from USD 6.0 billion to USD 4.5 billion, while exports fell from USD 2.0 billion to USD 1.8 billion (Ministry of Justice of the Kyrgyz Republic, 2018^[7]).

The Kyrgyz economy is vulnerable to both external and internal shocks. The National Development Programme “Unity, Trust, Creation” states that the Kumtor gold mine accounted for 9.7% of the country's GDP in 2017 and a staggering 43.8% of total industrial production, which ties the country's economic to commodity price fluctuations. The Kyrgyz Republic also depends heavily on remittances sent from workers that have moved for work primarily to the richer Eurasian Economic Union member countries of the Russian Federation and neighbouring Kazakhstan. Personal remittances accounted for 33.2% of the country's GDP in 2018, making it the most reliant country in the former Soviet Union and the second most reliant country in the world after Tonga (World Bank, 2019^[1]).

Figure 5.1. Trade of the Kyrgyz Republic



Source: Observatory of Economic Complexity (2017^[8]), *Kyrgyzstan: Exports, Imports and Trade Partners*, Observatory of Economic Complexity, <https://atlas.media.mit.edu/en/profile/country/kgz/>

Investment climate

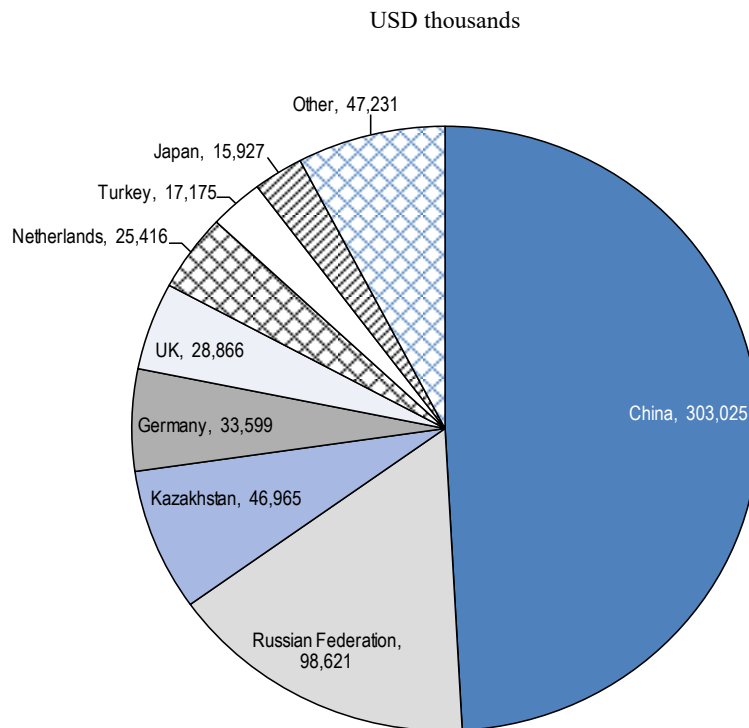
The Kyrgyz Republic has a relatively open economy, just slightly more closed than the OECD average, ranking between Switzerland and Norway on the FDI Restrictiveness Index (OECD, 2019^[9]). It has a competitive corporate tax rate of 10%, low labour costs and relatively cheap electricity as a result of its abundant hydroelectric resources. As a member of the Eurasian Economic Union, the Kyrgyz Republic has preferential trade access to markets in Kazakhstan and the Russian Federation, and it borders China. Major flows of FDI to the Kyrgyz Republic began in the 2000s primarily benefitting the country's gold industry, and FDI has since concentrated on mining industries (UNCTAD, 2016^[10]).

Overall, the formal regulatory environment is relatively strong as a result of legislative reforms based on global best practices on areas such as tax administration, permits, technical regulations and inspections. However, the government's limited capacity hinders effective implementation, and the poor quality of the country's physical infrastructure reduces competitiveness (IBRD, 2018^[11]). The Kyrgyz Republic ranked 70th in the World Bank's Ease of Doing Business Report, below regional leaders like Georgia (6th),

Azerbaijan (25th) and Kazakhstan (28th), but ahead of neighbouring Tajikistan (126th). The country does relatively well on scores for registering property (8th) and dealing with construction permits (29th), but performs considerably worse on getting electricity (164th) and the procedures for paying taxes (150th) (IBRD, 2019^[12]).

Almost half (49%) of FDI in the Kyrgyz Republic comes from China, and the next most important investors are the Russian Federation (16%), Kazakhstan (8%), Germany (5%) and the United Kingdom (5%) (see Figure 5.2). China is also the Kyrgyz Republic's largest creditor, holding 44.8% of the Kyrgyz Republic's large external public debt of USD 3 838.75 million (Ministry of Finance of the Kyrgyz Republic, 2019^[13]).

Figure 5.2. FDI in the Kyrgyz Republic by source country, 2017

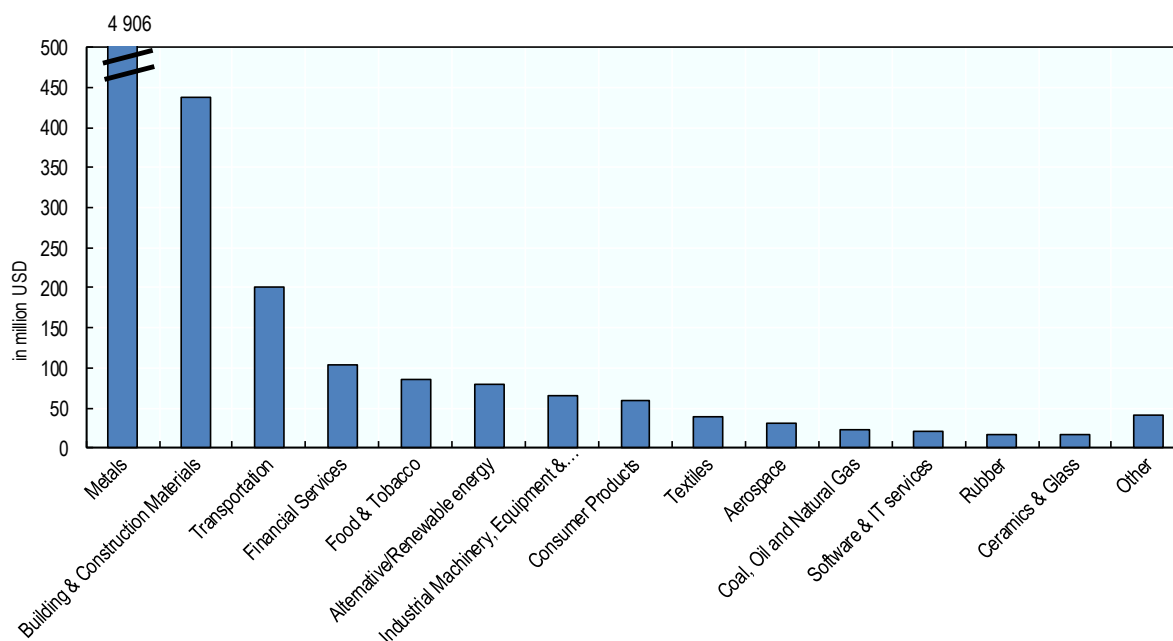


Source: National Statistics Committee of the Kyrgyz Republic (2017^[14]), *Иностранные инвестиции в 2017г. [Foreign investments in 2017]*, National Statistics Committee of the Kyrgyz Republic, <http://www.stat.kg/ru/statistics/investicii/>

