GREEN Action Task Force

Sustainable Infrastructure Development for a Low-Carbon Transition in Central Asia and the Caucasus: Mapping of Potentially High-impact Infrastructure Projects and Needs Assessment

Strategic Infrastructure Planning for Sustainable Development in Uzbekistan

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9. Strategic infrastructure planning for sustainable development in Uzbekistan

Overview

Uzbekistan is a lower-middle income country and the most populous country in Central Asia. Its economy still relies heavily on gold exports, fuels and cotton. Uzbekistan’s main trade partners include Switzerland, mainly as a market for its gold exports; the People’s Republic of China, first import origin country and second export destination; and the Russian Federation. While the government has historically followed a protectionist trade policy, since 2017, a greater openness to trade has become one of the most important pillars of the economic reform agenda. Economic diversification and moving up the value chains towards high-tech industries is also one of the country’s main priorities.

The government has embarked on a number of major reforms aimed at improving the investment climate for both domestic and foreign investors. In 2019, the country is ranked 74th out of 190 countries, up by 14 places from 2017, and is among the 10 most improved countries in 2018. Some challenges remain, related to the dominance of SOEs in the overall economy leading to discriminatory measures for foreign investors. The Russian Federation remains the most important investor in Uzbekistan, contributing 55% of FDI, followed by China (15%). Almost 50% of Uzbekistan’s FDI benefit the coal, oil and natural gas industries.

While Uzbekistan’s contribution to global GHG emissions remain limited (0.33%), it is one of the most emissions-intensive economies of the world due to a fossil fuel-intensive energy mix (dominated by natural gas), ageing energy infrastructure, elevated energy subsidies and an energy-intensive industrial sector (e.g. cement). Uzbekistan is also particularly vulnerable to the effects of climate change: the capital Tashkent and the Fergana Valley have registered annual average temperatures 1.8°C and 1.6°C above pre-industrial levels, much higher than the global average temperature rise. This is a key source of concern for the agriculture sector, which is by far the largest user of water in the country.

While the geographic situation of Uzbekistan makes it an excellent candidate to become one of the main nodes on the transit route between China and Europe, it faces one of the most serious infrastructure investment gaps in the region, even to maintain current network performance. Despite an extensive network of roads and rail, logistics bottlenecks remain a major impediment to increasing the country’s connectivity due to low efficiency and poor service quality. In the energy sector, almost 40% of Uzbekistan’s available generation capacity is past service life leading to frequent power outages. While the development of renewable energy is a national priority to diversify its energy mix, an analysis of the current pipeline of projects shows that around 60% of planned and under construction power generation projects remain in natural gas.

Recent institutional reforms created a strong institutional framework for improved coordination between ministers relevant to infrastructure and environment. Strategic documents such as the Action Strategy on Five Priority Directions for the Development of the Republic of Uzbekistan 2017-2021 set out a clear vision for Uzbekistan’s development over the next five years, and it includes specific sectoral plans in transport,
energy and industry. Aligning current investment plans with long-term development and environmental challenges would require Uzbekistan to plan for the long term now, and adopt a longer-term economy-wide development strategy to articulate its plans further into the future.

9.1. State of play: economy, investment and climate change in Uzbekistan

Economy and trade

Table 9.1. Key indicators on Uzbekistan’s economy

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2018)</td>
<td>32 955 400</td>
</tr>
<tr>
<td>Urbanisation rate (2018)</td>
<td>50.5%</td>
</tr>
<tr>
<td>Annual population growth (2018)</td>
<td>1.7%</td>
</tr>
<tr>
<td>Surface area</td>
<td>447 400 km²</td>
</tr>
<tr>
<td>GDP (USD, current price, 2017)</td>
<td>50 500 million</td>
</tr>
<tr>
<td>GDP per capita (USD, current price, 2018)</td>
<td>1 532</td>
</tr>
<tr>
<td>Real GDP growth (year-on-year change, 2018)</td>
<td>5.1%</td>
</tr>
<tr>
<td>Inflation (average consumer price, y-o-y change)</td>
<td>n.d.</td>
</tr>
<tr>
<td>Exports of goods and services (% of GDP, 2018)</td>
<td>29.1%</td>
</tr>
<tr>
<td>Imports of goods and services (% of GDP, 2018)</td>
<td>38.7%</td>
</tr>
<tr>
<td>FDI, net inflows (% of GDP, 2018)</td>
<td>1.2%</td>
</tr>
<tr>
<td>General government net lending/borrowing (% of GDP, 2018)</td>
<td>0.9%</td>
</tr>
<tr>
<td>Unemployment (% of total labour force, 2018)</td>
<td>5.2%</td>
</tr>
<tr>
<td>Remittances (% of GDP, 2016)</td>
<td>3.0%</td>
</tr>
<tr>
<td>Transparency, accountability and corruption in the public sector rating</td>
<td>2</td>
</tr>
</tbody>
</table>


Economy and demographics

Uzbekistan is a lower-middle income country and the most populous country in Central Asia. Its population of 32 million people is largely urban, with 51% in urban areas. Its GDP did not fall as dramatically as other Central Asian economies when the Soviet Union split, and it was the first country in Central Asia to reach its pre-independence per-capita GDP level in 1999. The service sector accounts for the largest portion of Uzbekistan’s economy at 39.9%, but industry (29.5%) and agriculture (17.3%) remain important. Agriculture’s share of GDP is the largest in the region after Tajikistan (World Bank, 2019[1]).

Trade

The government has traditionally followed a protectionist trade policy focusing on import substitution of industries and restriction of exports of food and other products in order to ensure their supply in the domestic market (Ganiev and Yusupov, 2012[3]).
major industries of the country’s infrastructure sector are owned or controlled by the state (International Trade Administration, 2019[4]). However, since 2017, a greater openness to trade has become one of the most important pillars of the economic reform agenda, including a renewed commitment to join the World Trade Organisation (WTO), to which Uzbekistan is currently an observer (World Trade Organisation, 2019[5]). Further trade opening and WTO membership would help Uzbekistan reach international standards and maintain access to export markets (IMF, 2018[6]). The country is not a member of the Eurasian Economic Union, although it has occasionally expressed interest in strengthening ties.

Uzbekistan’s exports are mostly raw resources or basic manufactures. Gold accounts for 44% of Uzbekistan’s exports by value, while precious metals as a whole account for 45% (see Figure 9.1(c)). Uzbekistan’s next largest export sectors are textiles (primarily cotton – cotton yarn is 7.1% of exports and raw cotton 2.2%), other metals (refined copper 3.7%, raw zinc 2.2%, copper wire 2.5%) and mineral products (petroleum gas 8.3%). Uzbekistan’s imports are primarily finished products, especially machines (25%) and transportation (12%), but also metals (12%) (see Figure 9.1(d)).

