4. Sustainable infrastructure investment in Georgia

This chapter describes sustainable infrastructure planning in Georgia and presents current trends in investment in large-scale infrastructure projects. It compares Georgia'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 Georgia'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.

State of play: economy, investment and climate change in Georgia

Economy and trade

Table 4.1. Key indicators on Georgia's economy

Population (2019)	3 720 382
Urbanisation rate (2019)	59.0%
Annual population growth (2019)	-0.2%
Surface area	69 700 km^2
GDP (USD, current price, 2019)	17 477 million
GDP per capita (USD, current price, 2019)	4 698
Real GDP growth (year-on-year change, 2019, 2020)	5.1%, -5%
Inflation (average consumer price, y-o-y change, 2019)	4.9%
Exports of goods and services (% of GDP, 2019)	54.8%
Imports of goods and services (% of GDP, 2019)	63.8%
FDI, net inflows (% of GDP, 2019)	7.3%
General government net lending/borrowing (% of GDP, 2019, 2020)	-1.8%, -8.1%
Unemployment (% of total labour force, 2019)	14.7%
Remittances (% of GDP, 2019)	12.9%
Transparency, accountability and corruption in the public sector rating (1= most corrupt, 6 = least corrupt, 2013)	3.5

Source: World Bank (2021[1]), *World Development Indicators (database*), World Bank, https://datacatalog.worldbank.org/dataset/world-development-indicators; IMF (2021[2]), *World Economic Outlook: October 2018*, International Monetary Fund https://www.imf.org/external/datamapper/GGXCNL_NGDP@WEO/OEMDC/ADVEC/WEOWORLD

Economy and demographics

Georgia is an upper-middle income country in the Caucasus. Its population shrank dramatically from 4.9 million in 1993 to 3.7 million in 2013 but has since stabilised. After two decades of nearly uninterrupted negative population growth, growth turned positive in 2014 (at 0.05%). Since then, Georgia's population growth rate has hovered around 0% (0.01% in 2017, -0.04% in 2018, -0.17 in 2019).

The Georgian economy initially followed a similar trajectory to its population immediately after the breakup of the Soviet Union, falling from USD 7.8 billion in 1990 in current USD to USD 2.5 billion in 1994. It then recovered over the next two decades to USD 17.5 billion in 2019.

Georgia's government only has effective control over about 80% of its internationally recognised territory (Ellyatt, 2019[3]). Two regions, Abkhazia in the northwest and South Ossetia in the north, declared themselves independent republics and, receiving support from neighbouring Russia, gained control of their claimed territories through a series of armed conflicts beginning right after independence (1991-1992 in South Ossetia, 1992-1993 in Abkhazia) and culminating in the Russo-Georgian War of 2008. Only a few UN member countries (Nauru, Nicaragua, the Russian Federation, Syria and Venezuela) recognise the independence of the two breakaway regions, while the rest of the world recognises them as integral parts of Georgia.

Personal remittances are an increasingly important source of funds for some Georgian households. Since 2003, personal remittances as a percentage of GDP has increased from 6.2% to 12.9% in 2019. This is the second highest figure among EaP countries after Moldova (16%) and only slightly higher than in Armenia (11.2%) and Ukraine (10.4%) (World Bank, 2021[1]).

Georgia has the most service sector-oriented economy among the countries of the EU Eastern Partnership (EaP).[1] Services accounted for 60.8% of GDP in 2019, compared to 20.3% for industry and construction, 8.9% for manufacturing and only 6.5% for agriculture (World Bank, 2021[1]).

Although Georgia initially avoided widespread propagation of COVID-19 in the first wave of the pandemic, as of February 2021 Georgia has the highest number of COVID-19 cases per capita among EaP countries. Georgia has diagnosed 65.4 cases per thousand inhabitants compared to 56.6 in Armenia, 22.8 in Azerbaijan, 27 in Belarus, 65.4 in Georgia, 40.5 in Moldova and 29.3 in Ukraine. Georgia's death rate (817 deaths per million inhabitants) is the third highest in the region after Armenia (1 049) and Moldova (890), significantly higher than in Azerbaijan (311), Belarus (187) and Ukraine (562) (Roser et al., 2021[4]).[2] Georgia's response to the outbreak included a strict country-wide lockdown, reinforced border restrictions (including a ban on non-residents from entering) and school closures.

As a result of the pandemic and associated containment measures, Georgia's GDP contracted by 5% in 2020. In part, this steep decline is due to the large share of Georgia's economy linked to the travel and tourism industries (26% of GDP), by far the largest in the former Soviet Union. Its growth projections for 2021 onwards are the highest among EaP countries (IMF, 2021[2]). Some economic stimulus measures announced by the Georgian government, such support for greening small and medium enterprises and green job creation programmes, could help Georgia's transition towards a greener economy, while other measures, such as moratoria on environmental inspections during lockdown, could have potentially negative consequences on the environment (OECD, 2021[5]).

Trade

Georgia has been a member of the World Trade Organisation since 2000 and has close ties with the European Union, being a target country of the European Union's European Neighbourhood Policy under the Eastern Partnership (EaP) policy initiative. These initiatives aim to deepen EU-Georgia relations through actions focusing on economic development, governance, connectivity and people-to-people contact (European Commission, 2019[6]). In 2014, Georgia and the European Union signed an Association Agreement and established a Deep and Comprehensive Free Trade Area (DCFTA) (European Commission, 2017[7]).

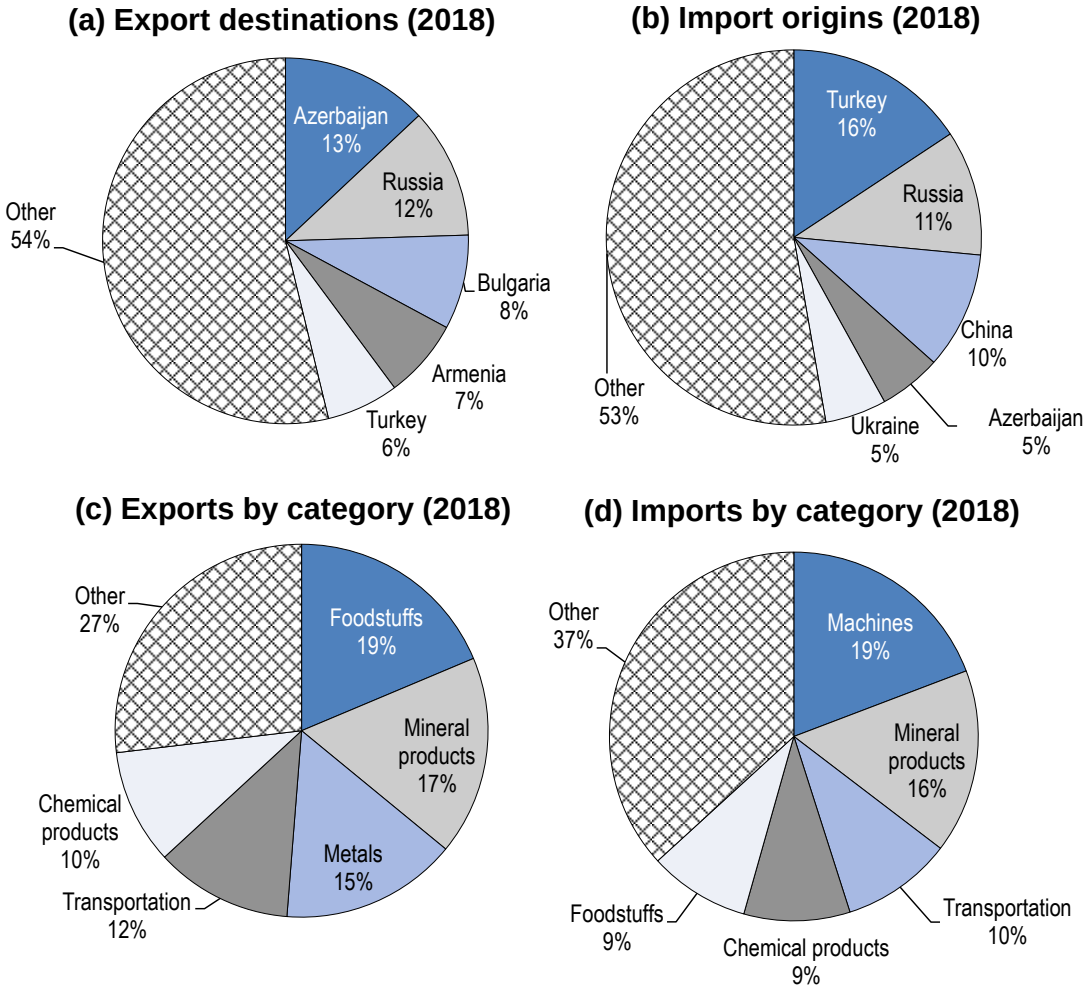
In 2017, Georgia became a Contracting Party of the EU's Energy Community, thereby committing to implement the EU's energy-related *acquis communautaires* and liberalise its energy markets. The Energy Community's Secretariat supports Georgia's implementation of reforms in the energy sector, including on energy efficiency, renewable energy development and environmental protection, and Georgia has made steady progress. The Secretariat rated Georgia's overall implementation as 36% complete in 2020, up from 24% in 2019 (Energy Community, 2020[8]).

Georgia exports a more diversified array of products than other countries in the Caucasus (Figure 4.1c). Its most important export categories by value are foodstuffs (19% of exports; particularly wine, rolled tobacco and hard liquor, accounting for 5.2%, 4% and 3% respectively), mineral products (17% of exports; primarily copper ore, which alone accounts for 13.6% of total exports), metals (15% of exports; mostly ferroalloys, 9%), transportation (12% of exports; cars alone account for 10%) and chemical products (10%). Georgia's main import categories are machines (19%), mineral products (16%), transportation (10%), chemical products (9%) and foodstuffs (9%) (Figure 4.1d). Georgia's imports of fuels (refined petroleum and petroleum gas account for 9% and 3% of imports respectively) explain the comparatively large share of mineral products in the country's import mix. Georgia imports gas primarily from Azerbaijan (93%), but its oil suppliers are more diverse (Romania, 22%; Russia, 20%; Turkmenistan, 17%; Azerbaijan, 12%; Bulgaria, 11%; Greece, 11%).

Most of Georgia's largest export and import markets are its geographical neighbours, especially Russia (12% of exports, 11% of imports), Turkey (6% of exports, 16% of imports) and Azerbaijan (13% of exports, 5% of imports), and, to a lesser extent, Armenia (7% of exports, 1% of imports), Iran (2% of exports, 2%

of imports) and Ukraine (4% of exports, 5% of imports) (Figure 4.1a and b). Although individual European countries account for only small shares of Georgia's trade, as a bloc, the European Union makes up 24% of exports and 26% of imports. Bulgaria is Georgia's most important EU export destination (8%), while Germany is its most important import origin country (5%). Beyond the EU and its direct neighbours, Georgia also maintains important trading relationships with the People's Republic of China (6% of exports, 10% of imports) and the United States (5% of exports, 3% of imports).