Foreign investors in the Kyrgyz Republic have mostly been interested in the country's wealth of mineral resources. The metals industry received 79.5% of all FDI in the Kyrgyz Republic, more than ten times more than the next largest recipient industry, building and construction materials (7.1%) (see Figure 5.3). Infrastructure-related industries, such as transportation (3.3%) and alternative/renewable energy (1.3%), received more modest sums of FDI, while the fossil fuels industries received only 0.4% of FDI.

Figure 5.3. Greenfield FDI in the Kyrgyz Republic by economic activity, 2003-2017

Cumulated greenfield FDI capital between January 2003 and September 2017 in USD million



Note: Other includes Automotive OEM; Communications; Business Services; Pharmaceuticals; Business Machines & Equipment

Source: OECD based on fDi Markets (2019_[15]), *fDi Markets: the in-depth crossborder investment monitor (database)*, fDi Markets, <https://www.fdimarkets.com/>

The Kyrgyz Republic's debt situation is cause for concern. Public and publicly guaranteed debt in 2017 was equal to nearly 65% of GDP, of which external debt accounted for almost 90%. The country's largest creditor is China's Export-Import Bank, which holds about 40% of Kyrgyz external debt (Hurley, Morris and Portelance, 2018_[5]). The International Monetary Fund (IMF) considers the Kyrgyz Republic to be at moderate risk of debt distress, but it stresses the country's fiscal sustainability issues and vulnerability of the Kyrgyz Republic to exchange rate shocks (IMF, 2017_[16]).

Climate change

The Kyrgyz Republic is a relatively small economy with a low rate of emissions: It was responsible for only 0.026% of total global emissions in 2012 (World Bank, 2019_[1]). The greenhouse gas emissions of the Kyrgyz Republic plummeted after the fall of the Soviet Union and are still at levels 58.6% lower than prior to independence (see Figure 5.4). While the emissions in many former Soviet Union countries have followed a similar trajectory, the Kyrgyz Republic's dramatic drop and limited recovery in emissions levels are unique in the region. Kazakhstan, for example, emitted only 1.6% less in 2012 than it did as part of the Soviet Union, while the Russian Federation and Tajikistan's emissions were 22% and 29.1% lower (World Bank, 2019_[1]).

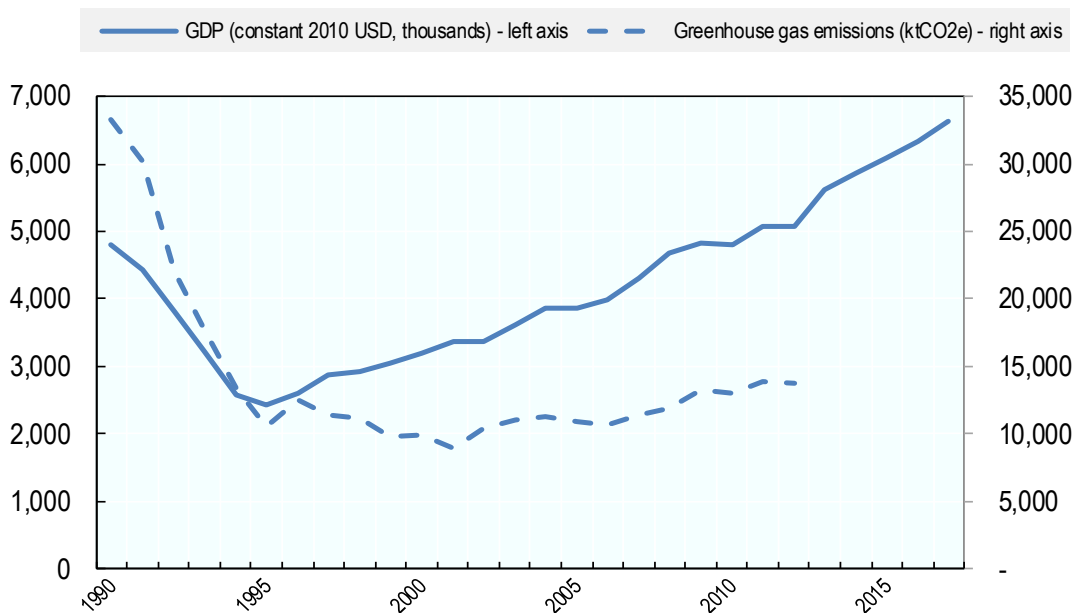
The Kyrgyz economy also experienced a dramatic contraction in the early 1990s, dropping by 49.3% between 1990 and 1995, but then began gradually recovering. By 2009, the Kyrgyz Republic's GDP surpassed its 1990 peak, and by 2017, the economy was 37.9%

larger than in 1990, while emissions remained low. As a result, the greenhouse gas emissions required per unit of GDP (i.e. emissions intensity) in the Kyrgyz Republic fell by more than half from 6.8 kgCO₂e per USD in 1990 to 2.7 kgCO₂e per USD (World Bank, 2019^[11]).

Over the same period that the Kyrgyz Republic's emissions declined, the population has also grown steadily. These opposing trends led to the country's per capita greenhouse gas emissions falling from 7.58 tCO₂e in 1990 to 2.46 tCO₂e by 2012 (World Bank, 2019^[11]).

The sources of Kyrgyz greenhouse gas emissions have also shifted considerably since independence. While energy use (including for transport) was responsible for 73.3% of emissions in 1990, its share declined to 53.5% by 2010. Meanwhile, agriculture's share of emissions increased from 19.8% to 33.5%. The country's third-largest share of emissions comes from waste (4.2% in 1990, 7.9% in 2010), followed by industrial processes (2.5% in 1990, 3.2% in 2010) and land use, land-use change and forestry (0.1% in 1990, 1.9% in 2010) (UNEP, GEF and Government of Kyrgyz Republic, 2016^[17]).