The country mainly trades with Switzerland (by far its largest export destination, with 44% of exports by value, because Switzerland refines 70% of the world’s annual gold production (Mariani, 2012[7])), the People’s Republic of China (its first import origin and second export destination), and the Russian Federation (second import origin and third export destination) (see Figure 9.1(a) and (b)). Kazakhstan and Turkey also account for large shares of exports (8.2% and 9.7% respectively) and imports (11% and 6% respectively).

Figure 9.1. Trade of Uzbekistan

<table>
<thead>
<tr>
<th>(a) Export destinations (2017)</th>
<th>(b) Import origins (2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland 44%</td>
<td>China 24%</td>
</tr>
<tr>
<td>Russia 12%</td>
<td>Russia 23%</td>
</tr>
<tr>
<td>Turkey 10%</td>
<td>Korea 11%</td>
</tr>
<tr>
<td>Kazakhstan 8%</td>
<td>Kazakhstan 11%</td>
</tr>
<tr>
<td>Kyrgyz Republic 2%</td>
<td>Germany 6%</td>
</tr>
<tr>
<td>Other 7%</td>
<td>Turkey 6%</td>
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<tr>
<td></td>
<td>Other 19%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(c) Exports by category (2017)</th>
<th>(d) Imports by category (2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold 44%</td>
<td>China 24%</td>
</tr>
<tr>
<td>Precious Metals 45%</td>
<td>Russia 23%</td>
</tr>
<tr>
<td>Textiles 7.1%</td>
<td>Korea 11%</td>
</tr>
<tr>
<td>Other Metals 3.7%</td>
<td>Kazakhstan 11%</td>
</tr>
<tr>
<td>Mineral Products 8.3%</td>
<td>Germany 6%</td>
</tr>
<tr>
<td></td>
<td>Turkey 6%</td>
</tr>
<tr>
<td></td>
<td>Other 19%</td>
</tr>
</tbody>
</table>
Uzbekistan’s participation in regional and global value chains (RGVCs) has been concentrated mainly in commodity-type intermediate goods such as base gold, fuels and cotton. The share of intermediate goods in trade, which is a proxy for participation in RGVCs stands at 27% of exports and 53% of imports. These figures are higher than the average for the Asia-Pacific region of 18% for exports and 22% for imports (UNESCAP, 2015[9]). The Action Strategy on Five Priority Directions for the Development of the Republic of Uzbekistan 2017-2021 (Development Strategy for 2017-2021) aims to enhance the country’s participation in RGVCs, including by promoting high-tech industries, primarily for the production of finished products with high value added (for more information on Uzbekistan’s strategic documents, see section 9.3).

More trade agreements covering both goods and services could further boost Uzbekistan’s RGVC integration. Only nine free trade agreements (FTAs) are in force between Uzbekistan and other countries, and the country has no FTA covering services, which could help the economy not only link up to value chains but also higher value added activities. All other Central Asian countries, except for Turkmenistan, have more FTAs, including smaller economies such as Kyrgyz Republic with 24 FTAs in force (ADB, 2015[10]). More FTAs could also ease trading, which is currently hampered by lengthy procedures at the border and frequent changes in regulations, causing the country to lag behind regional peers in terms of cross-border trade (EBRD, 2018[11]).

As measured by the OECD Trade Facilitation Indicators (OECD, 2019[12]), reforms with the greatest benefit for Uzbekistan are in the areas of formalities (e.g. simplification and harmonisation of documents and procedures), governance and impartiality and availability of information. Uzbekistan’s performance is similar to the average performance of lower-middle income countries in some areas such as the involvement of trade community, fees and charges and internal border agency cooperation, but it is below the worldwide best practices in all Trade Facilitation Indicators areas (see Figure 9.2). Further improving trade facilitation could help Uzbekistan become more competitive: In general, a 10% improvement in trade facilitation is correlated with gains in product diversity of about 3%-4% (Dennis and Shepherd, 2011[13]).
Investment climate

For most of its history since independence Uzbekistan has been closed to foreign investments, making it the country with the least amount of foreign direct investment (FDI) in Central Asia. In recent years, however, it has embarked on a number of major reforms aimed at improving the investment climate for both domestic and foreign investors. Such de jure reforms have led to improved ranking in the World Bank’s 2018 Doing Business Report, where the country is ranked 74th out of 190 countries, up by 14 places from 2017, and is among the 10 most improved countries in 2018 (EBRD, 2018[11]).

At the institutional level, new agencies have been created under the Ministry of Investment and Foreign Trade of Uzbekistan, including the Foreign Investment Agency of Uzbekistan, which will provide information and legal support to foreign investors. A one-stop shop is also expected to start servicing foreign investors, while an investment map will provide potential investors with the information on productive profile of each province, demand for the investments and specific projects (NewsCentralAsia, 2019[14]).

Attracting foreign investments is also a key focus of the country’s *Action Strategy on Five Priority Directions for the Development of the Republic of Uzbekistan 2017-2021* (Development Strategy for 2017-2021) and it is one of the main themes of the detailed annual programme for 2018 under the Strategy (Hashimova, 2019[15]). The 2018 annual strategy has 274 objectives with specific agencies, individuals and budgets assigned to each objective. Each region has appointed officials responsible for attracting investment and executing investment projects.

Important economic reforms to improve the investment climate include the moratorium of the inspection of businesses and the simplification of business registration procedures, as well as the removal of the requirement to exchange certain shares of hard currency export earnings at the artificially low, official exchange rate (The Economist,
The government has also reduced the tax burden on businesses and simplified taxation by unifying and abolishing certain payments. It can now issue residence permits valid for 10 years to foreigners investing at least USD 3 million (Hashimova, 2019[15]). The government also plans to reduce corporate tax rates from 14% to 12% for most businesses and to reduce VAT contribution from 20% to 12% (The Economist, 2019[17]). Finally, the government also created a Business Ombudsman office and enacted a Law on Countering Corruption that attempts to increase transparency in the government (United States Department of State, 2019[18]).

Another important part of the investment climate in Uzbekistan is the issue of responsible business conduct (RBC), which is increasingly integrated within policies aimed at attracting better quality investment and enhancing socially and environmentally sustainable investment. Although Uzbekistan is not a signatory to the OECD Guidelines for Multinational Enterprises, it made considerable progress in eradicating child labour and forced labour during the cotton harvest of 2018\(^1\). 48% less forced labour was used in 2018 compared to the previous year (International Labour Organisation, 2019[19]).