Figure 4.1. Trade of Georgia



Source: Observatory of Economic Complexity (2019[9]),*Georgia: Exports, Imports and Trade Partners*, Observatory of Economic Complexity, https://oec.world/en/profile/country/geo

Investment climate

Georgia has the most favourable investment climate among EaP countries, and one of the most permissive in the world, making it an attractive destination for investment. Significant structural reforms have been carried out to simplify business procedures, construction permits, cut red tape, simplify licencing and permitting regimes, as well as to improve tax and customs procedures. Such reforms have not only led to an approximation to EU legislation, but also to a significant improvement in the World Bank Doing Business

Indicators. In 2020, Georgia was ranked 7th worldwide, up from 115th in 2005, ranking higher than the United Kingdom and Norway (World Bank, 2020[10]).

The legal basis for regulating domestic and foreign investments is provided by two laws, namely the "Law of Georgia on Promotion and Guarantees of Investment Activity" and the "Law on State Support of Investments" (Government of Georgia, 2006[11]). An investment promotion agency, the Georgian National Investment Agency, has also been established in 2002 to facilitate the investment process by assisting investors in obtaining the required licences and permits, as well as to represent investors at other governmental agencies during licencing and permitting procedures (Grant Thornton, 2018[12]). Georgia's investment promotion agency, Invest in Georgia, was merged with Enterprise Georgia, an agency designed to encourage domestic economic development, in 2017. Invest in Georgia was put in place to promote and support potential FDI projects in the country in the area of energy (particularly renewable energy), hospitality and real estate, manufacturing, logistics hubs, agriculture and food processing and business process outsourcing. Compared to other EaP investment promotion agencies, however, it has limited human resources dedicated to investment promotion activities, although it is in the process of expanding its institutional capacity. Invest in Georgia provides a number of investment facilitation, retention and aftercare services (OECD, 2020[13]).

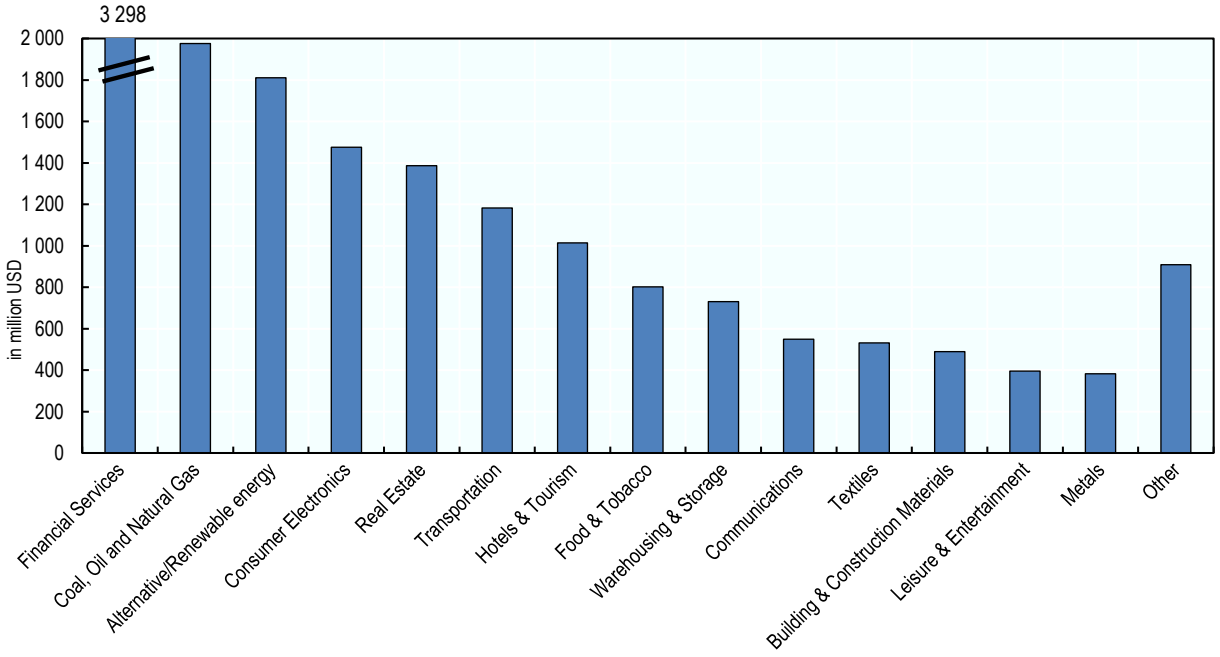
Despite such a favourable investment climate, productivity improvements and export growth have lagged. Non-tradable sectors, especially transport infrastructure, real estate, construction and financial services, have received most FDI, although there has also been increasing FDI flows to the tourism and renewable energy sectors. To date, FDI has contributed to domestic economic growth but with limited impact on advanced job creation and productivity. To benefit more fully from its growing ability to attract FDI, Georgia should seek to address gaps in connectivity and infrastructure service provision across the country as well as improve skills in the domestic workforce. Georgia continues to build on its remarkable progress on improving its legal framework, notably ongoing reforms of the judiciary to strengthen its independence, accountability and capacity (OECD, 2020[14]).

Georgia has moved more quickly and effectively to root out corruption than other EaP countries, which contributes to perceptions of the country as a safer destination for investments. Transparency International ranked Georgia 44th out of 198 countries in the 2019 edition of its annual Corruption Perceptions Index, ahead of Belarus (66th), Armenia (77th), Moldova (120th), Azerbaijan and Ukraine (both tied for 126th) (Transparency International, 2019[15]).

Georgia has attracted around USD 16.9 billion of announced cross-border greenfield FDI projects between 2003 and 2017. Compared to other countries in the region, FDI in Georgia is more diversified, with no sector that dominates the landscape. Around 19% of FDI goes into financial services, followed by coal, oil and natural gas (12%), and alternative and renewable energy (11%). In terms of other infrastructure-related investments, transportation received around 7% of total greenfield FDI, or around USD 1.2 billion, while building and construction materials received around USD 500 million (Figure 4.2).

Figure 4.2. Greenfield FDI in Georgia by economic activity, 2003-2017

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

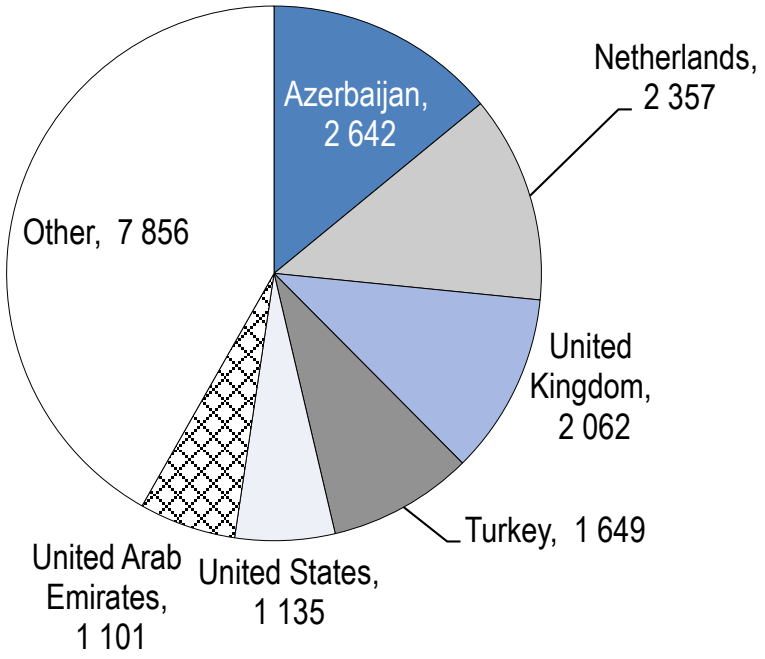


Note: Other includes ceramics and glass, business service, aerospace, business machines and equipment, chemicals, consumer products, rubber, software and IT services, industrial machinery, equipment and tools, automotive components, automotive OEM, pharmaceuticals, healthcare, electronic components, and plastics.
Source: OECD based on fDi Markets (2019[16]), *fDi Markets: the in-depth crossborder investment monitor (database)*, fDi Markets, https://www.fdimarkets.com/

The European Union is an important source of FDI in Georgia. Collectively it invested a total of USD 5.9 billion between 2006 and 2019, which amounts to over 30% of total net FDI in Georgia over that period. The Netherlands, which contributed over 12% of total FDI, and, to a lesser extent, the Czech Republic (4%), Luxembourg (4%), Germany (2%) and Austria (1.4%) have been Georgia's most important EU investors. Other important sources of FDI in Georgia include its neighbours Azerbaijan (14%) and Turkey (9%) and major international financial hubs like the United Kingdom (11%), the United States (6%) and the United Arab Emirates (6%) (Figure 4.3). Although they account for large shares of FDI in other former Soviet Union countries, China and Russia contribute a relatively small share of Georgia's FDI (3% each).

Figure 4.3. FDI in Georgia by source country, 2006-2019

In million USD



Source: National Statistics Office of Georgia (2021[17]), *Foreign Direct Investments by Countries*, National Statistics Office of Gerogia, https://www.geostat.ge/en/modules/categories/191/foreign-direct-investments

Georgia's public debt was equal to 41.2% of GDP in 2019 and, due to the COVID19 pandemic and associated spending, jumped to 62.8% of GDP in 2020. Proactive monitoring of fiscal risks and a planned fiscal consolidation starting in 2021 are expected to keep safeguard Georgia's debt sustainability (IMF, 2020[18]).

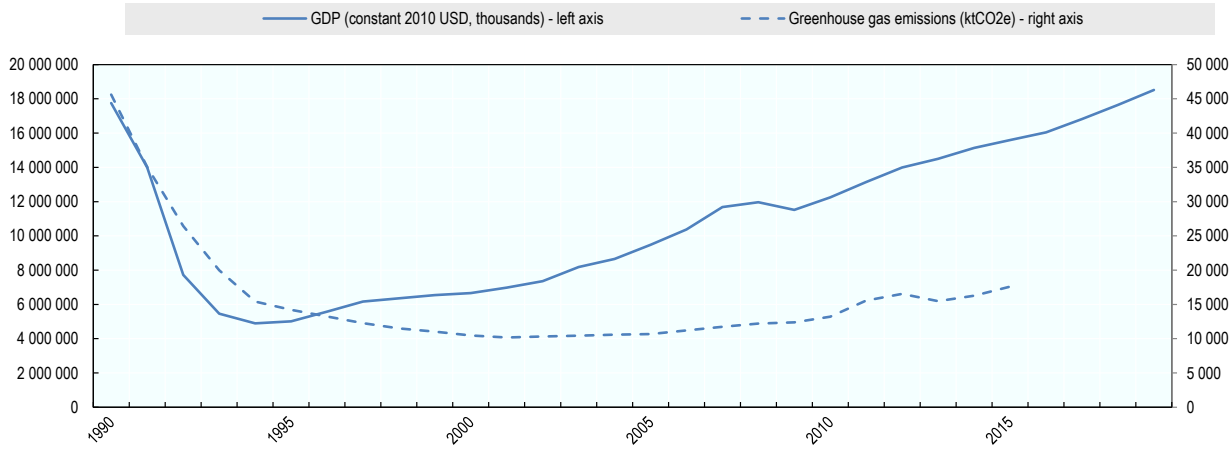
Climate change

Georgia has a relatively low rate of greenhouse gas (GHG) emissions, only being responsible for 0.03% of total global emissions in 2012. Georgia's per capita emissions were a mere 3.8 tCO_2e in 2012, much lower than its 1990 levels of 8.0 tCO_2e, and are among the lowest among EaP countries (only Armenia and Moldova have lower per capita emissions in the present study). They only amount to about a third of the OECD average (12.9 tCO_2e per capita in 2012) (World Bank, 2021[1]).