Figure 5.4. GHG emissions and GDP of the Kyrgyz Republic, 1990-2017



Source: World Bank (2019^[11]), *World Development Indicators (database)*, World Bank, <https://data.worldbank.org/indicator/EN.ATM.GHGT.ZG>

The Kyrgyz Republic ranked 52nd in GermanWatch's annual Climate Risk Index, which measures countries' level of risk to climate change-related weather events. According to the index, the Kyrgyz Republic is the most at-risk country in the region (Eckstein, Hutfils and Wings, 2018^[18]). The number of natural disasters has already increased considerably. In the years between 2006 and 2011 more disasters occurred than in 1990, and in all but two of those years the incidence was over twice as high (State Agency of Environmental Protection and Forestry under the Government of the Kyrgyz Republic, 2013^[19]). As the temperature rises, the Kyrgyz Republic's glaciers are expected to melt unsustainably. Run-off will peak in 2020 and decline thereafter, which has important implications for the Kyrgyz Republic's agricultural sector. This sector employs 31.7% of the workforce and

depends on water from seasonal glacier run-off, and hydroelectric generation (OECD, 2018^[20]).

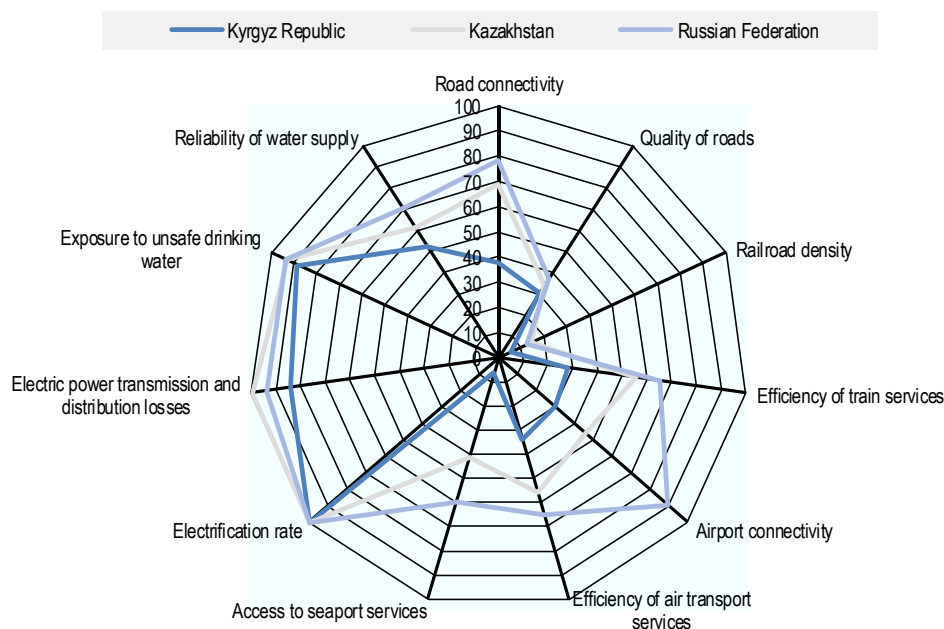
5.2. Kyrgyz Republic's infrastructure needs and current plans

The Kyrgyz Republic's infrastructure needs continue to grow in line with pressure from economic and demographic growth. Its critical infrastructure needs to be enhanced to facilitate cross-border trade and lower transport costs, a key impediment for Kyrgyz exporters. Public investment in infrastructure rose from 4.8% of GDP in 2011 to 7.6% in 2015 (World Bank, 2016^[21]). However, much more is needed, particularly for the transport and energy sectors.

In its national strategic documents, the Kyrgyz Republic positions itself as a potential transit hub for goods and visitors between Chinese and Western markets, but major infrastructure improvements would be necessary. Compared to infrastructure elsewhere in the region, the quality of Kyrgyz infrastructure is poor, particularly in the transport sector (see Figure 5.5), which impedes trade flows and its access to international markets.

Figure 5.5. Quality of infrastructure in the Kyrgyz Republic

On a scale from 0 (worst) to 100 (best)

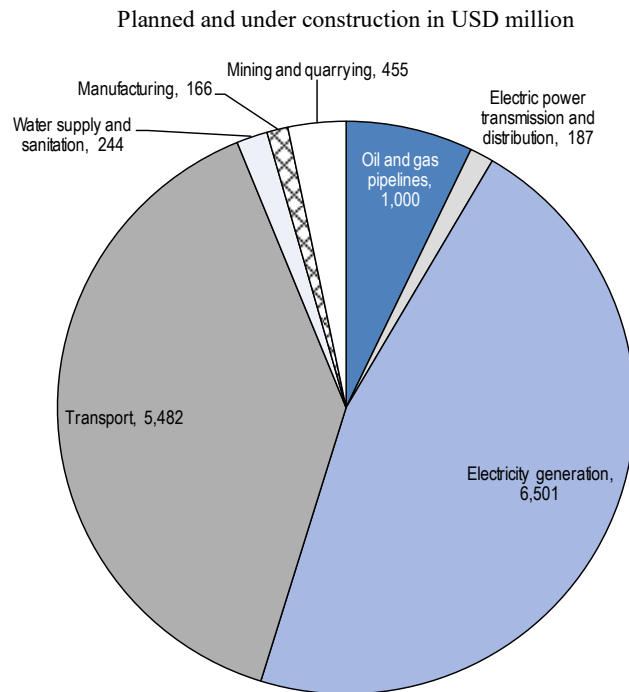


Source: World Economic Forum (2017^[22]), *The Global Competitiveness Report 2017-2018*, World Economic Forum, <http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf>

The energy and transport sectors dominate the Kyrgyz Republic's large-scale infrastructure plans (see Figure 5.6). Out of the USD 14 billion of investments tracked between 2000 and 2018, energy projects account for 54%, while transport investments make up a further 39%.

Out of the total investments in the energy sector, more than half are concentrated in electricity generation (85% - mostly from hydroelectricity), while oil and gas pipelines account for 13% and the remaining 2% in electric power transmission and distribution. By comparison, investments in industry and water are much smaller at 3% and 1% respectively.

Figure 5.6. Infrastructure projects in Kyrgyz Republic by sector



Note: Electricity generation projects include natural gas-fired electric power plants, wind farms, solar plants, hydroelectric power plants, and coal-fired electric power plants. Manufacturing projects include cement plants. Mining and quarrying projects include gold and copper mines.

Source: OECD analysis based on accessed databases as of April 2019.

Transport

The Kyrgyz Republic's mountainous geography and low population density are likely factors in its underdeveloped rail and, to a lesser extent, road networks. The country's population is spread thinly at a density of about 32/km² (less than half the density of Tajikistan and Uzbekistan) (World Bank, 2019^[1]) over a territory characterised by high altitudes: 94% of the Kyrgyz territory is over 1000m above sea level and 40% is more than 3000m above sea level (FAO, 2012^[23]).