In spite of such achievements, the de facto investment climate remains difficult for foreign investors. While the Law on Foreign Investment stipulates that all sectors of the economy are open to foreign investors and that nationality, place of residence and country of origin cannot justify different government treatment, the state still maintains a strong presence in the economy and has partial state ownership in many key sectors, including energy, telecommunications, airlines and mining. Moreover, the government plays a large role in regulating investments and capital flows in the textile industry, particularly cotton and silk. Such measure still have discriminatory effects on foreign investors. Only 5,517 firms, or 1.8% of all registered firms operating in Uzbekistan receive foreign capital (United States Department of State, 2019[18]). Joint ventures are numerous and some companies benefit from foreign investments, but many have lodged complaints about complications when they attempt to exchange currency or withdraw earnings (Bertelsmann Stiftung, 2018[20]). Recent changes, however, have signalled Uzbekistan’s commitment to reform and greater transparency. For instance, Uzbekistan received its first ever credit ratings from Standard & Poor’s and Fitch at the end of 2018, providing prospective investors with an international assessment of Uzbekistan’s credit risk. Its rating of BB- (“non-investment grade speculative”) is in line with Georgia and Viet Nam, placing it between regional leader Kazakhstan (BBB-/BBB, “investment grade”) and neighbouring Tajikistan (B-, “highly speculative”) (Brookings, 2019[21]). Uzbekistan’s approach to foreign investment has meant its external debt has grown over the past decade (reaching 32% of GDP in 2017), but its debt levels and dependence on foreign investors and mainly China are not considered risky (Hurley, Morris and Portelance, 2018[22]).

Currently, some 55.6% of FDI in Uzbekistan comes from the Russian Federation, while China accounts for 15%. The rest of FDI in Uzbekistan comes from OECD countries and multilateral development banks, chief among them Japan (6.6%), the Netherlands (4.3%) and the Islamic Development Bank (4.2%) (see Figure 9.3). Between 2003 and 2017, Uzbekistan attracted USD 26.6 billion of greenfield FDI capital, which is significantly lower than its similar peers. For example, only between 2008 and 2018

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\(^1\) Uzbekistan is the world’s second largest cotton producer after the United States.
FDI amounted to USD 48 billion in Morocco and USD 213 billion in Vietnam (BCG, 2018\cite{23}).

Figure 9.3. FDI in Uzbekistan by source country, 2017

- **Russian Federation**: 56%
- **China**: 15%
- **Japan**: 7%
- **Netherlands**: 4%
- **Islamic Development Bank**: 4%
- **Asian Development Bank**: 3%
- **Other**: 11%


Foreign investors in Uzbekistan are mainly interested in natural resources. Alone, coal, oil and natural gas represented 49% of the total (see Figure 9.4). The manufacture of chemicals, plastics and the communications sector were the other most attractive sectors for greenfield FDI (26% of total greenfield FDI). In general, infrastructure-related activities attracted much lower cross-border investment, with the building and construction materials receiving 4% of total investments (or USD 936.8 million) and transportation (3%).
Figure 9.4. Greenfield FDI in Uzbekistan by economic activity, 2003-2017
Cumulated greenfield FDI capital between January 2003 and September 2017 in USD million.

Note: Other includes: Food & Tobacco; Biotechnology; Software & IT services; Consumer Products; Aerospace; Business Machines & Equipment.

Climate change
Although Uzbekistan’s total greenhouse gas emissions accounted for only 0.33% of global emissions in 2012, Uzbekistan sets itself apart with the emissions intensity of its economy. The emissions intensity of Uzbekistan’s GDP was 3.85 kg of CO₂e per USD of GDP in 2012 (World Bank, 2019[1]). This figure is in line with other emissions-intensive economies of the former Soviet Union, such as Kazakhstan and Ukraine, and is among the highest in the world. Recognising this, the climate change mitigation goals in Uzbekistan’s Nationally Determined Contribution (NDC) aim to reduce greenhouse gas (GHG) emissions per unit of GDP by 10% compared to 2010 levels by 2030 (UNFCCC, n.d.[26]). Uzbekistan’s per capita emissions, however, are quite low at 5.95 tCO₂e per capita. This is far lower than the per capita GHG emissions in neighbouring Kazakhstan (21.8 tonnes), the OECD average (12.9 tonnes) and even the global average (7.5 tonnes) (World Bank, 2019[11]). Despite sustained economic growth since independence, Uzbekistan’s greenhouse gas emissions have remained relatively constant over the past several decades (see Figure 9.5).

In 2012, the vast majority of Uzbekistan’s greenhouse gas emissions came from the energy sector (82%); agriculture was responsible for 10.5%, and both industrial processes and waste contributed a further 3.8% each. The sectoral breakdown of Uzbekistan’s emissions has remained relatively stable since independence (UNEP, 2016[27]).
Uzbekistan is particularly vulnerable to the effects of climate change. Tashkent and the Fergana Valley have registered annual average temperatures 1.8°C and 1.6°C above pre-industrial levels, much higher than the global average temperature rise. Climate change also threatens the regularity of precipitation and water availability. The runoff in the Amudarya and Syrdarya river basins could decrease by as much as 7-22% and 5-42% respectively, particularly as their glacier sources in neighbouring Tajikistan and the Kyrgyz Republic shrink and disappear. Deficiency of water supply may rise by 11-14% on average across Uzbekistan by 2021-2040, and crop yields may decline due to the higher temperatures and water scarcity (UNEP, 2016[27]).

Figure 9.5. GHG emissions and GDP of Uzbekistan, 1990-2017


9.2. Uzbekistan’s infrastructure needs and current plans

Uzbekistan currently faces the largest infrastructure capacity needs in the region to maintain network performance. Its transport and water infrastructure has not kept pace with demographic and economic changes, and current investments have not sufficiently maintained existing assets. The road sector presents a sizeable backlog in deferred maintenance estimated at USD 1 billion per year. Road infrastructure capacity has to increase by 486% by 2030 and by 1365% by 2050 to meet the expected volume of freight that will pass through Uzbekistan. By 2050, the share of road traffic is expected to increase by 50% from less than 30% in 2015. Rail transit is also expected to increase by 2030 but decrease in 2050, most likely due to construction of new links in Kyrgyz Republic and Tajikistan and the accompanied partial diversion of the traffic flow to these new links (ITF, 2019[28]). The energy sector is also faced with inefficiencies, costing the economy around USD 1.5 billion per year, while the costs associated with the poor quality of existing water and irrigation infrastructure are up to 8% of GDP per year (World Bank, 2016[29]). Such underperforming infrastructure is a major burden on the economy.

