

# Overview

This report presents the regional situation of infrastructure investments in the countries of the EU Eastern Partnership, including the gap between growing infrastructure needs and sluggish investment flows, and the resulting challenges for trade integration and regional connectivity. It describes regional infrastructure development initiatives, including TRACECA and the Belt and Road Initiative, and their potential role in improving connectivity. It also presents the makeup of current infrastructure investments in the six countries of the Eastern Partnership (Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine), focusing on the transport and energy sectors.

## The infrastructure gap

### ***Relatively poor quality infrastructure has hampered regional integration, connectivity and economic development***

The countries of the European Union's Eastern Partnership (EaP)<sup>1</sup> are increasingly setting development objectives to take advantage of their strategic location between the markets of Europe and Asia, but the relatively low quality of infrastructure impedes further development of trade and local economies. Despite increased levels of domestic investment in recent years and increasing interest from foreign investors as EaP countries improve their investment climates, investment needs to be scaled up to facilitate economic development, provide high-quality, reliable and sustainable infrastructure services (e.g. electricity, mobility, drinking water and sanitation) and integrate into global value chains.

The increased trans-Eurasian overland transit could be an important turning point for Eastern Europe, the Caucasus and Central Asian (EECCA) countries towards greater trade integration. Given that in recent years China has established itself as a more central player in global value chains, and trade between China and Europe is currently averaging over USD 1 billion a day, opportunities exist for EECCA countries in sectors such as industrial and consumer goods, textiles, and machinery and equipment (Kunzel et al., 2019<sup>[1]</sup>).

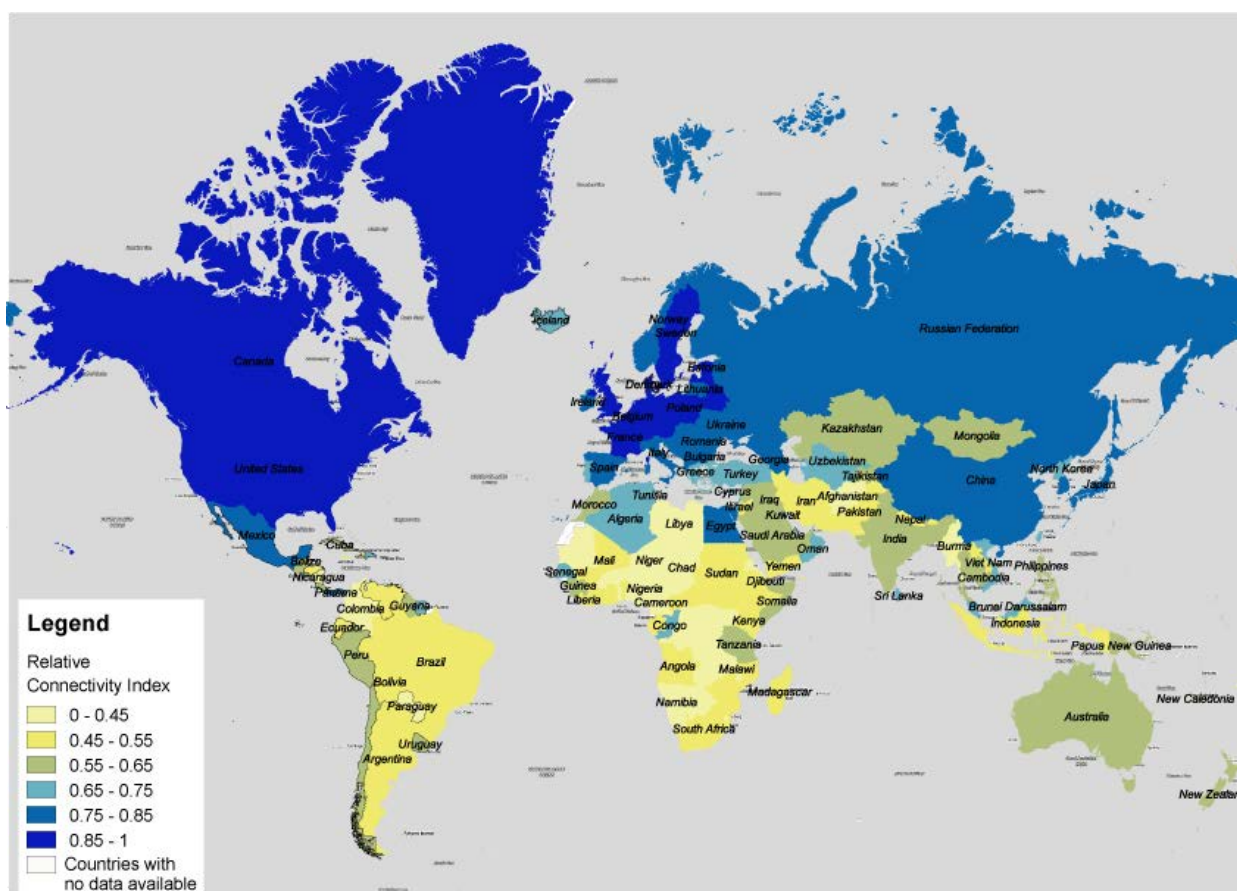
Overall, the connectivity of EaP countries depends on how well they are positioned in global logistics networks, infrastructure and services. Across the region, there is considerable scope to improve connectivity with the rest of the world. According to one measure of connectivity (defined in terms of access to global GDP as compared to Germany, one of the best global performers), the connectivity gap of Eastern European EaP countries (Belarus, Moldova and Ukraine) is larger than in the South Caucasus (Armenia, Azerbaijan and Georgia). While the Eastern European EaP countries enjoy access to global GDP of around 30 to 40 percentage points below that of Germany, while in the South Caucasus (Armenia, Azerbaijan, Georgia) the gap stands at about 20 to 30 percentage points (Figure 0.1). In this regard, EaP countries are better positioned than the countries of Central Asia, which were the subject of a previous OECD review of infrastructure plans (OECD, 2019<sup>[2]</sup>), but remain at a disadvantage compared to other emerging economies in the region, notably in Southeast Europe and North Africa.