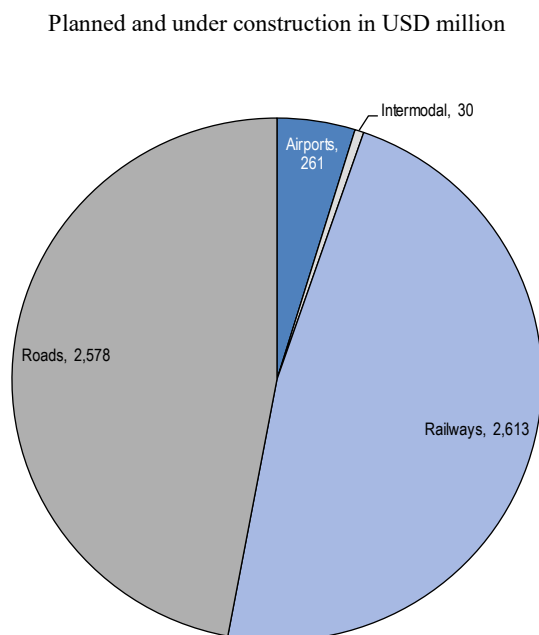
Rail service is extremely limited, with two unconnected rail lines (one linking the capital Bishkek to Kazakhstan and Uzbekistan; the other connecting Osh, the country's second-largest city, to Uzbekistan) and only 13 stations in the entire national rail network (Kyrgyz Temir Zholu, n.d.^[24]). There are plans to unify the railway network as well as reconstruct and expand aging highways. Road infrastructure represents the overwhelming majority of the Kyrgyz Republic's freight traffic (60% in 2015, and is expected to rise) while rail's share is negligible. As trade volumes increase, transport infrastructure capacity must

increase rapidly: Kyrgyz road capacity must increase to 251% of current capacity by 2030 and 984% by 2050 to maintain current network performance (ITF, 2019_[25]). However, investment in transport and storage has not kept pace with investments in other sectors.

Due in part to the quality of existing transport infrastructure, transport costs are very high in the Kyrgyz Republic. It costs approximately USD 240 for one tonne of goods to reach 20% of global GDP from the Kyrgyz Republic, whereas in Germany the same access can be achieved at a cost of about USD 30 (ITF, 2019_[25]).

Within the transport sector, rail projects account for the largest share of planned or under construction infrastructure investments (56%), followed by road (37%) (see Figure 5.7). The largest-scale projects, however, are almost exclusively roads, with the notable exception of the USD 2.5 billion railway project creating a link between Uzbekistan and China via the Kyrgyz Republic (see Table 5.2). The proposed rail link's exact route has yet to be determined, but current proposals fail to connect to the existing Kyrgyz rail system and do not serve domestic population centres. Regardless, the project appears as a strategic priority for the Kyrgyz Republic's development in *Strategy-2040* (see section 5.3 on the Kyrgyz Republic's key strategic documents). Currently, road transport accounts for 95% of cargo and passenger traffic (ADB, 2016_[26]). The road projects currently planned or under construction form sections of CAREC regional corridors designed to boost connectivity between Central Asian economies. Although the Kyrgyz Republic's strategic planning documents do not mention CAREC by name, the Development Programme 2018-2022 lists key sections of CAREC corridors among its priority transport projects. *Strategy-2040* identifies the Issyk-Kul ring road project and Osh airport modernisation as well as the improved road connections between Bishkek in the country's north and Osh in the south as priorities for domestic connectivity.

Figure 5.7. Transport projects in the Kyrgyz Republic by sub-sector



Note: Intermodal projects include logistics centres.

Source: OECD analysis based on accessed databases as of April 2019.

Table 5.2. Hotspot projects in the transport sector in the Kyrgyz Republic

(a) Under construction					
Name	Sub-sector	Description	Project value (USD million)	Funding sources	Type of investment
Alternative North-South Road (Zhalal-Abad and Balykchy)	Road	The project is considered as the largest-scale project in the country, connecting Zhalal-Abad and Balykchy cities. It consists of 433 km of road, two elevated bridges and a tunnel, and will be constructed in three phases. The project is expected to have a major effect on connectivity as it will facilitate market access to neighbouring countries, notably for Chinese exports to Uzbekistan, Tajikistan, Kazakhstan and other surrounding countries.	850	N/A	Greenfield
Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project	Road	The CAREC Corridors 1 and 3 Connector Road will rehabilitate an estimated 253 km of road sections between the southern regions of Batken, Jalal-Abad and Osh with the northern regions of Chui, Issyk-Kul, Naryn and Talas. These two corridors are expected to improve national and regional connectivity notably by further facilitating access to international markets.	263	ADB, EADB, IsDB, Saudi Fund for Development, Kyrgyz government	Brownfield
CAREC Corridor 3 (Bishkek-Osh Road) Improvement Project, Phase 4	Road	The project will reconstruct and rehabilitate an estimated 120 km of road between Bishkek and Osh. The project is expected to enhance national and regional connectivity.	192	ADB, EADB, Kyrgyz government	Brownfield
(b) Planned					
Name	Sub-sector	Description	Project value (USD million)	Funding sources	Type of investment
China-Kyrgyz Republic-Uzbekistan Railway	Rail	The planned project consists of a rail line of about 500 kilometres that starts in China and runs through the Kyrgyz Republic to Ferghana Valley in Uzbekistan. The project is considered to significantly reduce transport costs and the delivery times of Chinese products to European and Persian Gulf markets.	2500	N/A	Greenfield
Expansion of Osh International Airport	Airport	The project will consist of the construction of a new passenger terminal with increased capacity for 450-600 passengers an hour. The project also involves the construction of a new cargo terminal with capacity for 2 000 tons of freight.	119	Project finance	Brownfield
Central Asia Regional Economic Cooperation Corridors 1 and 3 Connector Road Project (Phase 2)-Additional Financing	Road	The project will rehabilitate a crucial connector road that is part of the North-South Alternate Corridor. Such a project is a priority in the National Sustainable Development Strategy. Expected outcomes of this project are improved connectivity as well as enhanced linkages between underprivileged regions and economic hubs.	90.75	IFIs	Brownfield

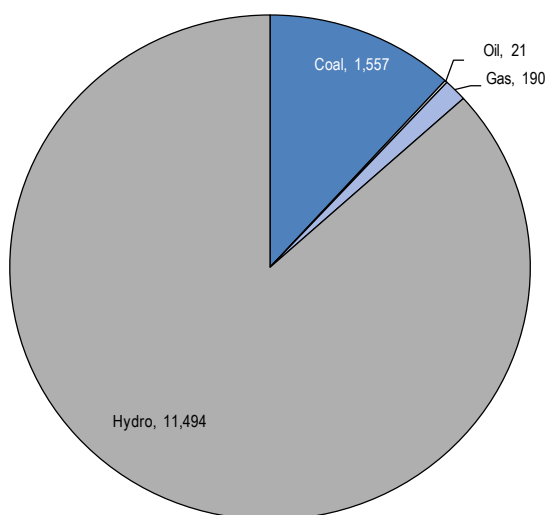
Note: Refer to the Preamble for the present report's definition of 'hotspot' and other information on how the projects above were selected and prioritised. ADB = Asian Development Bank, EADB = Eurasian Development Bank, IsDB = Islamic Development Bank

Source: OECD analysis based on accessed data from ADB (2019^[27]), IJGlobal (2019^[28]), CSIS (2019^[29]), Deloige (2019^[30]) and World Bank (2019^[31]) as of April 2019.