Out of USD 70.1 billion of investments in Uzbekistan tracked between 2000 and 2018, energy projects account for over 64% (USD 37.2 billion) while manufacturing and transport make up 23% and 13% respectively. Finally, water supply and sanitation
accounts for 4% of planned and under construction investment projects, or USD 2.4 billion. Out of the total energy projects, almost half (45%) are in upstream oil and gas industry, followed by electricity generation projects (40%). Oil and gas pipelines also account for 9% of investments, while electric power transmission and distribution projects for the remaining 6% (see Figure 9.6). The industry sector is dominated by manufacturing, accounting for over 98% of projects and only 1% mining and quarrying.

**Figure 9.6. Infrastructure projects in Uzbekistan, by sector**

![Infrastructure projects in Uzbekistan, by sector](image)

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

**Transport**

Expenditure on the road sector currently accounts for 1.3% of Uzbekistan’s GDP. While there was a moderate increase in expenditure between 2005 and 2015, spending remains low by international standards (ADB, n.d.[30]). Such under investment has led to long transport times, inadequate service quality, and high operating costs, leading to lost economic potential, sub-optimal regional trade, and negative environmental impacts (ADB, 2019[31]). The rail sector is also facing numerous challenges, including lack of modernisation of existing railway lines and rolling stock, as well as poor quality of services (ITF, 2019[28]). More investments are needed in the railway industry so that it increases the country's transport and transit potential and creates new jobs.

Transport not only remains a backbone for Uzbekistan’s economy but also for neighbouring countries, which depend on Uzbekistan transport network to transport goods and passengers. The rail networks of neighbouring Tajikistan and the Kyrgyz Republic, for instance, depend on transit through Uzbekistan: Tajikistan’s and the southern line of the Kyrgyz rail network’s only international connection is through southern Uzbekistan (World Bank, n.d.[32]). The cost of transporting goods from Uzbekistan remains very high: It costs USD 175 for one tonne of goods to reach 20% of global GDP from Uzbekistan, whereas in Germany the same access can be achieved at a cost of about USD 30 (ITF, 2019[28]). A high-speed rail service since 2012 called *Afrosiyob* connects Tashkent and Samarkand, and the service was extended to Bukhara.
in 2016. Uzbekistan has also recently opened border crossings and road connections with neighbouring Kazakhstan, the Kyrgyz Republic and Tajikistan (EBRD, 2018[33]).

Railways are the dominant mode for freight transport and account for a large share of the market for long-distance passenger transport in Uzbekistan (World Bank, 2014[34]). Over the last decade, it carried about 60 million tons of freight and 15 million passengers annually. The rail density is considerably higher than in neighbouring countries. Uzbekistan has 10 km of rail per km², compared to 5 km/km² in Kazakhstan, 2 km/km² in the Kyrgyz Republic and 4 km/km² in Tajikistan. Compared to other countries in the region such as Kyrgyz Republic, Tajikistan, Mongolia, which have no electrified rail links, around 29% of Uzbekistan’s rail is electrified, which is an even larger proportion than in Kazakhstan (27%) (ITF, 2019[28]).

Despite an extensive network of roads and railways, logistics bottlenecks remain a major impediment to increasing the country’s connectivity. The cost of logistic activities in Uzbekistan is two times higher than in Europe, partly because of low efficiency and service quality (World Bank, 2014[34]). The road density per km² is 0.18, with 38% of the roads unpaved (ITF, 2019[28]). Outside of certain regions of the country (Fergana, Namangan and Andijan oblasts), transport links are particularly poor (World Bank, 2016[29]). Such bottlenecks are reflected in the Logistics Performance Index where it ranks 99th out of 160 countries with an overall score of 2.58 (out of 5) compared to 2.81 for Kazakhstan (71st), 2.55 for the Kyrgyz Republic (108th), 2.41 for Turkmenistan (126th) and 2.34 for Tajikistan (134th). Its infrastructure (2.57), logistics competence (2.57), tracking and tracing (2.71) and timeliness (3.09) scores are considerably better than its score on customs (2.10) (ITF, 2019[28]).

Uzbekistan’s planned and currently under construction transport infrastructure projects consist primarily of railway projects, which account for 71% of a total of USD 8.3 billion of investments in the transport sector (see Figure 9.7). Road projects account for the remaining 29% or USD 2.4 billion and they focus mainly on rehabilitating regional roads. Most of these projects are brownfield investments driven by regional efforts such as the Central Asia Regional Economic Cooperation Corridors, which are coordinated by Asian Development Bank and where co-financiers such as the World Bank and China’s Export-Import Bank (EXIM Bank) are also actively involved in financing parts of the regional roads. The government is also co-investing in roads and rail projects. Its state-owned enterprise Uzbek Railways has 50 active investment projects to improve rail infrastructure, expand its network and renew rolling stock (EBRD, 2018[11]).
Transport infrastructure projects, planned and under construction, are expected to generate significant economic spillovers. In particular, these projects aim at reducing the cost of trade and reducing travel times, improving safety and boost domestic and cross-border trade (Table 9.2). One of the most significant projects currently under construction but nearing completion is the Pap-Angren Rail Project. The rail line, which began transporting passengers and cargo in 2016, connects Ferghana Valley to the rest of Uzbekistan through a single track rail link between Angren and Pap, but electrification and other improvements are ongoing to cope with unexpectedly large demand for the new route (World Bank, 2019[35]). The Valley is the most densely populated part of Central Asia, but in the Uzbek part of the Valley economic growth is much lower than in the rest of the country. For instance, in 2017, the GDP per capita of the three Uzbekistan provinces in the Ferghana Valley (Andizhan, Ferghana and Namangan) were below the average for Uzbekistan by 38, 41 and 49% respectively (The State Committee of the Republic of Uzbekistan on Statistics, n.d.[36]). This project is of high priority for the government: it would change the logistics activities in Uzbekistan by reducing transport costs and improving reliability of a network that is essential for trade and high value exports. Connectivity with Kazakhstan, China, Russia and Europe will improve. The total cost of the project amounts to USD 1.6 billion and it is being financed by the World Bank, China Export Import Bank and the Government of Uzbekistan (World Bank, 2019[37]).