In the years following the breakup of the Soviet Union, Georgia's annual GHG emissions plummeted to less than a quarter of their pre-independence levels, from 45 606 $ktCO_2e$ in 1990 to 10 1084 $ktCO_2e$ in 2001. While the country's economic situation initially followed a similar trend in the early 1990s, Georgia's GDP has since recovered to levels close to its Soviet-era peak while GHG emissions have increased only slightly over the past decade (see Figure 3.4). As a result, the GHG intensity of Georgia's economy (GHG emissions per unit of GDP) fell by more than half, from 2.7 $kgCO_2e$ per USD (constant 2010 dollars) in 1990 to 1.1 $kgCO_2e$ per USD by 2007 before increasing gradually to 1.2 $kgCO_2e$ by 2015. Compared to Central Asia where emissions intensities range from twice to almost four times higher, the Georgian economy is not particularly emissions intensive, but it still emits more than three times as much GHG per unit of GDP as the OECD average (0.35 $kgCO_2e$ per USD in 2012) (Ministry of Environmental Protection and Agriculture of Georgia, 2019[19]).

Georgia has prepared an updated version of its Nationally Determined Contribution (NDC), which is awaiting final adoption. The proposed updated NDC ratchets up the ambition of the country's mitigation targets, from an unconditional commitment to reduce emissions by 2030 from 15% below the business-as-usual scenario (original NDC) to 30% below 1990 levels (updated NDC). Conditional on international support, Georgia aims to reduce emissions by 50-57% compared to 1990 levels by 2030 (compared to 25% below business-as-usual levels in the original NDC). The government has also developed *Climate Strategy 2030* and the *Climate Action Plan 2021-2023*, both of which are pending final adoption.

Figure 4.4. GHG emissions and GDP of Georgia, 1990-2019



Source: GDP data from World Bank (2021[1]), *World Development Indicators (database)*, World Bank, https://datacatalog.worldbank.org/dataset/world-development-indicators; GHG data from Ministry of Environmental Protection and Agriculture of Georgia (2019[19]), *Georgia's Second Biennial Update Report*, https://unfccc.int/documents/196359

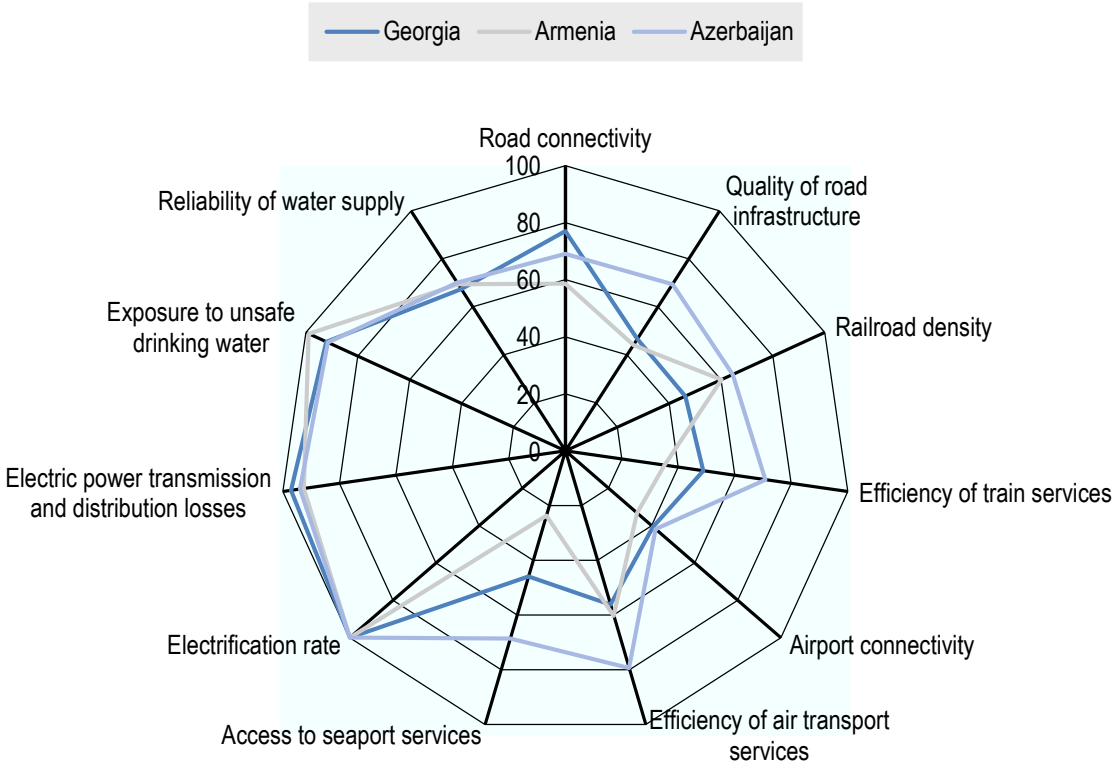
Energy (including fuel combustion for transport) accounts for the majority of Georgia's GHG emissions, at 61.8% in 2015. This share has shrunk compared to 1990 when the energy sector was responsible for 80.5% of emissions. Industrial processes (11.7%), agriculture (18.6%) and waste (7.9%) were responsible for the rest of Georgia's emissions in 2015 (Ministry of Environmental Protection and Agriculture of Georgia, 2019[19]).

Current trends of climate change impacts, such as increasing temperatures, eroding soils and intensifying droughts, floods and hail, are expected to reduce yields in major agricultural regions, such as the eastern region of Kakheti. The incidence of destructive natural disasters such as landslides and mudflows has increased considerably. There were fewer than 10 000 landslide events in Georgia in 1972, but this number has increased to over 50 000 in 2013 (Government of Georgia, 2015[20]).

Georgia's infrastructure needs and current plans

Georgia's existing infrastructure varies in quality, with relatively high-quality electricity infrastructure and lower-quality transport and water infrastructure (Figure 4.5). The World Bank (2018[21]) identified improving connectivity to foreign markets through both hard infrastructure (e.g. transport links) and soft infrastructure (e.g. institutions) as a priority to boost Georgia's productivity. It also highlighted the importance of preserving Georgia's unique environment, which it calls "one of its greatest economic assets". Georgia's low rank in the Logistics Performance Index (119th out of 167 countries) reflects the shortcomings of Georgia's transportation infrastructure. Although international connectivity has improved in recent years, domestic connectivity remains a barrier to integration into global value chains (World Bank, 2018[21]).

Figure 4.5. Quality of infrastructure in Georgia

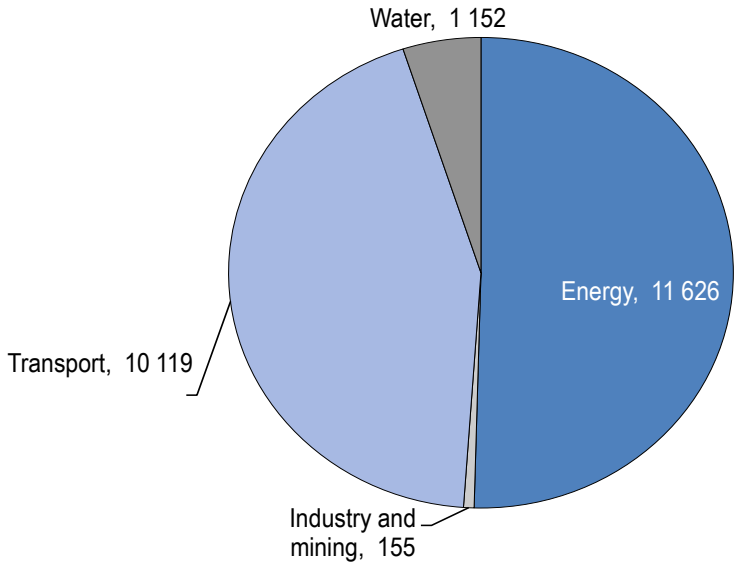


Source: World Economic Forum (2019[22]), *The Global Competitiveness Report 2019*, World Economic Forum, http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf

The OECD's database tracks 171 major infrastructure projects planned or under construction in Georgia, with a cumulative value of USD 23.1 billion. By value, energy projects account for just over half of the investments (50.4%, USD 11.6 billion), and transport projects make up the second largest share (43.9%, USD 10.1 billion) (Figure 4.6). By comparison, water projects (5.0%, USD 1.1 billion) and industry projects (0.5%, USD 155 million) represent much smaller shares of total investment in Georgia's infrastructure.

Figure 4.6. Investment projects in Georgia, by sector

Planned and under construction, in USD million



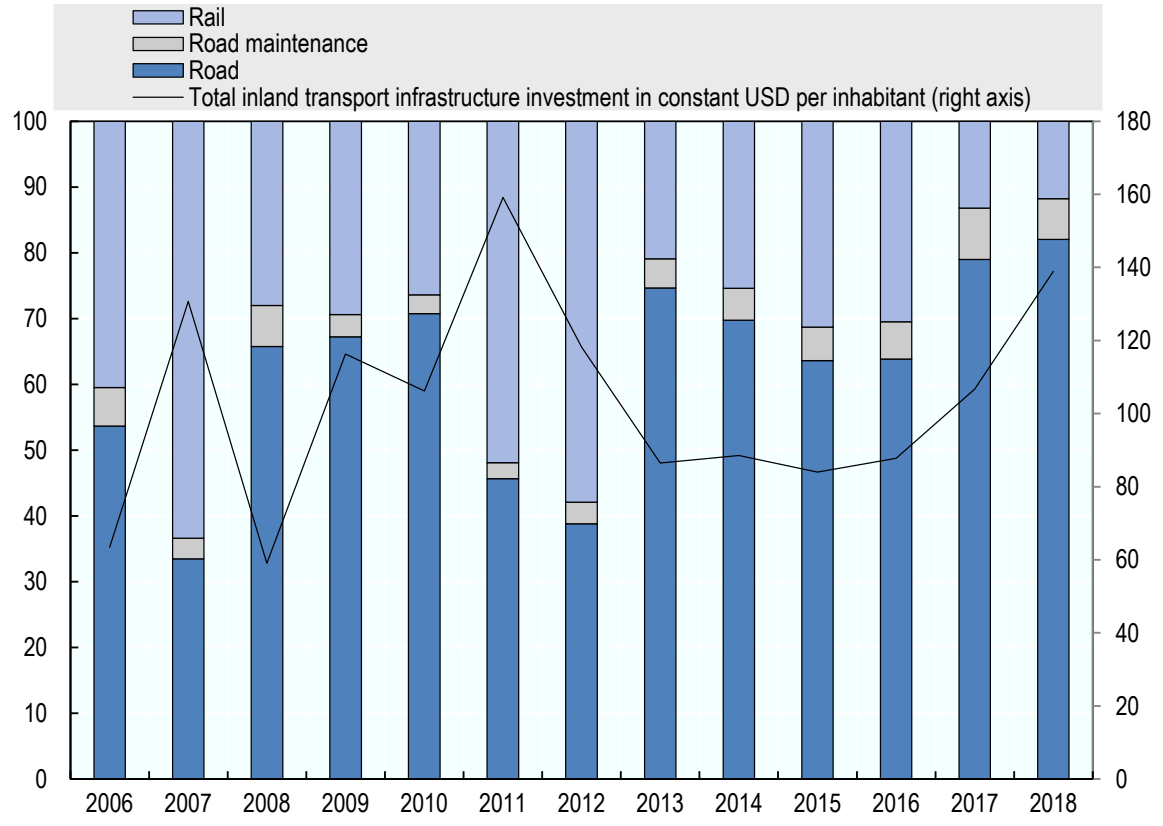
Source: OECD analysis based on accessed databases as of June 2020.