Energy

In the energy sector, the Kyrgyz Republic has achieved universal electricity access, but the quality of its distribution and distribution networks is relatively poor, leading to losses of 19.7% of electricity (World Economic Forum, 2017_[22]). The Kyrgyz Republic relies on exports to meet its energy needs: it is a net importer of coal (11.77 Mtoe in 2017), oil (1.55 Mt in 2016) and natural gas (0.22 Mtoe in 2017). However, it has harnessed its immense hydroelectricity potential allowing it to transition from being a net importer to a net exporter of electricity (0.11 Mtoe in 2016) (IEA, 2018_[32]). Hydroelectricity accounts for 87% of Kyrgyz electricity generation, while coal (12%) and natural gas (1%) make up the remainder (see Figure 5.8).

Figure 5.8. Electricity generation by fuel (GWh, 2016)



Source: International Energy Agency (2018_[32]), *IEA World Energy Balances 2018*, International Energy Agency, <https://webstore.iea.org/world-energy-balances-2018>

[The large share of hydroelectricity in the Kyrgyz Republic’s electricity mix explains in part the country’s low levels of greenhouse gas emissions \(13795 ktCO₂e in 2012, which amounts to 2.46 tCO₂e per capita or 0.00026% of total global emissions\).](#)

Gas-fired electricity generation and gas pipelines represent respectively 15% of the pipeline of projects in energy (see Table 5.3). Despite the stated objective in the Development Programme 2018-2022 to install at least 100 MW of non-hydroelectric renewable electricity by 2027, no such projects show in the Kyrgyz Republic’s infrastructure pipeline. Similarly, evidence of a large-scale push to build natural gas distribution networks in cities, towns and villages throughout the country is absent from the current pipeline, even though “gasification” is a priority in both *Strategy-2040* and the Development Programme 2018-2022.

Table 5.3. Hotspot projects in the energy sector in the Kyrgyz Republic

(a) Under construction					
Name	Sub-sector	Description	Project value (USD million)	Funding sources	Type of investment
Central Asia-South Asia Electricity Transmission and Trade Program (CASA)-1000	Electricity transmission and distribution	The Central Asia-South Asia Electricity Transmission and Trade Program (CASA-1000) is a regional programme that aims to create a sustainable electricity trade between Tajikistan, Kyrgyz Republic, Afghanistan and Pakistan. It involves high voltage AC transmission (HVAC) interconnection between the Kyrgyz Republic and Tajikistan.	997	IFIs	Greenfield
Toktogul Rehabilitation Phase 2 Project	Hydroelectric power plant	Toktogul is the largest power plant in the country currently being updated. The project is expected to improve finances, governance and management of the power sector.	210	ADB, EADB	Brownfield
(b) Planned					
Name	Sub-sector	Description	Project value (USD million)	Funding sources	Type of investment
Kambarata 1 Hydropower plant (1900-MW)	Hydro	The project initially started in 1986 but it was halted when the Soviet Union collapsed. It is expected to support the country to become a power exporter. The project is being financed in large part by a USD 2 billion Russian aid package, which was announced in 2009.	3000	Russia	Brownfield
Gas Pipeline Kyrgyz Republic - China (Segment D (4th) of Central Asia - China pipeline)	Oil and gas	The project involves the construction of a 215 km gas pipeline, which is a part of line D of the Central Asia-China gas pipeline network. It will have an estimated annual capacity of 30 bcm. Despite being a significant cross-border infrastructure project, it is not yet clear whether the country will receive or supply gas to the pipeline or only play a transit role.	1000	CNPC, Kyrgyz government	Greenfield
Uch-Kurgan Hydro Plant Modernisation	Hydro	This project will modernise the hydropower plant located in the Naryn River cascade. Expected outcomes include enhanced use of clean hydropower as well as to export to neighbouring Uzbekistan and Kazakhstan.	145	ADB, EADB	Brownfield

Note: Refer to the Preamble for the present report's definition of 'hotspot' and other information on how the projects above were selected and prioritised. ADB = Asian Development Bank, CNPC = China National Petroleum Corporation, EADB = Eurasian Development Bank.

Source: OECD analysis based on accessed data from ADB (2019^[27]), IJGlobal (2019^[28]), CSIS (2019^[29]), Dealogic (2019^[30]) and World Bank (2019^[31]) as of April 2019.

Industry and mining

In the industry and mining sectors, most of the planned investments are in gold mining (64%) and cement (31%), followed by copper mining (5%). In fact, gold remains the primary mineral in terms of value mined in the Kyrgyz Republic. The Kyrgyz Republic's *Strategy-2040* and Development Programme both mention diversification of the industrial sector as key priorities, and name textiles and processed milk products among target sectors. No projects in these sectors feature in the current project database, but this may be due in part to the threshold value of USD 10 million and the relatively small scale of projects in these sectors. The Investment Promotion and Protection Agency of the Kyrgyz Republic is currently promoting investments into smaller industry projects such as for example for the construction of a stone processing plant, and production of chemicals,

cosmetics and household detergent (Investment Promotion and Protection Agency of the Kyrgyz Republic, n.d.^[33]).

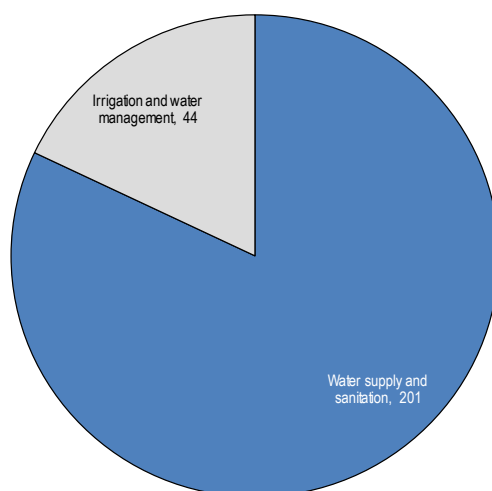
One area that has received increasing investments and has a tendency to grow is the mining and quarrying sector, which currently accounts for over 10% of GDP and 50% of industrial output. According to the World Bank, mining remains both a significant growth driver and a potential environmental risk for the country (IDA, 2018^[34]). The World Bank also called for the need to promote more efficient and green processes in the industrial sector.