Among the most significant planned projects is the China-Kyrgyz Republic-Uzbekistan railway, which will connect the three countries and is expected to reduce the distance from China to Europe by 900 km. If eventually completed, the project will shorten the transport time for rail shipments between China and the Middle East by seven-eight days (from about 17 days between Shanghai and Dubai currently) and will generate new logistics services such as transhipment along the railway (Emerging Markets Forum, 2019[38]). The share of rail use is expected to increase to over 50% by 2030, but then drop again below 20% by 2050 when alternative routes from China via other countries come online (ITF, 2019[28]).

*Source: OECD analysis based on accessed databases as of April 2019.*
### (a) Under construction

<table>
<thead>
<tr>
<th>Name</th>
<th>Sub-sector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Financing source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pap-Angren Railway</td>
<td>Railways</td>
<td>The new 124 km Pap-Angren Railway connects three provinces in Fergana Valley with the rest of the country bypassing Tajikistan, and both passenger and cargo service along the line began in 2016, but the electrification of the railway is still under construction. The project will reduce – and already has reduced – transport costs and increase transport capacity and reliability. The project’s revised closing date is 2020.</td>
<td>1 633</td>
<td>World Bank; China Export-Import Bank; Government of Uzbekistan</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Two railways tunnels in Kamchiq</td>
<td>Railways</td>
<td>The project will finance the construction of two tunnels through Kamchik pass on a railway linking eastern Uzbekistan to the rest of the country, and which bypasses Tajikistan.</td>
<td>400</td>
<td>Loan from Unspecified Chinese Government Institution, Government Agency</td>
<td>N/A</td>
</tr>
<tr>
<td>Kashkadarya Regional Road Project</td>
<td>Roads</td>
<td>The project aims to refurbish a 77 km stretch of road between Karshi and Kitab on the A380 and M39 highways. It will include pilot roadside infrastructure development and install cross-border scanning equipment. Construction started in 2017.</td>
<td>266</td>
<td>ADB; Government of Uzbekistan</td>
<td>Brownfield</td>
</tr>
<tr>
<td>Second Central Asia Regional</td>
<td>Roads</td>
<td>The project will expand a 75 km section of two-lane highway between Pungan and Namangan by adding two additional lanes. Construction started in 2017.</td>
<td>265</td>
<td>ADB; Government of Uzbekistan</td>
<td>Brownfield</td>
</tr>
<tr>
<td>Economic Cooperation Corridor 2</td>
<td></td>
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<tr>
<td>Road Investment Program - Tranche 2</td>
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</tr>
<tr>
<td>Regional Roads Development Project</td>
<td>Roads</td>
<td>The project aims to reduce road user costs and develop a sustainable investment program for regional road asset management. It includes, among others, rehabilitation works of existing regional roads. It will improve about 300 km of priority regional roads in Tashkent, Fergana, Andijan and Namangan. Construction started in 2015.</td>
<td>400</td>
<td>World Bank</td>
<td>Brownfield</td>
</tr>
</tbody>
</table>

### (b) Planned

<table>
<thead>
<tr>
<th>Name</th>
<th>Sub-sector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Financing source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>China-Kyrgyz Republic-Uzbekistan</td>
<td>Railway</td>
<td>Railway line connecting China, the Kyrgyz Republic and Uzbekistan. The railway has the potential to reduce the distance by rail from China to Europe by 900km, compared to existing routes through Russia and Kazakhstan. The railway is expected to link Uzbekistan’s economy to new markets beyond Central Asia. Planning started in 2013.</td>
<td>2 500</td>
<td>N/A</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Third CAREC Corridor Road</td>
<td>Road</td>
<td>The project will boost domestic and international trade along Central Asia Regional Economic Cooperation (CAREC) Corridors by constructing 365 km of road. Planning started in 2015.</td>
<td>345</td>
<td>ADB; Government of Uzbekistan</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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.


Energy

Uzbekistan is one of the most energy- and carbon-intensive countries in the world. To produce one unit of GDP, Uzbekistan uses 60% more energy than Azerbaijan or Kazakhstan and four times as much as the world average. Such challenges in the energy sector are due to several factors, including old energy infrastructure, low technological base, a lack of investments, inefficiency and high energy subsidies. The economy relies heavily on natural gas, which in 2016 represented 87% of total primary energy supply and 75% (or 43.7 GWh) of electricity generation, while hydroelectric dams (20%), coal-fired (4%) and oil-fired power plants (1%) accounted for the rest (see Figure 9.8). Such heavy reliance on natural gas and limited diversification poses concern for the country’s energy security and possible vulnerability to long-term challenges of climate change. As the government is pursuing an industrial growth and export-led development strategy, the sustainability of the power sector will be critical to support Uzbekistan’s development vision (ADB, 2010[44]).

Figure 9.8. Electricity generation in Uzbekistan by fuel
Currently, a significant share of generation capacity in Uzbekistan is old and in need of modernisation or replacement. According to the World Bank, almost 40% of Uzbekistan’s available generation capacity is past service life (World Bank, 2016[29]). This has led to worsening of electricity supply reliability, which remained a top obstacle for firm performance in Uzbekistan, leading to an increase in the loss of revenue due to power outages from 8.9% to 16% in 2015. Power outages occur in Uzbekistan almost six times a month on average as of 2013, considerably higher than in the OECD (0.6 per month on average) or the Russian Federation (0.3 per month on average) (World Bank, 2019[1]).

Uzbekistan is a net exporter of energy. In 2016, it exported slightly more coal, oil and electricity than it imported (0.04 Mtoe, 0.16 Mtoe and 0.13 Mtoe respectively). Its natural gas exports were considerably larger: 13.10 Mtoe in 2016 (IEA, 2018[45]). Uzbekistan extracted 806 thousand tonnes of crude oil and 56.4 billion m³ of natural gas in 2017. Although coal is not a major part of the country’s energy mix, Uzbekistan has active coal mines that produced 4 million tonnes of coal in 2017 (National Statistics Committee of the Republic of Uzbekistan, 2017[46]).

Uzbekistan has striven to support the development of renewable energy resources, particularly solar, since 2016 in an effort to diversify its energy balance and reduce its dependence on gas. In Action Strategy on Five Priority Directions 2017-2021, Uzbekistan identifies the increased use of renewable energy sources as an important component of improving high-quality energy access to the country’s population. The country’s current investments in electricity generation, however, continue to focus primarily on fossil fuel-fired power plants. Around 60% (or 2.8 GW) of planned and under construction power generation projects are natural gas-fired electric power plants (see Figure 9.9) out of a total of 4.7 GW. Hydro-power projects make up a further 24%, while coal-fired thermal power plants and solar PV account for 14% and 2% respectively. While some solar power projects feature among the country’s planned infrastructure projects and will contribute to increasing renewable energy generation, they are dwarfed by investments in natural gas- and coal-fired power plants.