Transport

Recognising its transport infrastructure's shortcoming, Georgia has increased investment in overland transport infrastructure measured in per capita terms. On average, it invested USD 103 per capita annually between 2006 and 2018, while neighbouring Armenia invested only USD 29 (2008-2016), Russia invested USD 97 (2006-2018) and Turkey invested USD 95 (2006-2017). Transport investment spending remains slightly lower than in Azerbaijan (USD 105 on average between 2006 and 2018) (ITF, 2019[23]). The modal share of investments between road and rail has fluctuated somewhat cyclically (Figure 4.7), but the road sector has received the larger share of investment in most years (except 2007, 2011 and 2012).

Figure 4.7. Inland transport infrastructure investment in Georgia (2006-2018)

Modal share (%) of total inland transport infrastructure investment (left axis) and total inland transport infrastructure investment in current USD per capita (right axis)



Source: ITF (2019[23]), *Transport performance indicators*, International Transport Forum, https://doi.org/10.1787/trsprt-data-en

Georgia's inland transport modal split for freight has shifted towards road over time. In 2005, 91% of the country's freight, measured in tonne-kilometres, moved by rail, but by 2019 rail's share had dropped to 75% (2.9 billion tkm) while road's had risen to 18% (0.7 billion tkm) (National Statistics Office of Georgia, 2020[24]). For passengers, the modal shares are reversed: 93% of passenger transport (6.9 billion pkm) occurred by road, compared to only 7% (0.5 billion pkm) by rail (UNECE, 2018[25]). This trend is misaligned with the country's goals to decarbonise the transport sector, which would require a shift of passenger and goods transport from road to rail and, therefore, increased investment in rail and multi-modal transport systems (e.g. bike and ride, park and ride). The importance of this modal shift to Georgia's mitigation efforts is expressed in the draft *Climate Change Strategy 2030* and *Climate Change Action Plan 2021-2023*, which are currently awaiting adoption.

The Government of Georgia has made the maintenance of existing road systems a high priority on its agenda, as evidenced by the share of maintenance in total inland infrastructure investments (regularly over 5%). This priority stems in part from the EU Association Agreement and Georgia's efforts to approximate relevant EU directives on social, technical and safety conditions.

Georgia's rail company, Georgian Railways owns rail infrastructure and operates all cargo and passenger service in the country. Georgian Railways is in the process of separating its ownership and operation roles to improve transparency and efficiency, and aims to have done so by 2022 (Benmaamar, Keou and Saslavsky, 2015[26]). The Georgian Partnership Fund (a state-owned investment fund that owns several

strategically important companies in the transport and energy sectors) is the company's only shareholder (Georgian Railway, n.d.[27]).Georgia has international rail links to Armenia, Azerbaijan and Turkey. Although a railway line has historically existed between Georgia and the Russian Federation, it passes through the breakaway region of Abkhazia, and due to the frozen conflict, train service has been suspended. 47% of the rail freight by volume passing through Georgia only transits through the country, while imports (25%), exports (10%) and local freight account for the rest (18%) (UNESCAP, 2018[28]).

A key component of Georgia's international rail, road and seaport network is the east-west Trans-Caucasus Transit Corridor, which passes through Azerbaijan and Georgia connecting the Caspian Sea (at the port of Alat near Baku) and the Black Sea (at the existing ports of Poti and Batumi and, potentially, a new deep-water port at Anaklia). In the rail sector, Georgian Railways has improvements to underperforming sections of the corridor priorities for infrastructure development through the Georgian Railways Modernisation Project and the Tbilisi Bypass Project. The construction of both projects, already about 70% completed, has been delayed due to operational constraints. In the road sector, the East-West Highway project is well under way and expected to reach completion by 2023 (World Bank, 2020[29]).

Two other important international corridors cross through Georgia: one running east-west between the capital Tbilisi to Turkey via the Autonomous Republic of Adjara (where Georgia's second-largest city Batumi is located) and another north-south corridor from the Russian Federation through Georgia to Armenia. Due to the frozen conflicts in Abkhazia and South Ossetia, the only open border crossing between Georgia and the Russian Federation is at Larsi, just north of Stepantsminda on the S3 highway (the "Georgian Military Road"). While international road links are relatively good, secondary and local roads need upgrading to improve domestic connectivity (World Bank, 2018[21]).

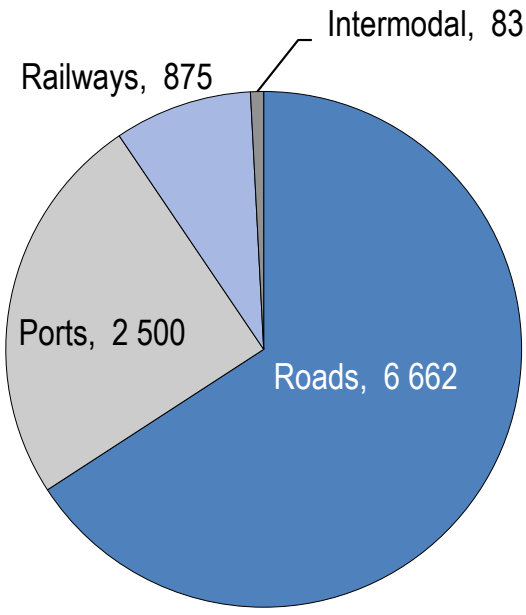
Georgia has several ports along the Black Sea coast, but its international maritime connections are weak. According to the Liner Shipping Connectivity Index, which rates a country's integration into global liner shipping networks on a scale from 0 to 100 (equal to China's connectivity in 2004), Georgia received a score of just 6 in 2020. By comparison, the Russian Federation and Ukraine had scores of 36 and 29 respectively (UNCTAD, 2021[30]).

Given its strategic position between the Black and Caspian Seas and near large markets such as Turkey, Iran, Europe and Russia, Georgia partakes in several international connectivity initiatives. Georgia is a key component of the EU initiative TRACECA (Transport Corridor Europe-Caucasus-Asia), with two key ports on the Black Sea (Poti and Batumi) and well-established rail and road links to the Caspian Sea via Azerbaijan (TRACECA, 2018[31]). CAREC Corridor 2 also passes through Georgia, linking Caspian Sea ports via Azerbaijan and Georgia to Turkey and the Black Sea (ADB, 2017[32]). Other initiatives include the Middle Corridor Trans-Caspian International Transport Route (along with Azerbaijan and Kazakhstan) and the South-West Transport Corridor (along with Azerbaijan and Iran).

Georgia's transport infrastructure projects planned and under construction amount to around USD 10.1 billion, and consist primarily of roads (65.8% or around USD 6.6 billion) and port projects (24.7%, USD 2.5 billion) (Figure 4.8). Investments in railways (8.7% or USD 2.1 billion) and intermodal projects are comparatively smaller (0.8%, or USD 83 million).

Figure 4.8. Transport projects in Georgia, by sub-sector

Planned and under construcrion in USD million



Source: OECD analysis based on accessed databases as of June 2020.

Most of these projects are linked to the country's three main transportation and logistics corridors and aim to improve Georgia's connectivity with neighbouring countries (Table 4.2Table 4.2. Hotspot projects in the transport sector in Georgia). This includes sections of the East-West Highway currently under construction and improvements to the North-South Corridor in the planning stages. These projects, which will improve connectivity and access to global markets as well as increase revenue from freight transit, are considered essential for Georgia's further integration into the global economy. The project is also aligned with the EU Association Agreement and will play a crucial role in reducing poverty and vulnerability in rural and remote areas by connecting people with services, and jobs, export markets and other opportunities (IBRD, IFC and MIGA, 2018[33]). Such projects aimed at developing multi-corridors at the sub-regional level are in line with the government's objective to make the economy a transit hub for the Caucasus and Euro-Asian road transport, thereby stimulating Europe-Asia trade links.

A single large-scale project, the Anaklia Deep Sea Port, accounts for the entirety of Georgia's port investments tracked in the OECD's database. The project aims to construct a new port capable of handling berth container ships with capacity of 10 000 TEU to complement Georgia's two existing Black Sea ports, Batumi and Poti, which are only equipped to handle much smaller capacity vessels (1 700 TEU). The contract to develop the project was initially awarded to the Anaklia Development Consortium, and Phase I was scheduled for completion by 2020. However, due to delays and conflicts between the consortium and the government, the contract was cancelled in 2020, and the government is now seeking new investors to implement the project (Lomsadze, 2020[34])

Table 4.2. Hotspot projects in the transport sector in Georgia

(a) Under construction

Name	Sub-sector	Description	Project value (USD million)	Funding source	Type of investment
East-West Highway (E60 Tbilisi-Senaki-Leselidze): Section Chumateleti - Argveta	Roads	Construction of 60 km of road on the East-West highway. The project is of regional significance as it is the main corridor for transit through Georgia. A feasibility study was completed in 2014 and the implementation is planned for 2017-2020.	820	Ministry of Regional Development and Infrastructure of Georgia with financial support from multi-donors (unspecified)	Brownfield
Marabda-Kartsakhi Railway (Construction and Rehabilitation)	Railways	First railway bridge to be constructed in Georgia after the collapse of the Soviet Union. Kartsakhi will be connected to Turkey by the tunnel with 4.4 km length.	775	State Oil Fund of Azerbaijan (SOFAZ).	Greenfield; Brownfield
East-West Highway (Khevi-Ubisa Section) Improvement Project	Roads	Construction of a 12 km road network between Khevi and Ubisa along the East-West Highway. The result is improved efficiency and safety of road transport along the East-West highway.	570	ADB; JICA; World Bank; EIB	Brownfield

(b) Planned

Name	Sub-sector	Description	Project value (USD million)	Funding source	Type of investment
Anaklia Deep Sea Port	Port	Development of a port in Anaklia, on the Black Sea coast. The construction will be conducted in different phases, each time increasing the annual capacity, potentially up to 100 million tonnes once the port reaches the highest capacity. The port has	2 500	Ministry of Economy and Sustainable Development of Georgia	Greenfield
North-South Corridor (Kvesheti-Kobi) Road Project	Roads	The project aims to improve connectivity and safety along the North-South Corridor between on the mountainous road segment between Kvesheti and Kobi. It consists of 23 km of climate-resilient two-lane highways and an additional 5- km of all-weather access roads.	559	ADB	Brownfield
Tbilisi Bypass	Roads	Construction of a 55 km stretch of four lane-roads. The project is part of Georgia's master plan for transport. The project was originally planned for implementation between 2018-2020 but has been delayed.	350	ADB	Brownfield

Note: Refer to the Reader's guide for the present report's definition of 'hotspot' and other information on how the projects above were selected and prioritised. ADB = Asian Development Bank; EIB = European Investment Bank; JICA = Japan International Cooperation Agency.
Source: OECD database as of June 2020.