Water

In the Kyrgyz Republic, improving water supply to rural areas remains a priority in both major development strategies. This is also confirmed in the water projects that are currently under construction and planned, where out of a total of USD 245 million, around 82% focus on improving the water supply and sanitation projects (see Figure 5.9). There are also irrigation projects that aim to improve agricultural productivity for farmers, which accounts for the remaining 18% of investments. The Kyrgyz Republic faces urgent investment needs in the water sector (World Bank, 2016^[35]). All of the country's water projects are financed by multilateral development banks, namely the ADB, EIB, EBRD and the World Bank.

Figure 5.9. Water projects in the Kyrgyz Republic by sub-sector

Planned and under construction in USD million



Source: OECD analysis based on accessed databases as of April 2019.

5.3. Strengths and weaknesses of existing institutional set-up for sustainable infrastructure planning

Strategic planning and links between long-term goals, infrastructure plans and environmental considerations

The Kyrgyz Republic's government has actively produced, adopted and published strategic documents covering various timescales (to 2022, to 2040) and topics (sustainable

development, export development, green economy) (see Table 5.4 and Table 5.5). In theory, this wealth of documents should provide a clear vision of the country's future development and signals to investors about the government's priorities. However, the sheer number of documents, their diversity of structure and content and the lack of a clearly defined hierarchy of documents and responsibility for implementation make it difficult to identify the government's key development objectives.

The *National Development Strategy to 2040 (Strategy-2040)*, adopted in 2018, recognises these problems and has proposed key reforms that may improve forthcoming strategic documents. For instance, *Strategy-2040* has called for a new law on strategic planning to replace the abrogated 2015 law "On the state system of strategic planning" and improve the quality of strategic planning documents. If adopted, the new law will standardise the format of strategic planning documents and the procedure by which the government prepares them and associates a budget to their objectives, which was not always done in the past. A standard format and clearly defined budgets and responsibilities would simplify the interpretation of government priorities and monitoring of strategy implementation.

Although the government's decision to reduce the number of strategic documents in favour of fewer higher-quality strategies is a welcome move, the cancellation of several documents associated with the previous administration follows a trend of overhauling strategic plans upon election. There may be such a risk for long-term strategic documents like *Strategy-2040*. Credibility of Kyrgyz long-term strategies will depend on their independence from the electoral cycle and their ability to signal stable and consistent policy direction of future development to policy makers, citizens and investors.

Strategy-2040 proposes reforms that may bolster the credibility of strategic documents. It recommends 'de-monopolising' strategy development through increased public participation, which may help increase public ownership of the process, reduce the perception that a given strategy is the product of the current administration alone and encourage its continued implementation after the next election.

Strategy-2040 also recognises that the quantity of previously adopted documents has led to uneven implementation and inconsistent policy messages. It states that all strategies adopted prior to *Strategy-2040* will undergo review and, if misaligned with *Strategy-2040*, be revised or cancelled. The development of all future strategies must align with the long-term objectives of *Strategy-2040*. By establishing a top-level strategy to which future strategies must conform, the government has made a step in the right direction towards clearly articulating its development agenda.

Both *Strategy-2040* and the *Development Programme of the Kyrgyz Republic for the period 2018-2022: "Unity, Trust, Creation"* lack budgets for their objectives and do not identify the government bodies responsible for individual goals, which may impede their implementation. The *Green Economy Concept*, meanwhile, has no associated timeline and its objectives do not specify delivery dates. As the *Strategy-2040* calls for reforms that would clarify the procedure for defining budgets and responsibility in future documents, consideration could be given to amending the *Green Economy Concept* to this effect.

The Kyrgyz Republic's existing strategies do not take environmental considerations sufficiently into account. The Kyrgyz Republic was the last country in Central Asia to ratify the Paris Agreement in late 2019, and it has not yet adopted a long-term low-emission development strategy. Long-term emissions reduction and climate-change resilience objectives are not properly integrated into the Kyrgyz Republic's main development strategies, such as *Strategy-2040* and the *Development Programme 2018-2022*. These

documents do, however, set targets relating to infrastructure development with significant effects on sustainable development and climate agendas. For instance, *Strategy-2040* aims to reduce electricity transmission losses, transition from solid fuel-based heating to natural gas and improve connectivity through repair and construction of roads. The *Green Economy Concept*, adopted in 2018, echoes several of the objectives laid out in *Strategy-2040*, but as a broad, aspirational document with no time frame and few quantitative objectives, its expressed policy directions have not been translated into concrete actions and integrated into the Kyrgyz Republic's other strategic documents.

Institutional set-up and decision making processes

Coordinating bodies exist, including on climate change, but there is limited evidence of its ability to mainstream sustainable development and climate goals in national policies. The National Council on Sustainable Development has existed since 2012 to oversee and coordinate the implementation of the *National Sustainable Development Strategy 2013-2017*. Housed within the Presidential Administration and explicitly charged with cross-ministerial coordination and consultation with non-government actors, the National Council is well placed to fulfil its role of gathering stakeholders. It has included representatives from various parties (including opposition parties), ministries, NGOs (including environmental NGOs) and academic institutions in its previous meetings.

Strategy-2040 seeks to strengthen the Council's role in strategic planning further by charging it with ensuring the alignment of lower-order strategic documents and sectoral plans with the goals of *Strategy-2040*. Currently the council only meets on an ad hoc basis (but no less than twice a year), however given its proposed new responsibilities its meetings may need to occur more regularly and the Council's secretariat within the Presidential Administration may need additional capacity to function effectively.

The government's coordinating body on climate change, the Coordination Commission on Problems of Climate Change, is responsible for providing guidance and coordinating ministries' activities to meet the Kyrgyz Republic's commitments under the UNFCCC. Despite the progress made by the Coordination Commission, there are still insufficiently clear mechanisms to ensure coordination between state bodies (Bekkulova et al., 2018^[36]). Such coordination could improve the integration of climate considerations into existing strategic documents and state policies.

Overall, inadequate coordination between government bodies contributes to unclear responsibility on goal delivery, as recognised in the 2018-2022 Development Programme.

The Kyrgyz Republic's approach to large-scale investments is contributing to unsustainable levels of indebtedness. The Kyrgyz Republic has been identified as one of the developing countries most at risk of debt stress due to its large number of foreign loans. Its government gross debt was equal to 62.1% of GDP in 2016 and is forecast to rise (Hurley, Morris and Portelance, 2018^[5]).