Like all other former Soviet Union countries, Uzbekistan has achieved universal access to electricity. The quality of Uzbekistan’s transmission and distribution systems is relatively good. Around 8.8% of electric power is lost, which is in line with or less than in some OECD countries (e.g. Canada 8.7%, Latvia 9.0%, Spain 9.6%, the United Kingdom 8.4%) (World Bank, 2019[1]).
Uzbekistan’s major energy infrastructure projects (see Table 9.3) do not demonstrate momentum for change towards a greener energy mix in line with the government’s stated energy-related goals. Most of the projects are upstream oil and gas, oil and gas pipelines, while little investments go into renewables. Uzbekistan is participating in the Central-Asia Gas Pipeline, which has an estimated cost of USD 3.5 billion for Uzbekistan out of a total of USD 11 billion. This project has enabled Uzbekistan to export natural gas to China and generate transit income for Uzbekistan. The project is considered as a Belt and Road (BRI) project although construction of the first two stages had been already completed before the launch of the BRI. Under the BRI umbrella, Uzbekistan’s gas fields are also developed by China under production sharing agreements (Emerging Markets Forum, 2019[38]).

One major planned high-impact energy project is the coal- and gas-fired power plant planned in the Tashkent region, which will have a capacity of 600 MW. The Yildirim Group, a Turkish company, is the project’s foreign creditor.
### Table 9.3. Hotspot projects in the energy sector in Uzbekistan

#### (a) Under construction

<table>
<thead>
<tr>
<th>Name</th>
<th>Subsector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Capacity, if applicable (MW)</th>
<th>Funding source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uzbekistan Mustaqilligi</td>
<td>Upstream oil and gas</td>
<td>The project involves additional exploration and development of Mustaqillikning field. In Stage I it will process 5 billion m³ of natural gas (2018-2022); In stage II it will produce 500 thousand tons of polymer products (2023-2025).</td>
<td>5 800</td>
<td>N/A</td>
<td>Russia</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Project to increase hydrocarbon production for 2017-2021</td>
<td>Upstream oil and gas</td>
<td>The project entails the construction and repair of wells, field facilities, etc., to USD 1 billion</td>
<td>3 908</td>
<td>N/A</td>
<td>Russia</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Central Asia Gas Pipeline (Uzbekistan Section)</td>
<td>Oil and gas pipelines</td>
<td>The fourth line, Line D, is expected to be completed in 2020. It will run 1 000 km from Turkmenistan to China via Uzbekistan, Tajikistan and the Kyrgyz Republic</td>
<td>3 500</td>
<td>N/A</td>
<td>Project finance</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Turakurgan Combined Cycle Power Plant Block I and II</td>
<td>Natural gas-fired electric power plants</td>
<td>The project is located 280 km east of Tashkent. The total installed capacity of the plant is 900 MW: two blocks with 450 MW installed power.</td>
<td>1 200</td>
<td>900</td>
<td>JICA; UFRD; Uzbekenergo</td>
<td>Greenfield</td>
</tr>
</tbody>
</table>

#### (b) Planned

<table>
<thead>
<tr>
<th>Name</th>
<th>Subsector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Capacity, if applicable (MW)</th>
<th>Funding source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of a coal and gas power plant in Tashkent Region</td>
<td>Coal and natural gas-fired electric power plant</td>
<td>The project involves the construction of a coal and gas power plant in Tashkent Region using Public-Private Partnerships.</td>
<td>1 200</td>
<td>600</td>
<td>Yildirim Group (Turkey)</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Pskem Hydropower plant</td>
<td>Hydro-electric power plant</td>
<td>The plant is expected to produce 900 million kilowatt hours of electricity per year, making it the second largest hydro plant in the country.</td>
<td>800</td>
<td>400</td>
<td>Export-Import Bank of China</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Navoi Thermal Power Station Modernisation Project</td>
<td>Natural gas-fired electric power plants</td>
<td>The objective of the project is to increase power and heat supply</td>
<td>316</td>
<td>N/A</td>
<td>Japan</td>
<td>Brownfield</td>
</tr>
<tr>
<td>Sustainable Energy Access – Distribution Network Modernization Program</td>
<td>Electric power transmission and distribution</td>
<td>The project promotes sustainable use of electricity in in remote areas of Uzbekistan through modernisation of the distribution networks and improved reliability of access to electricity.</td>
<td>300</td>
<td>N/A</td>
<td>ADB</td>
<td>Brownfield</td>
</tr>
</tbody>
</table>

*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; JICA = Japan International Cooperation Agency; UFRD = Uzbekistan Fund for Reconstruction and Development. Source: OECD analysis based on accessed data from IJGlobal (2019[41]), Government of Uzbekistan (2019[47]), Dealogic (2019[43]), HydroWorld (2019[49]), OECD (2019[50]), ADB (2019[30]), CSIS (2019[42]).*
Industry and mining

Uzbekistan has one of the most diversified economies in Central Asia. Its industry sector has traditionally been focused on energy, metals, food processing and construction. Uzbekistan’s industrial production has been steadily increasing in recent years (see Figure 9.10), particularly in light industry (textiles, clothing), food products and vehicle manufacturing. In 2015, the government announced a programme of structural reform, modernisation and diversification of industry. Economic diversification and moving up the value chains towards high-tech industries is also one of its main priorities in its Action Strategy on Five Priority Directions 2017-2021. Yet, the reality is that there is little price or exchange rate liberalisation, limited privatisation and enterprise restructuring, and a weak banking system.

The industry sector is also one of the largest sources of energy inefficiency and the largest consumer of electricity, partially due to lack of awareness about energy-efficient technologies. According to the World Bank, Uzbekistan’s energy use per unit of GDP is very high: It is 6 times larger than the EU-27 average (Kochnakyan et al., 2013[51]).

The most energy intensive industries in Uzbekistan are the metallurgy, construction material manufacturing such as cement, the chemical industry, and mining. Such industries use old and energy-inefficient technology, but they are also not aware energy efficient technologies and the potential benefits from investing in those technologies.