Energy

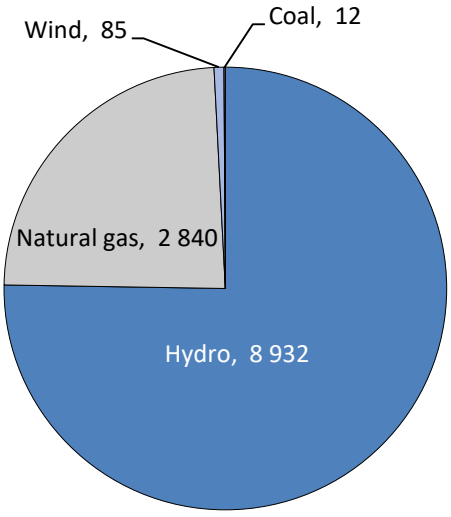
The overall quality of Georgia's energy infrastructure is good, matching or surpassing the performance of wealthier neighbours such as Azerbaijan and the Russian Federation. Georgia's transmission and distribution systems are relatively efficient, leading to losses of only 7.3% of electricity output in 2017 compared to 9.7% in the Russian Federation and 9.7% in Azerbaijan (IEA, 2019[35]). Although Georgia has limited domestic oil and gas reserves, several important pipelines pass through Georgia between oil-rich

Azerbaijan and Turkey, including the Baku-Tbilisi-Ceyhan (BTC) and Baku-Tbilisi-Erzurum (BTE) oil pipelines and the South Caucasus pipeline, linking to the Trans-Anatolian Natural Gas Pipeline (TANAP) on the border with Turkey (Emerging Markets Forum, 2019[36]).

Georgia's electricity generation relies primarily on hydroelectric dams, which produce 75% of the country's power (Figure 4.9). Installed hydroelectric generation capacity, however, represents only a fraction of the country's hydroelectric potential: Only 22% is currently exploited in terms of capacity, and only 17% in terms of production (Ministry of Economy and Sustainable Development of Georgia, 2019[37]). Natural gas accounts for most of Georgia's remaining power generation and is particularly important in the winter when the country's hydroelectric dams have reduced output. The country's largest hydroelectric power plant, Enguri, which generates a third of all electricity in Georgia, straddles the border of Abkhazia, one of Georgia's breakaway regions (IEA, 2020[38]). Although an informal agreement between Georgia and Abkhazia initially split output (40% to Abkhazia, 60% to the rest of Georgia), Abkhazian consumption has increased considerably and, in the winter months, now surpasses Enguri's output. Abkhazia does not pay for its consumption, and the situation is a risk to Georgia's energy security and a drain on its budget (World Experience for Georgia, 2017[39]).

Figure 4.9. Electricity generation by source

GWh, 2018



Source: IEA (2020[40]), *Electricity Information 2019*, International Energy Agency, https://www.iea.org/reports/electricity-information-2019

Compared to hydrocarbon-rich Azerbaijan or the Russian Federation, Georgia's energy security situation is more precarious. Its domestic energy production covers only one third of demand, and its limited oil and natural gas production covers only a small fraction of consumption. It is a net importer of coal (0.18 Mtoe in 2017), oil products (1.5 Mt in 2017), natural gas (1.95 Mtoe in 2017) and, in most years, electricity (IEA, 2019[41]). Despite Georgia's limited oil and natural gas reserves, the government set targets to increase annual oil and natural gas production to 3 million tonnes and 2 billion m³ respectively by 2020 (UNECE, 2016[42]). According to the most recent available statistics, annual production in Georgia is far below these targets (35 thousand tonnes of oil production and 9.6 million m³ of natural gas production in 2019) (National Statistics Office of Georgia, 2019[43]).

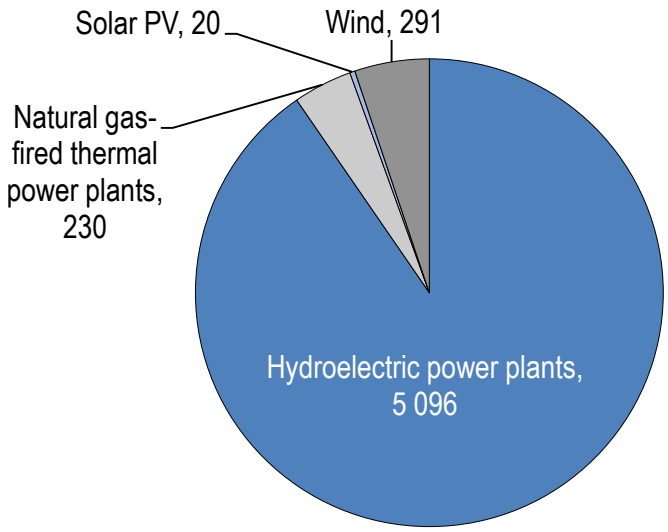
Since joining the EU's Energy Community in 2017, Georgia has made considerable progress on implementing the necessary legislation across various policy areas. Implementation is particularly advanced on statistics (95%) and, to a lesser extent, environment (53%), electricity (52%), energy efficiency (44%), climate (43%) and renewable energy (33%), while implementation is in the beginning stages on oil (20%), gas (13%) and infrastructure (3%). Georgia's grid is not currently connected to any other Contracting Party of the Energy Community nor to any EU Member State (Energy Community, 2020[8]).

Further development of hydroelectricity remains a priority for Georgia, as indicated in its draft Long-Term Low-Emission Development Strategy (LT-LEDS), which aims to increase the share of power generation from hydro in domestic electricity consumption to at least 85% and install 150 MW of wind power generation by 2030 (United States Agency for International Development, 2017[44])**.** Georgia has considerable potential for non-hydroelectric renewable electricity generation, and the diversification of electricity sources is also a priority of the government. The *Ten-Year Network Development Plan of Georgia for 2020-2030* seeks to add an additional 1 330 MW of wind power capacity to the Georgian power system by 2030, and the country's nationalised SDG indicators set a target of 30% for the share of Georgia's energy mix derived from renewables (hydro, geothermal, solar, biofuel and waste). Georgia's geothermal potential, for example, is estimated at 3 terawatt hours (TWh) per year. Compared to other renewable energy sources (e.g. hydro, solar, wind), geothermal power generation does not suffer from the same level of seasonal variability and unpredictable output, which could strengthen Georgia's national energy security. Although Georgia has begun using geothermal water for heating and certain agricultural and industrial applications, it does not currently have any geothermal electricity generation capacity. Georgia also has considerable solar energy potential, but major seasonal variations make them less reliable for improving energy security (UNECE, 2016[42]).

Georgia's energy infrastructure projects planned and under construction amount to around USD 11.6 billion. Electricity generation projects account for by far the largest share (USD 10.4 billion, 89%), followed by power transmission and distribution (USD 701 million, 6%) and upstream oil and gas (USD 550 million, 5%). Georgia's power generation projects are in line with the government's plans to increase the capacity of hydropower projects for electricity generation, and increasing momentum for the development of non-hydro renewable energy sources. Over 91% of electricity generation projects by value and 90% by capacity are in hydropower, while wind power plants (5.5% by value and 5% by capacity) and solar photovoltaic projects (1.6% by value, 0.4% by capacity) account for much smaller shares of the total electricity generation projects (Figure 4.10). Natural-gas fired thermal power plants make up 1.5% of power generation projects by value and 4% by capacity. In 2016, the government aimed to further attract investments in the energy sector of over USD 1.1 billion and develop at least 500 MW of installed capacity by 2020 (Government of Georgia, 2016[45]). The government reached this goal, installing 519 MW of new generation capacity between 2016 (3 727 MW) and 2020 (4 246 MW) (Georgian State Electrosystem, 2016[46]; 2020[47]).

Figure 4.10. Electricity generation projects in Georgia, by source

Planned and under construction in MW



Source: OECD analysis based on accessed databases as of June 2020.

Reliance on hydroelectric power is not without its drawbacks. The electricity generation potential of hydroelectric power plants is vulnerable to the effects of climate change as glaciers melt and precipitation patterns change. Moreover, hydroelectric power plants have a large, direct impact on the environments in which they are built; this is also true of small hydro plants, the cumulative effects of which can be considerable.

Most of Georgia's energy projects are in hydropower, in line with its goal to further develop its hydropower potential (Table 4.3). Such high-impact projects have been mainly undertaken by the private sector, but development partners such as the EBRD and the ADB have also supported such investments. Significant projects under construction include the Tskhenistskali cascade of hydropower projects and the Nenskra HPP. Controversy has marred the latter project since its inception in 2012, notably due to conflicts with the Svan people living in the project area of Upper Svaneti who have protested the project's environmental impacts and flaws in the project consultation process. After several delays, preparatory construction works began on the project in late 2020 (Georgia Today, 2020[48]). There has been growing public opposition to hydroelectric development in Georgia, including against the planned Khudoni HPP, also located in the Upper Svaneti region, and Namakhvani HPP projects, in part due to unsatisfactory Environmental Impact Assessment (EIA) procedures (Civil.Ge, 2020[49]).

Currently, more than 100 hydropower projects at various stages of the planning, approval and construction process with a cumulative capacity of 3 545 MW are listed as prospective additions to the Georgian power system (Georgian State Electrosystem, 2020[47]). Many of these are small hydro projects[3], which if properly designed and operated can contribute to the country's renewable power capacity with a smaller environmental impact compared to large-scale hydroelectric dam projects.

Table 4.3. Hotspot projects in the energy sector in Georgia

(a) Under construction

Name	Sub-sector	Description	Project value (USD million)	New capacity (MW)	Funding source	Type of investment
Nenskra Hydropower Plant	Hydropower	The Nenskra Hydropower plant has a planned capacity of 280 MW and is located in the mountainous Svaneti Region. The project is Georgia's most advanced hydropower installation in the Upper Svaneti region.	1 100	280	AIIB; ADB; EBRD; EIB; KDB; Private sector	Greenfield
Tskhenitskali cascade of hydropower plants	Hydropower	Two hydropower plants on the Tskhenistskali River. The plants have an installed capacity of 312 MW and an expected annual energy generation of 1 192 GWh. The annual output of these plants comprises 9.4% of the entire electricity consumption of Georgia.	534	312	Georgian Co-Investment Fund	Greenfield
Oni Cascade Hydropower Project	Hydropower	Two new hydropower plants on the Rioni River in north-western Georgia, with an installed capacity of 177.2 MW and the plants expected annual energy generation in total is 788.6 GWh.	330	177	Georgian Co-Investment Fund and Peri ltd.	Greenfield

(b) Planned

Name	Sub-sector	Description	Project value (USD million)	New capacity (MW)	Funding source	Type of investment
Khudoni HPP	Hydropower	Power plant on the Enguri River with a capacity of over 702 MW. It is expected that the plant will allow two other existing dams, the Enguri HPP and Vardnili HPP to generate additional energy needed during the rest of the year. The project will account for over 16% of Georgia's hydropower generation. Its construction stopped in 1989 due to the collapse of the Soviet Union and protests over environmental concerns. The project is highly controversial as it is expected that it will displace around 2 000 people (of the 12 000 who live in Upper Svaneti), while a village with 800 inhabitants will be fully resettled.	1 200	702	Not specified	Brownfield
Namakhvani HPP	Hydropower	Two HPPs (333 MW and 100 MW) along the Rioni River scheduled for completion by 2024 near Kutaisi, the second-largest city in Georgia.	730	433	Government of Georgia, Clean Energy Group, ENKA	Greenfield

Note: Refer to the Reader's guide for the present report's definition of 'hotspot' and other information on how the projects above were selected and prioritised. EBRD = European Bank for Reconstruction and Development; EIB = European Investment Bank.
Source: OEC database as of June 2020.