*List of relevant strategic documents***Table 5.4. Main strategic documents in force**

	Status	Time Horizon	Sectoral Coverage	Main objectives
National Development Strategy to 2040	Adopted in 2018	2018-2040	Governance, planning, transport, energy, water, industry	<ul style="list-style-type: none"> Standardise format and preparation procedure of strategic documents; increase public participation in strategy elaboration Reduce electricity losses by 11% by 2023; switch to gas-fired heating in rural regions Repair and construct north-south roads; improve airports Ensure water supply and sanitation in rural areas Construct factories, including an electric vehicle factory in Bishkek
Development Programme of the Kyrgyz Republic for the period 2018-2022: "Unity, Trust, Creation"	Adopted in 2018	2018-2022	Transport, energy, light industry, water, mining	<ul style="list-style-type: none"> 60% of roads with hard covering and 5 000 km of new roads by 2022 Reliable clean water supply to 80% of the population by 2022
Green Economy Concept: "Kyrgyzstan – Country of Green Economy"	Adopted in 2018	No defined timeframe	Transport, energy, industry, water	<ul style="list-style-type: none"> Improve fuel quality, increase public transportation use Reduce electricity and heat subsidies, switch to gas-fired heating, develop hydroelectricity and other renewables Improve resource and energy efficiency of industries (mining, fossil fuel refining) Attract more FDI for sustainable infrastructure to meet SDGs
Regional Policy Concept for the period 2018-2022	Adopted in 2017	2018-2022	Transport, energy, industry, water	<ul style="list-style-type: none"> Facilitate economic development and integration of regions within the country through improved infrastructure services
Main Policy Directions of Rail Transport Development	Adopted in 2014	2014-2020	Transport	<ul style="list-style-type: none"> Strengthen rail links between the northern and southern parts of the country, improve transit potential, integrate rail network with neighbouring countries' lines Modernise existing infrastructure
Main Policy Directions of Road Sector Development	Adopted in 2016	2016-2025	Transport	<ul style="list-style-type: none"> Rehabilitate and maintain of transport corridors Develop public-private partnerships (e.g. Almaty-Issyk Kul road)
Programme for the Development of Civil Aviation	Adopted in 2016	2016-2020	Transport	<ul style="list-style-type: none"> Improve key airports (e.g. Manas Airport in Bishkek) and build new ones (e.g. new Osh airport)
Fuel and Energy Complex Development Strategy until 2025	Adopted in 2008	2008-2025	Energy	<ul style="list-style-type: none"> Increase exports of hydroelectricity to 4.2-6.4 TWh by 2025, establish cooperation mechanisms with neighbouring Central Asian countries Cut emissions by half of 1990 levels or to 12 000 ktCO₂e by 2025 Construct several hydroelectric power plants and an additional gas pipeline from Kazakhstan
Programme for Export Development 2019-2022	Adopted in 2018	2019-2022	Industry	<ul style="list-style-type: none"> Expand SMEs' share of GDP to 43-45% and double the value of SME-produced exports to USD 27 million by 2022 Prioritise the development of the textile and dairy industries as well as fruit and vegetable processing
Strategy for the Development of Drinking Water Supply and Sanitation Systems	Adopted in 2016	2016-2026	Water	<ul style="list-style-type: none"> Ensure centralised drinking water supply to at least 90% of cities and 700 thousand rural inhabitants by 2026 Provide waste water services to no less than 70% of rural villages by 2026

in Settlements of the Kyrgyz Republic to 2026				
State Programme for Irrigation Development	Adopted in 2017	2017-2026	Water	• Construct and rehabilitate 21 canals and 5 reservoirs

Table 5.5. Other relevant documents

	Status	Time Horizon	Sectoral Coverage
Priority Directions for Adaptation to Climate Change in the Kyrgyz Republic till 2017	Adopted in 2013	2013-2017	Multi-sector
Concept of Ecological Security	Adopted in 2007	2007-2020	Multi-sector
Medium-term Strategy for Electricity Development for 2012-2017	Adopted in 2012, cancelled in 2018	2012-2017	Energy
Strategy of Road Sector Development to 2025	Drafted in 2015, not adopted	2015-2025	Transport
Programme for the Transition of the Kyrgyz Republic to Sustainable Development	Adopted in 2013	2013-2017	Multi-sector
Programme “Forty Steps towards a New Era”	Adopted in 2017, repealed in 2018	2018-2023	Multi-sector
National Sustainable Development Strategy for the period 2013-2017	Adopted in 2013	2013-2017	Multi-sector
National Energy Program of the Kyrgyz Republic for the period 2008-2010	Adopted in 2008	2008-2010	Energy
Program on the proper management of chemicals in the Kyrgyz Republic for the period 2015-2017	Adopted in 2015	2015-2017	Multi-sector
Priorities for the conservation of wetlands till 2023	Adopted in 2013	2013-2023	Multi-sector
Concept of Small Hydropower Industry Development in the Kyrgyz Republic till 2017	Adopted in 2015	2015-2017	Energy

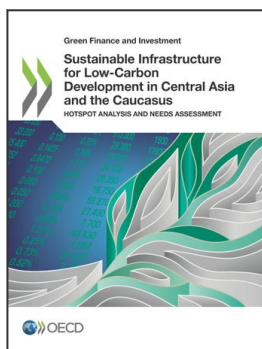
References

- ADB (2019), *Projects and Tenders (database)*, <https://www.adb.org/projects?terms=>. [27]
- ADB (2016), *Kyrgyz Republic Sign Agreement for North-South Alternate Road Corridor Rehabilitation*, <https://www.adb.org/news/adb-kyrgyz-republic-sign-agreement-north-south-alternate-road-corridor-rehabilitation>. [26]
- Bekkulova, D. et al. (2018), *Preparation of National Communications on the UN Framework Convention on Climate Change of the Kyrgyz Republic [Подготовка Национальных сообщений Кыргызской Республики по Рамочной Конвенции ООН об изменении климата: Оценочный доклад]*. [36]
- CSIS (2019), *Reconnecting Asia (database)*, <https://reconnectingasia.csis.org/database/#>. [29]
- Dealogic (2019), *Multiple Markets: One Platform (database)*, <https://www.dealogic.com/>. [30]