Figure 9.10. Industrial production of Uzbekistan, 2012-2015

Note: UZS = Uzbek so’m. USZ 1 million equals approximately USD 118.
Uzbekistan is one of the biggest manufacturers of cement in Central Asia with 9 large facilities capable of producing over 7.6 Mt per year. The industry is also supported by a 1 Mt per year grinding facility in Tashkent (Strommashina, n.d.[53]). More than half (53% or USD 7.6 billion) of the manufacturing projects under construction and planned are in coke and refined petroleum sector, followed chemicals (36%) and cement (9%) (see Figure 9.11). Projects in the chemical sectors include a large petrochemical and natural gas complex, a large chemical plant in Uzbekistan and the construction of a metallurgical plant. Uzbekistan ranks 96th out of 125 in the Economic Complexity Rankings, making it significantly exposed to external shocks due to insufficient diversification and complexity of products (EBRD, 2018[11]).

Figure 9.11. Industry projects in Uzbekistan, by sub-sector

Most of the manufacturing projects under construction and planned are also related to chemicals, coke and refined petroleum, and cement manufacturing (Table 9.4). Some of these projects are very large such as the Surgil Petrochemical and Natural Gas Complex, a USD 4 billion project financed jointly by Uzbekneftegaz, Lotte Chemical Corporation, Korea Gas Corporation and STX, which aims to supply 4.5 billion cubic meters of gas and is anticipated to have a production life of 40 years. The government also plans to double the volume of cement production to 17 million tons per year in order to meet the growing domestic and regional demand (Strommashina, n.d.[53]). Major high-impact


projects include the construction of a cement plant in Karauzak District, as well as the Surxondaryo and Akhangaran Cement Factories producing a total of 4 million tons of cement per year.

Table 9.4. Hotspot projects in the industry sector in Uzbekistan

<table>
<thead>
<tr>
<th>Name</th>
<th>Sub-sector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Funding source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgi Petrochemical and Natural Gas Complex</td>
<td>Chemicals</td>
<td>The project is located in the Ustyurt region and aims to supply 4.5 billion cubic metres of gas per year as well as to construct feedstock delivery infrastructure, a gas separation plant and a petrochemical complex. The Field is anticipated to have a production life of approximately 40 years.</td>
<td>4000</td>
<td>Uzbekneftegaz (50%), Lotte Chemical Corporation (22.5%), Korea Gas Corporation (22.5%), STX (5%)</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Uzbekistan gas-to-liquids project</td>
<td>Coke and refined petroleum</td>
<td>Based in northern Uzbekistan, the plant will have a production capacity of 1.3 million tonnes of petroleum products (diesel, kerosene, naphtha and liquefied petroleum gas).</td>
<td>3600</td>
<td>UFRD, China, Republic of Korea, Uzbekneftegaz</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Construction of Tashkent metallurgical plant</td>
<td>Chemicals</td>
<td>The project is located in Tashkent Region and is expected to produce 500 thousand tonnes production per year.</td>
<td>335</td>
<td>Metallurgical Technology and Engineering BV (the Netherlands)</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Mass production of Hyundai cars with Evergreen Motors company</td>
<td>Motor vehicles, trailers and semi-trailers</td>
<td>The project is located in the Namangan Region and is expected to be completed in 2021.</td>
<td>200</td>
<td>Korea Evergreen Motors</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Construction of a cement plant in Kashkadarya region</td>
<td>Cement</td>
<td>The project is developed through foreign direct investment and is expected to reach a capacity of 2 million tonnes.</td>
<td>200</td>
<td>Anhui Conch Cement (China)</td>
<td>Greenfield</td>
</tr>
</tbody>
</table>

(b) Planned

<table>
<thead>
<tr>
<th>Name</th>
<th>Sub-sector</th>
<th>Description</th>
<th>Project value (USD million)</th>
<th>Funding source</th>
<th>Type of investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas-to-liquid (GLT) plant</td>
<td>Coke and refined petroleum</td>
<td>The plant is expected to be commissioned in 2020 and will provide annual import substitution of petroleum products in the amount of up to 1.5 million tonnes worth over USD 1 billion.</td>
<td>1200</td>
<td>CDB</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Large Chemical Plant in Uzbekistan</td>
<td>Chemical</td>
<td>Chinese companies to build large chemical complex in Uzbekistan</td>
<td>374</td>
<td>China Export-Import Bank</td>
<td>Greenfield</td>
</tr>
<tr>
<td>Construction of cement plant in Karauzak District</td>
<td>Cement</td>
<td>The project involves the construction of a new cement plant with a capacity of 1.5 million tonnes of cement per year in Karauzak district.</td>
<td>213</td>
<td>China; Kazakhstan</td>
<td>Greenfield</td>
</tr>
</tbody>
</table>
Water

The water supply and sanitation system in Uzbekistan was inherited from the Soviet Union and has reached the end of its economic life, requiring extensive rehabilitation. The sector is faced with a series of issues, including deteriorated infrastructure, outdated sector strategy and planning, inappropriate standards, limited financial resources, and weak institutional capacity. Currently, over 30% of households do not have quality drinking water, and over 1,000 settlements have no drinking water at all (WHO, 2019[56]). Providing safe and affordable water and supply services for the population is therefore proving a key challenge for the government. The government has made access to safe water and sanitation a priority in its Poverty Reduction and Welfare Improvement Strategy. The objective of this strategy is to reach within the next decade 100% service coverage in urban areas and 85% in rural areas. To achieve such targets, the government has a sector investment plan amounting to USD 2.9 billion by 2020.

The water challenge also makes the economy vulnerable to the impacts of climate change, particularly in the agricultural sector, which is by far the largest use of water (EBRD, 2018[11]). Water is particularly important for cotton cultivation, which requires significant amounts of irrigation water, pesticides and fertilisers. Uzbekistan scores among the lowest five countries in the world (2nd percentile) in water productivity. This is partly due to the old Law on Water and Water Use from 1993, which has been amended several times and includes provisions like water charges and basin administration but needs updating.

There are more than USD 2.4 billion of planned and currently under construction water projects, with over 63% in water supply and sanitation and the remaining 37% in irrigation and water management (see Figure 9.12). All these projects are financed with support from multilateral development banks such as the ADB, EBRD, EIB and the World Bank. Water irrigation projects receive a relatively higher share of funding compared to water supply and sanitation projects. For example, the South Karakalpakstan Water Resource Management Project has a cost of over USD 522 million and it expected to improve the irrigation network so that a large number of farmers in the area can take advantage of improved irrigated agricultural production (World Bank, 2019[57]).
Figure 9.12. Water projects in Uzbekistan
planned and under construction
In USD million

Note: Water projects include water supply and sanitation projects as well as irrigation systems and rehabilitation projects.