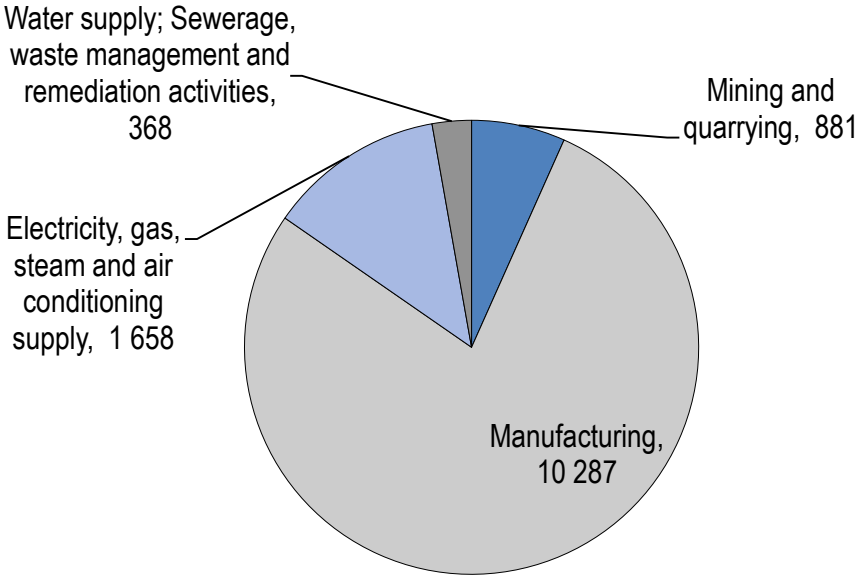
Industry, mining and water

Mining and quarrying make up a small but growing part of Georgia's industrial output. In 2010, Georgia's mining sector produced GEL 255 million worth of output (5% of total industrial output), primarily in metal

ores, but by 2019 output had more than tripled to GEL 881 million (7% of total industrial output). The manufacturing sector makes up the majority of the country's industrial output (GEL 10.3 billion, 78%). Foodstuffs and beverages are the two largest components of Georgia's industrial output, accounting for 12% of all output from the manufacturing sector. The generation of electricity (12.5%) and water supply, sewerage and waste management (2.8%) make up the remainder of Georgia's industrial output (Figure 4.11).

Figure 4.11. Industrial output by NACE* subsector

2019, in million GEL



Note: GEL = Georgian lari; * NACE = Nomenclature statistique des activités économiques dans la Communauté européenne [Statistical Classification of Economic Activities in the European Community]
Source: National Statistics Office of Georgia (2020[50]), "Production value in industry", *Industry*, https://www.geostat.ge/en/modules/categories/77/mretsveloba

Georgia is currently facing significant water resource challenges. In particular, there are concerns that, in the long run, Georgia's glaciers will be affected by climate change, leading to significant reductions of water surplus. The country is already experiencing significant variability in precipitation and surface run-off of water, and these are projected to be more severe in the coming years. Glacial runoff is projected to decrease by 40% compared to 2010 levels by 2100, which will severely impact Georgia's energy system and ecosystems (IEA, 2020[38]). Droughts are also expected to put further pressure on water availability. The government developed an urban water supply and sanitation sector development program that planned to invest USD 1.6 billion to ensure water supply and sanitation services to all of its urban residents by 2020 (ADB, n.d.[51]). The pace of development fell short of this ambition: In 2020, 18% of urban residents still had no access to piped water supply (ADB, 2020[52]).

Water projects planned and under construction amount for around USD 1.1 billion and they are mostly focused on water supply and sanitation projects (91%), while only one project worth USD 100 million focuses on irrigation and water management to improve the delivery of irrigation and drainage services in selected areas covered by the project (World Bank, n.d.[53]). Relevant water supply and sanitation projects include an Asian Development Bank-financed program to further upgrade the water and sanitation services in a number of secondary towns and cities, including in Telavi, (ADB, 2020[52]).

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

Georgia is in need of coherent long-term development strategies, having not adopted a single strategy that lays out its vision for economic development beyond 2020. In 2014, Georgia adopted its *Socio-economic Development Strategy*, which aimed to more than double 2013 levels of per capita GDP and boost exports.[4] It did not, however, articulate a clear vision of the infrastructure investments needed to support long-term sustainable growth; it only mentions the important role of transport infrastructure in trade facilitation and the country's goal to improve energy security. In developing a strategic vision for economic development beyond 2020, Georgia should set ambitious, measurable targets with clear ministerial responsibility and define the scope and nature of infrastructure investments that will be required.

Georgia's other adopted strategic documents on economic development, include its *Government Platform 2016-2020* and *Freedom, Rapid Development and Welfare: Government Programme for 2018-2020*, which expand on the country's priorities in the near term, but they do not contain quantitative, time-bound targets nor do they delegate responsibility for progress on government priorities. The most recent programme, *Government Programme 2021-2024: Toward Building a European State*, contains very few quantitative targets on infrastructure development.

Georgia has not yet adopted a long-term strategic document detailing the country's trajectory towards the Paris Agreement's mid-century climate change goals. USAID (2017[44]) has been helping Georgia develop a long-term low-emission development strategy since 2013 and has published a draft with measurable goals to 2030 for key sectors (energy, transport, industry, agriculture, LULUCF), but the government has not formally adopted it. Unlike all long-term low-emission development strategies that parties have communicated to the UNFCCC, Georgia's draft strategy looks only to 2030, not to 2050. Georgia should consider following Ukraine's example, being the first and, to date, only former Soviet Union country to submit a long-term low-emission development strategy with 2050 goals to the UNFCCC (2019[54]). A long-term low emission development strategy to 2050 is under development.

Georgia updated its first NDC, which is pending final adoption. It will be supported by a Climate Strategy and Action Plan, which will act as an implementation tool to achieve its NDC's mitigation and adaptation targets (Ministry of Environmental Protection and Agriculture of Georgia, 2019[55]). Georgia has made considerable progress towards integrating the 2030 Agenda and the SDGs into a national context with the development of its national SDG matrix.

At the local level, 24 municipalities have stepped up to join the Covenant of Mayors, an EU initiative, to commit to reducing GHG emissions by 20-30% by 2020 and 2030. Through the same initiative, several municipalities have also developed Sustainable Energy Action Plans (SEAPs).

Georgia is beginning to move towards a less *ad hoc* system of strategic planning at the sectoral level. The Ten-Year National Development Plans of the Georgian State Electrosystem have acted as unofficial strategies of the country's energy sector development, but Georgia has also elaborated (but not yet adopted) an Energy Strategy 2020-2030. The government has also approved several subsectoral action plans, including the National Renewable Energy Action Plan (NREAP) and the National Energy Efficiency Action Plan, as well as laws on energy efficiency and the energy performance of buildings. Although the development of an overarching energy strategy is a promising step, strategic planning could be strengthened through long-term economy-wide action plans that incorporate strategic milestones based on modelling (IEA, 2020[38]).

Other key sectors, like transport and industry, lack strategies to guide infrastructure development. Although Georgia has adopted transport-related strategies such as its *National Road Safety Strategy* (UNECE, 2016[56]) and the *Tbilisi Sustainable Urban Transport Strategy* (Municipal Development Fund of Georgia, 2015[57]), there is still no national transport development strategy with goals relating to transport infrastructure development. Georgia has adopted its *SME Development Strategy 2016-2020* (Ministry of Economy and Sustainable Development of Georgia, 2015[58]), but does not have strategies relating to industry or mining.

Institutional set-up and decision making processes

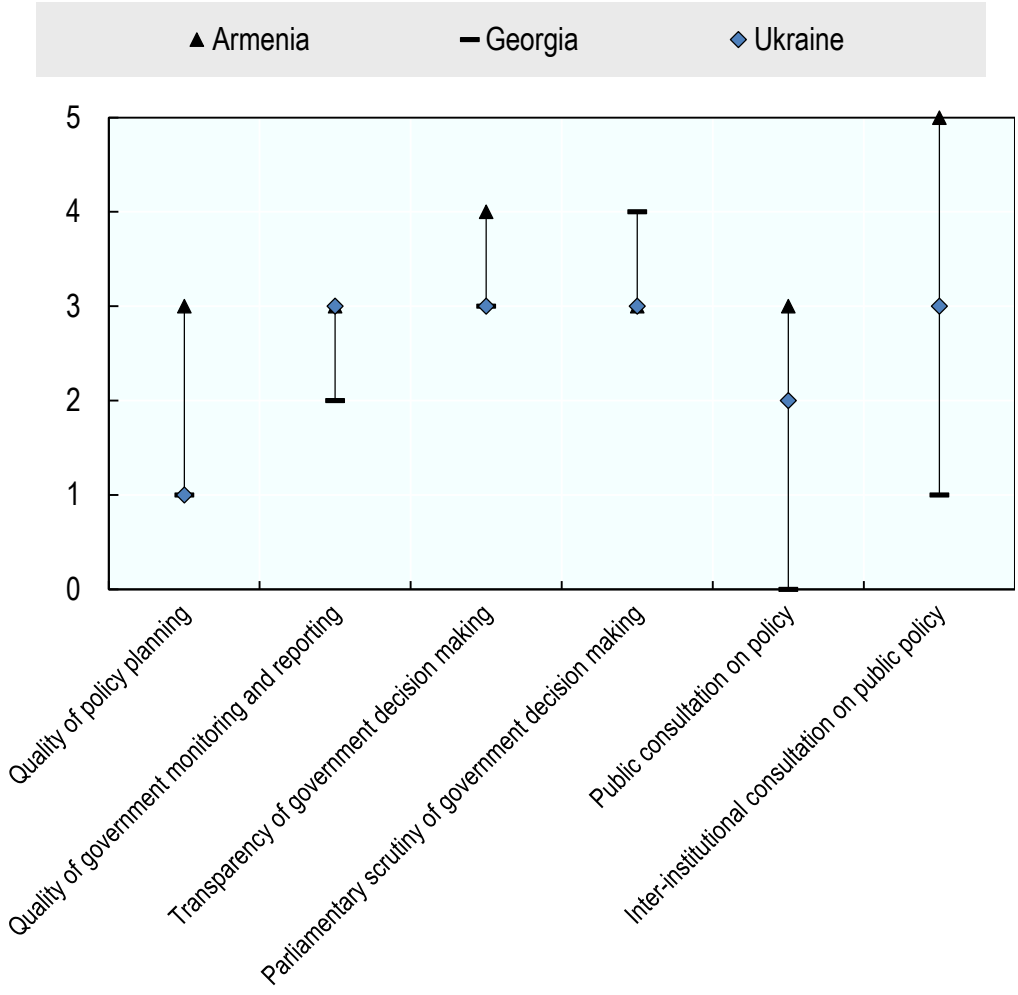
Georgia ranked 7th globally in 2020 on the World Bank Group's Ease of Doing Business Index, which measures protection of property rights and investors and the quality of business regulations. By comparison, the country ranked 100th in 2006. Georgia's impressive pace of pro-business reforms have made the country a leader in the region in terms of market liberalisation and attracting FDI. Georgia has also made considerable progress on involving the private sector in infrastructure development by elaborating a regulatory framework for public-private partnerships (PPPs), but government bodies responsible for managing infrastructure face major capacity constraints. To analyse risks effectively and develop, screen and implement infrastructure projects, the institutional capacity of government bodies in infrastructure development need to be strengthened (World Bank, 2018[21]).