- Eckstein, D., M. Hutfils and M. Wings (2018), *Global Climate Risk Index 2019: Who Suffers Most from Extreme Weather Events? Weather-related Loss Events in 2017 and 1998 to 2017*, GermanWatch, https://www.germanwatch.org/sites/germanwatch.org/files/Global%20Climate%20Risk%20Index%202019_2.pdf. [18]
- FAO (2012), *Kyrgyzstan*, http://www.fao.org/nr/water/aquastat/countries_regions/KGZ/KGZ-CP_eng.pdf. [23]
- fDi Markets (2019), *fDi Markets: the in-depth crossborder investment monitor (database)*, <https://www.fdimarkets.com/>. [15]
- Hurley, J., S. Morris and G. Portelance (2018), *Examining the Debt Implications of the Belt and Road Initiative from a Policy Perspective*, <https://www.cgdev.org/sites/default/files/examining-debt-implications-belt-and-road-initiative-policy-perspective.pdf>. [5]
- IBRD (2019), *Doing Business 2019*, IBRD, Washington DC, <http://www.worldbank.org>. [12]
- IBRD (2018), *From Vulnerability to Prosperity: A Systematic Country Diagnostic*, IBRD, Washington DC, <http://www.worldbank.org>. [11]
- IDA (2018), *Country Partnership Framework for the Kyrgyz Republic for the period FY19-FY22*, <http://documents.worldbank.org/curated/en/358791542423680772/pdf/kyrgyz-cpf-fy19-22-oct102018-10122018-636780024730768882.pdf>. [34]
- IEA (2018), *IEA World Energy Balances 2018*, <https://webstore.iea.org/world-energy-balances-2018>. [32]
- IJGlobal (2019), *Project Finance (database)*, <https://ijglobal.com/data/index>. [28]
- IMF (2018), *World Economic Outlook: October 2018*, https://www.imf.org/external/datamapper/GGXCNL_NGDP@WEO/OEMDC/ADVEC/EOWORLD. [2]
- IMF (2017), *Kyrgyz Republic: Fourth and fifth reviews under the three-year arrangement under the extended credit facility, and request for modification of performance criteria - debt sustainability analysis update*, IMF, Washington DC, <https://www.imf.org/external/pubs/ft/dsa/pdf/2018/dsacr1853.pdf> (accessed on 3 July 2019). [16]
- Investment Promotion and Protection Agency of the Kyrgyz Republic (n.d.), *Industry*, <http://www.invest.gov.kg/en/information-for-investors/investment-projects/investment-projects/industry/>. [33]
- ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, International Transport Forum, Paris, <http://www.itf-oecd.org>. [25]
- Kyrgyz Temir Zholu (n.d.), *Все станции [All stations]*, <http://kjd.kg/ru/station/>. [24]

- Ministry of Finance of the Kyrgyz Republic (2019), *Структура государственного долга Кыргызской Республики на 31.01.2019 года* [Structure of the Kyrgyz Republic's Public Debt on 31 January 2019], http://minfin.kg/userfiles/ufiles/2018/otchet_o_gosdolge_za_yanvar_2019_goda.pdf. [13]
- Ministry of Justice of the Kyrgyz Republic (2018), *Программа Правительства Кыргызской Республики по развитию экспорта Кыргызской Республики на 2019-2022 годы*, <http://cbd.minjust.gov.kg/act/view/ru-ru/12808>. [7]
- Ministry of Justice of the Kyrgyz Republic (2016), *СТРАТЕГИЯ: управления государственным долгом Кыргызской Республики на 2016-2018 годы*, <http://cbd.minjust.gov.kg/act/view/ru-ru/99467/10?mode=tekst>. [6]
- National Council for Sustainable Development of the Kyrgyz Republic (n.d.), *National Sustainable Development Strategy for the Kyrgyz Republic*, National Council for Sustainable Development of the Kyrgyz Republic, https://www.un-page.org/files/public/kyrgyz_national_sustainable_development_strategy.pdf. [4]
- National Statistics Committee of the Kyrgyz Republic (2017), *Инвестиции: Официальная статистика Кыргызстана*, <http://www.stat.kg/ru/statistics/investicii/>. [14]
- National Statistics Committee of the Kyrgyz Republic (n.d.), *ВВП по видам экономической деятельности в текущих ценах* [GDP by economic activity in current prices], <http://www.stat.kg/ru/opendata/category/1/>. [3]
- Observatory of Economic Complexity (2017), *Kyrgyzstan: Exports, Imports, and Trade Partners*, <https://atlas.media.mit.edu/en/profile/country/kgz/>. [8]
- OECD (2019), *FDI restrictiveness*, <https://doi.org/10.1787/9a523b18-en>. [9]
- OECD (2018), *Social Protection System Review of Kyrgyzstan*, OECD Development Pathways, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264302273-en>. [20]
- State Agency of Environmental Protection and Forestry under the Government of the Kyrgyz Republic (2013), *Климатический профиль Кыргызской Республики* [Climate Profile of the Kyrgyz Republic], http://www.ecology.gov.kg/public/images/file_library/2017042415202815.pdf. [19]
- UNCTAD (2016), *Investment Policy Review: Kyrgyzstan*, https://unctad.org/en/PublicationsLibrary/diaepcb2015d3_en.pdf. [10]
- UNEP, GEF and Government of Kyrgyz Republic (2016), *Third National Communication of the Kyrgyz Republic under the UN Framework Convention on Climate Change*, UNEP, GEF, Government of Kyrgyz Republic, https://unfccc.int/files/national_reports/non-annex_i_natcom/application/pdf/nc3_kyrgyzstan_english_24jan2017.pdf. [17]
- World Bank (2019), *Projects and Operations (database)*, <http://projects.worldbank.org/?lang=en>. [31]

- World Bank (2019), *World Development Indicators (database)*, [1]
<https://datacatalog.worldbank.org/dataset/world-development-indicators>.
- World Bank (2016), *Kyrgyz Republic Systematic Country Diagnostic Concept Note: From Vulnerability to Prosperity*, World Bank, Washington, DC, [21]
https://consultations.worldbank.org/Data/hub/files/consultation-template/kyrgyz-republic-systematic-country-diagnostic/en/materials/kyrgyz_republic_scd_roc_concept_note.pdf.
- World Bank (2016), *Sustainable Rural Water Supply and Sanitation Project*, [35]
<http://projects.worldbank.org/P154778/?lang=en&tab=newsmedia>.
- World Economic Forum (2017), *The Global Competitiveness Report 2017-2018*, World Economic Forum, Geneva, [22]
<http://www3.weforum.org/docs/GCR2017-2018/05FullReport/TheGlobalCompetitivenessReport2017%E2%80%932018.pdf>.



From:
**Sustainable Infrastructure for Low-Carbon
Development in Central Asia and the Caucasus**
Hotspot Analysis and Needs Assessment

Access the complete publication at:

<https://doi.org/10.1787/d1aa6ae9-en>

Please cite this chapter as:

OECD (2019), "Investment in sustainable infrastructure in the Kyrgyz Republic", in *Sustainable Infrastructure for Low-Carbon Development in Central Asia and the Caucasus: Hotspot Analysis and Needs Assessment*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/8b30e9f8-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.