9.3. 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

Uzbekistan has adopted and implemented a 5-year development strategy, the Action Strategy on Five Priority Directions for the Development of the Republic of Uzbekistan 2017-2021, in addition to which each year the government publishes a ‘government programme’ contributing to these five policy directions (for a full list of Uzbekistan’s strategic documents, see Table 9.5). The strategy clearly defines which government agencies are responsible for which goals, but several of the policy goals refer to indices that do not serve as useful benchmarks. For instance, the index selected for infrastructure (the Global Competitiveness Index) has never included data on Uzbekistan and therefore the government’s goal to improve Uzbekistan’s ranking is not actionable since there is no previous ranking against which to compare.

While the Action Strategy set out a clear vision for Uzbekistan’s overall development to 2021, Uzbekistan has not yet formally adopted a longer-term economy-wide development strategy to articulate its plans further in the future. Uzbekistan has laid out its vision for sectoral development beyond 2021 in the transport sector (Strategy for the Development of the Transport System until 2035), the energy sector (Concept of Development of the Hydropower Industry 2020-2024) and specific industries (Concept of Development of the Textile, Garment and Knitwear Industry 2020-2024), but a coherent development plan beyond 2021 has not yet been adopted.
In 2018, Buyuk Kelajak, a non-governmental organisation with an Expert Council composed of 240 experts with experience working abroad in over 30 countries, developed a long-term strategy, Uzbekistan 2035, but the government does not formally recognise any of its objectives or key performance indicators.

Uzbekistan 2035 contains ambitious targets on energy provision (including renewables and connectivity), transport (including electric cars and regional connectivity) and environmental protection (including the creation of a committee dedicated to carrying out analysis on environmental impacts and risks of infrastructure projects) and defines budgets and timelines for each step in the sectoral roadmaps. Although it lacks government buy-in and endorsement, the collaborative approach to elaborating Uzbekistan 2035 and its clear, quantitative targets and step-by-step roadmaps could serve as a good example for the development of official strategies in the future.

**Institutional set-up and decision-making processes**

Uzbekistan devised a well-structured system for coordinating the implementation of its Action Strategy 2017-2021. It created dedicated coordinating commissions for the implementation of the strategy as a whole (consisting of the President, his advisors and the Prime Minister) and one for each of the Strategy’s five priority areas: governance, rule of law, economic liberalisation and development, ‘social reforms’ (which include infrastructure development goals) and security. The President’s advisors chair the five lower-level commissions and report back on their priority area’s implementation to the broader committee.

The commissions on the five priority areas vary in size from 21 members (on foreign policy) and security to the much more unwieldy number of 51 (on economic development and liberalisation). They include relevant line ministries (the Ministry of Transport, Ministry of Energy and Ministry of Economy and Industry all have representatives in the infrastructure-related committee) as well as representatives of the private sector, state-owned enterprises, government academies and civil society organisations.

The State Committee on Ecology and Nature Protection has representatives in two coordinating commissions (security and economic development and liberalisation). However, it is not included in the commission relating to ‘social reforms’, despite its sizeable infrastructure component. Without a representative on environmental protection, the coordinating commission may not effectively integrate environmental and climate concerns into the high-level planning for the implementation of the strategy’s infrastructure development goals.

The Uzbekistan government has also established ministries dedicated to the transport and energy sectors. The Ministry of Transport was created from the Uzbek Agency of Automobile Transport as well as other transport-related bodies (News of Uzbekistan, 2019[61]), and the Ministry of Energy was conceived through merging Uzbekenergo, Uzbekneftegaz (in charge of oil and gas) and Uzbekgidroenergo (in charge of hydroelectricity) (The Tashkent Times, 2019[62]).
### List of relevant strategic documents

#### Table 9.5. Main strategic documents in force

<table>
<thead>
<tr>
<th>Status</th>
<th>Time Horizon</th>
<th>Sectoral Coverage</th>
<th>Main objectives</th>
</tr>
</thead>
</table>
| First Nationally Determined Contribution (NDC) | Submitted in 2018 | 2018-2030 | Economy-wide | - Unconditional/Conditional target: decrease greenhouse gas emissions (specifically CO₂, CH₄, N₂O) per unit of GDP by 10% by 2030 from 2010 levels  
- Main sectors for emission reduction: Energy sector (development of renewable energy sources, decrease losses in natural gas seepage), Industry sector (modernisation and technical upgrading of industrial facilities), Transport (ensure the extension of transport and logistics communication systems)  
- Adaptation priorities: mitigation of Aral Sea disaster, adaptation of agriculture and water management sector, adaptation of social sector to climate change, adaptation of strategic infrastructure and production facilities (strategic documents listed below help achieve these priorities) |
| Action Strategy on Five Priority Directions for the Development of the Republic of Uzbekistan 2017-2021 | Adopted in 2017 | 2017-2021 | Governance, Transport, Energy, Industry, Water | - Increase the effectiveness and transparency of government bodies (e.g. implementation of a new “e-government” system)  
- Ensure a high GDP growth rate by maintaining a macroeconomic balance  
- Develop policies that encourage local production and boost inter-sectoral industrial activities  
- Diversify the structure and geography of exports  
- Encourage the growth of the private sector by creating a favourable business environment  
- Ensure the efficient use of natural, mineral-raw and industrial resources  
- Construct and develop new modern electricity generating capacities  
- Further develop road transport infrastructure  
- Improve the provision of water supply, especially in rural areas, through the use of modern and efficient technologies |
- Enhance domestic sources of investment and ensure the efficient use of investment resources  
- Develop new approaches to attract foreign investment |
- Develop transport corridors on a national scale in turn allowing for better interconnectedness in the region  
- Actively introduce new technologies and promote innovation in the transport sector  
- Ensure equal access to transport infrastructure and services for the population and businesses, regardless of the geographical location |
Table 9.6. Other relevant documents

<table>
<thead>
<tr>
<th>Document Description</th>
<th>Status</th>
<th>Time Horizon</th>
<th>Sectoral Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy of the Republic of Uzbekistan for the Transition to a Green Economy</td>
<td>Adopted in 2019</td>
<td>No defined timeframe</td>
<td>Governance, Energy</td>
</tr>
<tr>
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<td></td>
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<tr>
<td>Ensure stable economic progress with minimal greenhouse gas emissions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase the effectiveness of energy production and use by using modern technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure the rational use of natural resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduce environmentally friendly criteria for the acceptance of investments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitate existing hydropower plants and construct new plants based on modern technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preserve the flora and fauna during construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure the effective use and management of water resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expand production capacity of the textile industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase industrial production by 4.6 times</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase production of finished fabrics by 3.1 times, knitted fabric by 4.3 times, garment and knitwear by 3.7 times and hosiery by 2.6 times</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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