Georgia has established a high-level Climate Change Council, chaired by the Minister of Environment Protection and Agriculture. The Council is designed to provide policy direction and guidance on climate action, improve cross-ministerial co-ordination and oversee the country's measuring, reporting and verification (MRV) system.

Georgia has improved its legislative framework and implementation of environmental impact assessments (EIAs), bringing its national legislation in line with the UNECE Convention on Environmental Impact Assessment in a Transboundary Context and taking steps to encourage more meaningful public consultation in the decision-making process (UNECE, 2020[59]). However, Georgia has not yet become a party to the Convention nor the Protocol on Strategic Environmental Assessment, and the quality of public consultations is still subject to considerable criticism. Georgia's performance on public consultation is its lowest score among several indicators on the quality of its policy development and co-ordination processes and much lower than its EaP peers, Armenia and Georgia (Figure 4.12). Overall, Georgia underperforms compared to Armenia and Ukraine, except in the area of parliamentary scrutiny of public policy.

Figure 4.12. Policy development and co-ordination indicators

Armenia (2019), Georgia (2018) and Ukraine (2018)



Source: OECD (2019[60]), *The Principles of Public Administration: Baseline Measurement Report: Armenia*, SIGMA, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Armenia-2019.pdf; OECD (2018[61]), *The Principles of Public Administration: Baseline Measurement Report: Georgia*, SIGMA, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Report-2018-Georgia.pdf; OECD (2018[62]), *The Principles of Public Administration: Baseline Measurement Report: Ukraine*, SIGMA, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Report-2018-Ukraine.pdf

Table 4.4. Main strategic documents in force

	Status	Time Horizon	Sectoral Coverage	Main objectives
Updated First Nationally Determined Contribution (NDC)	Submitted in 2017, updated in 2019, awaiting adoption (2021)	2017-2030	Economy-wide	• Unconditional Target: to reduce greenhouse gas emissions by 30% below 1990 levels by 2030 ○ Previous Unconditional Target: to reduce emissions by 15% below the business as usual scenario for 2030, this is equal to a reduction in emission intensity per unit of GDP by approximately 34% from 2013-2030. • Conditional Target: to reduce emissions by 50-57% below 1990 levels by 2030 ○ Previous Conditional Target: to reduce greenhouse gas emissions by 25%, this is equal to a reduction in emission intensity per unit of GDP by approximately 43% from 2013-2030. • Main sectors for emission reduction: Energy (transition to renewable energy), Industry (introduction of new technologies), Agriculture/Water (efficient management and policy making) Adaptation priorities: introduce innovative irrigation management and water application techniques, implement coastal zone protection technologies, implement list of strategic documents/policies
Socio-Economic Development Strategy – "Georgia 2020"	Adopted in 2014	2014-2020	Governance, Energy, Transport, Water, Industry	• Minimise state interference in the private sector, state intervention only where private sector is inefficient • Develop transport infrastructure to boost trade, specifically exports • Improve irrigation and drainage infrastructure • Ensure a stable and accessible energy supply in the future, reducing dependency on external energy sources Develop ecosystem services by improving management (e.g. sustainable management in the forestry sector)
Freedom, Rapid Development and Prosperity: Government Platform 2016-2020	Adopted in 2016	2016-2020	Governance, Energy, Transport, Water, Industry	• Improve monitoring of government processes and increase public engagement • Improve energy security, in turn reduce energy imports • Further strengthen the private sector (e.g. develop tax incentives) • Develop human capital, with higher education targeted towards the needs of the economy Develop road networks and public transit, helping develop tourism

	Status	Time Horizon	Sectoral Coverage	Main objectives
Freedom, Rapid Development and Welfare: Government Programme for 2018-2020	Adopted in 2018	2018-2020	Governance, Energy, Transport, Water, Industry	• Economic development based on principles of a free market economy • Aim to maintain the ratio of public debt to GDP at a stable level • Fully engage in international economic processes and attract FDI • Utilize local energy resources and diversify energy supply sources • Develop multi-modal transport and create logistics centres which are in line with international standards • Introduce modern technology and innovation to industrial production methods Long-term aim to fully integrate Georgia into the EU
SME Development Strategy 2016-2020	Adopted in 2015	2016-2020	Governance, industry	• Enhance competitiveness of SMEs in both domestic and international markets • Improve the skills of SMEs and develop a modern entrepreneurial culture • Ensure the improvement of the technological ability of SMEs • Aim to increase SMEs output by 10% annually by 2020 • Increase the number of employees in SMEs by 15% Increase the productivity of SMEs by 7%
National Biodiversity Strategy and Action Plan of Georgia 2014-2020	First adopted in 2005	2014-2020	Governance, Energy, Transport, Water, Industry	• Aim to inform at least 50% of the population about the importance of biodiversity • Ensure that the sustainable use of ecosystem services is incorporated into national legislation Actively introduce environmental policies in line with climatic change
National Security Concept of Georgia	Adopted in 2018	No defined timeframe	Governance	• Promote the development of a free, democratic society and strengthen the rule of law • Increase transparency at all levels of government • Ensure environmental security nationally and sub-nationally • Improve relations with the Russian Federation Develop economic cooperation and trade with the United States
Rural Development Strategy of Georgia 2017-2020 and Rural Development Strategy Action Plan 2017-2020	Adopted in 2017	2017-2020	Agriculture, Tourism, Environment	• Modernise agricultural activities and diversify rural economies Improve rural infrastructure and waste management systems
"Produce in Georgia"	Adopted in 2014	No defined timeframe	Industry	• Aim to inject USD 27 million into production industries Promote the development of the industrial sector (e.g. building materials, car building, textiles, electric accessories)

Table 4.5. Other relevant documents

	Statis	Time Horizon	Sectoral Coverage
Regional Development Strategy of Georgia for 2010-2017	Adopted in 2010	2010-2017	Multi-sector
Action Plan for the Implementation of DCFTA for 2014-2017	Adopted in 2014	2014-2017	Multi-sector
National Environmental Action Programme of Georgia for 2017-2021	Adopted in 2017	2017-2021	Multi-sector
Agriculture and Rural Development Strategy 2021-2027	Adopted in 2021	2021-2027	Agriculture
National Strategy and Action Plan on Environmental Education for Sustainable Development 2012-2014	Adopted in 2012-2014	2012-2014	Multi-sector
Long-Term Low-Emission Development Strategy (LT-LEDS)	Drafted in 2013, Not adopted	2013-2030	Multi-sector
National Green Economy Strategy 2021-2030	Not adopted	2021-2030	Multi-sector

References

ADB (2020), *Proposed Loans Georgia: Sustainable Water Supply and Sanitation Sector Development Program*, Asian Development Bank, Manila. [52]

ADB (2017), *The CAREC Corridors - Linking the Russian Federation with South Asia and the Middle East*, https://www.adb.org/news/infographics/carec-corridors-linking-russian-federation-south-asia-and-middle-east. [32]

ADB (n.d.), *Georgia: Developing an Urban Water Supply and Sanitation Sector Strategy and Regulatory Framework for Georgia*, ADB, Manila, https://www.adb.org/sites/default/files/project-document/60275/43556-012-geo-tcr.pdf. [51]

Benmaamar, M., O. Keou and D. Saslavsky (2015), *Georgia's Transport and Logistics Strategy: Achievements to Date and Areas for Improvements*, World Bank, Washington DC, http://documents.worldbank.org/curated/en/623591468191346382/pdf/96577-REVISED-WP-PUBLIC-Georgia-Box391464B-Final-Jan2015.pdf. [26]

Civil.Ge (2020), *Protests Against Namakhvani HPP Continue Despite Police Dispersal*, Civil.Ge, https://civil.ge/archives/382567 (accessed on 14 February 2021). [49]

Ellyatt, H. (2019), *Russia is still occupying 20% of our country, Georgia's prime minister says*, CNBC, https://www.cnbc.com/2019/01/22/russia-is-still-occupying-20percent-of-our-country-georgias-leader-says.html. [3]

Emerging Markets Forum (2019), *The Impact of the Belt and Road Initiative in Central Asia and the South Caucasus: "'Inside-out" Perspectives of Experts from the Region*, Emerging Markets Forum, Gerzensee, http://www.research.pmcg-i.com/images/banners/The%20Belt%20and%20Road%20Initiative%20in%20the%20South%20Caucasus%20Region.pdf. [36]

Energy Community (2020), *2020 Implementation Report*, https://energy-community.org/news/Energy-Community-News/2020/11/23.html#:~:text=The%20Energy%20Community%20Secretariat's%20Annual,from%2048%25%20to%2053%25. (accessed on 26 November 2019). [8]

European Commission (2019), *Eastern Partnership*, https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/eastern-partnership_en. [6]

European Commission (2017), *EU-Georgia Trade: Deep and Comprehensive Free Trade Area (DCFTA)*, European Commission, http://eeas.europa.eu/delegations/georgia/index_en.htm. [7]

fDi Markets (2019), *fDi Markets: the in-depth crossborder investment monitor (database)*, https://www.fdimarkets.com/. [16]

Georgia Today (2020), *Nenskra HPP: Preparatory Construction Works Are Underway*, Georgia Today, http://georgiatoday.ge/news/20377/Nenskra-HPP%3A-Preparatory-Construction-Works-Are-Underway?fbclid=IwAR2RFajxhdHFpAY0X6DnwsHrzDB53vIVhbxblJDtINAzcUg7vmXfh6y1YQM (accessed on 14 February 2021). [48]

Georgian Railway (n.d.), *About Us*, http://www.railway.ge/en/about-us/. [27]

Georgian State Electrosystem (2020), *Ten Year Network Development Plan of Georgia for 2020-2030*, Transmission System Operator JSC "Georgian State Electrosystem", Tbilisi, http://www.gse.com.ge/sw/static/file/TYNDP_GE-2020-2030_ENG.pdf (accessed on 14 February 2021). [47]

Georgian State Electrosystem (2016), *Ten Year Network Development Plan of Georgia for 2016-2026*, Transmission System Operator JSC "Georgian State Electrosystem", Tbilisi, http://www.gse.com.ge/sw/static/file/TYNDP_GE-2016-2026_ENG.pdf (accessed on 14 February 2021). [46]

Government of Georgia (2016), *Freedom Rapid Development Prosperity: Government Platform 2016-2020*, http://gov.ge/files/41_61087_816118_GoG_Platform_LKF_19_05_2017.pdf. [45]

Government of Georgia (2015), *Georgia's Third National Communication to the UNFCCC*, https://unfccc.int/resource/docs/natc/geonc3.pdf. [20]

Government of Georgia (2006), *Law of Georgia on Promotion and Guarantees of Investment Activity*, http://www.matsne.gov.ge. [11]

Grant Thornton (2018), *Doing business in Georgia 2018: Commercial guide for investors*, https://www.grantthornton.ge/globalassets/1.-member-firms/bronze/georgia/doing-business-in-georgia_2018.pdf. [12]

IBRD, IFC and MIGA (2018), *Country Partnership Framework for Georgia for the period FY19-FY22*, IBRD, IFC, MIGA, http://documents.worldbank.org/curated/en/588751525364587100/pdf/WBG-Georgia-CPF-FINAL-4-25-04302018.pdf. [33]

IEA (2020), *Electricity Information 2019*, https://www.iea.org/reports/electricity-information-2019 (accessed on 10 August 2020). [40]

IEA (2020), *Georgia 2020 Energy Policy Review*, OECD Publishing, Paris, https://dx.doi.org/10.1787/9efd2ee9-en. [38]

IEA (2019), *World Energy Balances 2019*, International Energy Agency, Paris, https://doi.org/10.1787/3a876031-en (accessed on 10 August 2020). [41]

IEA (2019), *World Energy Statistics 2019*, International Energy Agency, Paris, https://doi.org/10.1787/2e828dea-en. [35]

IMF (2021), *World Economic Outlook: October 2020*, https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD. [2]

IMF (2020), *Georgia : Seventh Review Under the Extended Fund Facility Arrangement and Request for Modification of Performance Criteria-Press Release; Staff Report; and Statement by the Executive Director for Georgia*, International Monetary Fund (IMF), Washington, D.C., https://www.imf.org/en/Publications/CR/Issues/2020/12/18/Georgia-Seventh-Review-Under-the-Extended-Fund-Facility-Arrangement-and-Request-for-49973 (accessed on 12 February 2021). [18]

ITF (2019), *Transport Performance Indicators*, https://www.oecd-ilibrary.org/transport/data/itf-transport-statistics/transport-performance-indicators_2122fa17-en. [23]

Lomsadze, G. (2020), "Georgia cancels contract for Black Sea megaport", *Eurasianet*, https://eurasianet.org/georgia-cancels-contract-for-black-sea-megaport (accessed on 13 February 2021). [34]

Ministry of Economy and Sustainable Development of Georgia (2019), *National Renewable Energy Action Plan (NREAP)*, Ministry of Economy and Sustainable Development of Georgia, Tbilisi, http://www.moesd.gov.ge/uploads/files/2017/energy/samoqmedo_gegma/nreap_v_3_eng_21022020.pdf (accessed on 13 February 2021). [37]

Ministry of Economy and Sustainable Development of Georgia (2015), *SME Development Strategy of Georgia 2016-2020*, http://www.economy.ge/uploads/files/2017/ek__politika/eng_sme_development_strategy.pdf. [58]

Ministry of Environmental Protection and Agriculture of Georgia (2019), *Georgia's Second Biennial Update Report*, Ministry of Environmental Protection and Agriculture of Georgia, Tblisi, https://unfccc.int/documents/196359 (accessed on 17 October 2019). [19]

Ministry of Environmental Protection and Agriculture of Georgia (2019), *Georgia's Updated Nationally Determined Contribution*. [55]

Municipal Development Fund of Georgia (2015), *Tbilisi Sustainable Urban Transport Strategy*, http://mdf.org.ge/storage/assets/file/documents%202016/murtazi/Strategic%20Paper%20Report%20PDF%20Geo(18_03_2016)/Strategic%20Paper%20Report%20final%20ENG.pdf. [57]

National Statistics Office of Georgia (2021), *Foreign Direct Investments by Countries*, https://www.geostat.ge/en/modules/categories/191/foreign-direct-investments. [17]

National Statistics Office of Georgia (2020), *Production value in industry*, Industry, https://www.geostat.ge/en/modules/categories/77/mretsveloba (accessed on 14 February 2021). [50]

National Statistics Office of Georgia (2020), *Statistical Yearbook of Georgia 2020*, National Statistics Office of Georgia, Tbilisi, https://www.geostat.ge/media/35685/Yearbook_2020.pdf (accessed on 12 February 2021). [24]

National Statistics Office of Georgia (2019), *Energy Balance of Georgia, 2019*, National Statistics Office of Georgia, Tbilisi, https://www.geostat.ge/en/modules/categories/681/energy-balance-of-georgia-2019 (accessed on 13 February 2021). [43]

Observatory of Economic Complexity (2019), *Georgia: Exports, Imports, and Trade Partners*, https://oec.world/en/profile/country/geo (accessed on 20 August 2020). [9]

OECD (2021), *COVID-19 and greening the economies of Eastern Europe, the Caucasus and Central Asia*, http://www.oecd.org/coronavirus/policy-responses/covid-19-and-greening-the-economies-of-eastern-europe-the-caucasus-and-central-asia-40f4d34f/ (accessed on 10 March 2021). [5]

OECD (2020), *Investment Promotion in Eurasia: A Mapping of Investment Promotion Agencies*, OECD Publishing, Paris, http://www.oecd.org/eurasia/competitiveness-programme/Investment-Promotion-in-Eurasia-A-Mapping-of-Investment-Promotion-Agencies-ENG.pdf (accessed on 11 February 2021). [13]

OECD (2020), *OECD Investment Policy Reviews: Georgia*, OECD Investment Policy Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/0d33d7b7-en. [14]

OECD (2019), *Baseline Measurement Report: The Principles of Public Administration: Armenia*, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Armenia-2019.pdf (accessed on 12 August 2020). [60]

OECD (2018), *The Principles of Public Administration Policy Development and Co-ordination: Baseline Measurement Report: Georgia*, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Report-2018-Georgia.pdf (accessed on 13 August 2020). [61]

OECD (2018), *The Principles of Public Administration: Baseline Measurement Report: Ukraine*, OECD Publishing, Paris, http://www.sigmaweb.org/publications/Baseline-Measurement-Report-2018-Ukraine.pdf (accessed on 13 August 2020). [62]

Roser, M. et al. (2021), *Coronavirus Pandemic (COVID-19)*, OurWorldInData.Org, https://ourworldindata.org/coronavirus (accessed on 9 September 2020). [4]

TRACECA (2018), *Georgia: General Overview of the Transport Sector*, http://www.traceca-org.org/en/countries/georgia/general-overview-of-the-transport-sector/. [31]

Transparency International (2019), *CPI 2019: Eastern Europe & Central Asia*, https://www.transparency.org/en/news/cpi-2019-eastern-europe-central-asia (accessed on 20 July 2020). [15]

UNCTAD (2021), *Handbook of Statistics: Maritime Transport Indicators*, https://stats.unctad.org/handbook/MaritimeTransport/Indicators.html. [30]

UNECE (2020), *Report of the Meeting of the Parties to the Convention on its eighth session and of the Meeting of the Parties to the Convention serving as the Meeting of the Parties to the Protocol on its fourth session*, United Nations Economic Commission for Europe (UNECE), Vilnius, https://unece.org/sites/default/files/2021-02/ECE.MP_.EIA_.30-ECE.MP_.EIA_.SEA_.13_Advance%20copy.pdf (accessed on 14 February 2021). [59]

UNECE (2018), *2018 Transport Statistics Infocards*, UNECE, http://www.unece.org/trans/main/wp6/infocards.html. [25]

UNECE (2016), *Georgia Environmental Performance Reviews: Third Review*, UNECE, Geneva, https://www.unece.org/fileadmin/DAM/env/epr/epr_studies/ECE_CEP_177.pdf. [42]

UNECE (2016), *Georgia's National Road Safety Strategy*, UNECE, https://www.unece.org/fileadmin/DAM/trans/doc/2018/UNDA/Georgia_s_National_Road_Safety_Strategy_2016.pdf. [56]

UNESCAP (2018), *Capacity Building Workshop on Facilitation of International Railway Transport*, https://www.unescap.org/sites/default/files/Country_Georgia_Railways.pdf. [28]

UNFCCC (2019), *Communication of long-term strategies*, https://unfccc.int/process/the-paris-agreement/long-term-strategies. [54]

United States Agency for International Development (2017), *Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program: Georgia's Low Emission Development Strategy (LEDS)*, USAID, Washington DC, https://www.decisionwaregroup.com/assets/wi-172_2017-09-14-georgia-s-low-emission-develdevelopment-strategy_eng.pdf. [44]

World Bank (2021), *World Development Indicators (database)*, https://datacatalog.worldbank.org/dataset/world-development-indicators. [1]

World Bank (2020), *Doing Business 2020*, World Bank Group, Washington, DC, http://dx.doi.org/10.1596/978-1-4648-1440-2. [10]

World Bank (2020), *Improving Freight Transit and Logistics Performance of the Trans-Caucasus Transit Corridor: Strategy and Action Plan*, World Bank Group, Washington, D.C., https://openknowledge.worldbank.org/bitstream/handle/10986/33554/Improving-Freight-Transit-and-Logistics-Performance-of-the-Trans-Caucasus-Transit-Corridor-Strategy-and-Action-Plan.pdf?sequence=1&isAllowed=y (accessed on 13 February 2021). [29]

World Bank (2018), *Georgia from Reformer to Performer*, World Bank, Washington DC, http://documents.worldbank.org/curated/en/496731525097717444/pdf/GEO-SCD-04-24-04272018.pdf. [21]

World Bank (n.d.), *Irrigation and Land Market Development Project*, http://projects.worldbank.org/P133828/?lang=en&tab=overview. [53]

World Economic Forum (2019), *The Global Competitiveness Report 2019*, World Economic Forum, Geneva, http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf (accessed on 23 July 2020). [22]

World Experience for Georgia (2017), *Enguri HPP and Energy Supply to Abkhazia-Energy and National Security Challenge*, https://eadaily.com/ru/news/2017/10/26/energopotreblenie-abhazii-rastet-ezhegodno-na-9-prognoziruyutsya-. [39]

Notes

[1] The EU Eastern Partnership (EaP) is a joint initiative for strengthening the relationships between the European Union, its member states and six countries (hereafter the EaP countries): Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

[2] Confirmed case and death figures are underestimates of actual case and death numbers. Methodology and testing rates vary widely, and international comparisons are necessarily flawed.

[3] The definition of small-scale hydro varies widely from country to country, ranging from less than 50 MW (Canada, China) to less than 1.5 MW (Sweden). In Georgia, the government defines small hydro as power plants with a generation capacity between 1 MW and 13 MW; smaller plants are mini (100 kW-1 MW) and micro (up to 100 kW).

[4] This first goal was not achieved, although in terms of purchasing power parity significant progress was made: USD 15.6 thousand in 2019 compared to USD 10.6 thousand in 2013. As for the second goal, exports have increased slightly over the relevant period: USD 3.4 billion in 2013 and USD 3.8 billion in 2018.