International trade is relatively important to EaP countries, but their trade and logistics systems underperform compared to those of similarly trade-reliant countries across the globe (Figure 0.2). At present, the cost of shipping a container from Chengdu, China to Europe via the Trans-Caucasus Transit

Corridor is about USD 3 500 – 4 500 per forty-foot equivalent unit (FEU), while the Northern Corridor via Russia costs USD 2 800 – 3 200 per TEU and the maritime transportation costs only USD 1 500 – 2 000 per FEU. Despite this cost disadvantage, land connections via the Trans-Caucasus Transit Corridor and the Northern Corridor offer a valuable opportunity to increase the capacity and resilience of routes for containerised freight between Asia and Europe while stimulating market competition between routes. The Non-EaP countries, such as Kazakhstan and Turkmenistan, also stand to benefit from further development of the Trans-Caucasus Transit Corridor in particular, since it would facilitate trade access for these countries to Europe (World Bank, 2020<sup>[3]</sup>).

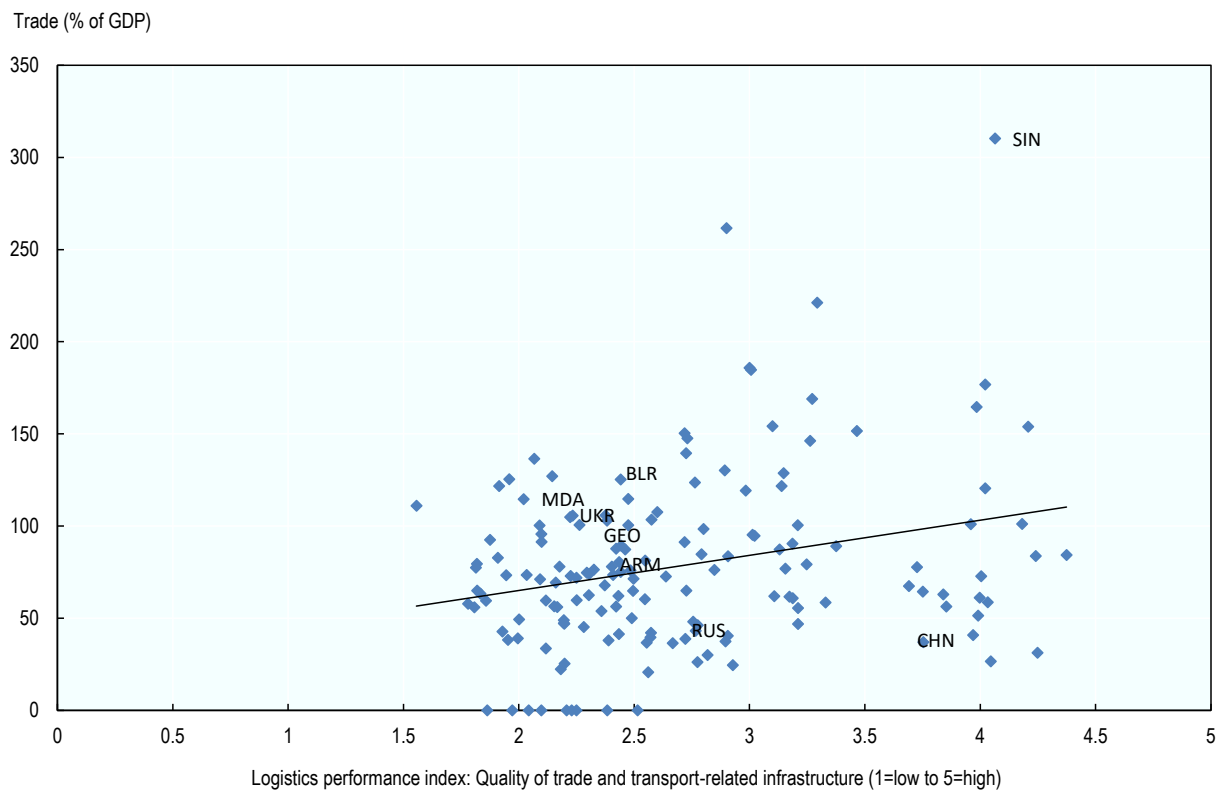
**Figure 0.1. Global connectivity**

Access to Global GDP (%)



Source: ITF (2019<sup>[4]</sup>), "Enhancing Connectivity and Freight in Central Asia", International Transport Forum Policy Papers, No. 71, OECD Publishing, Paris.

Figure 0.2. Logistics costs and trade openness

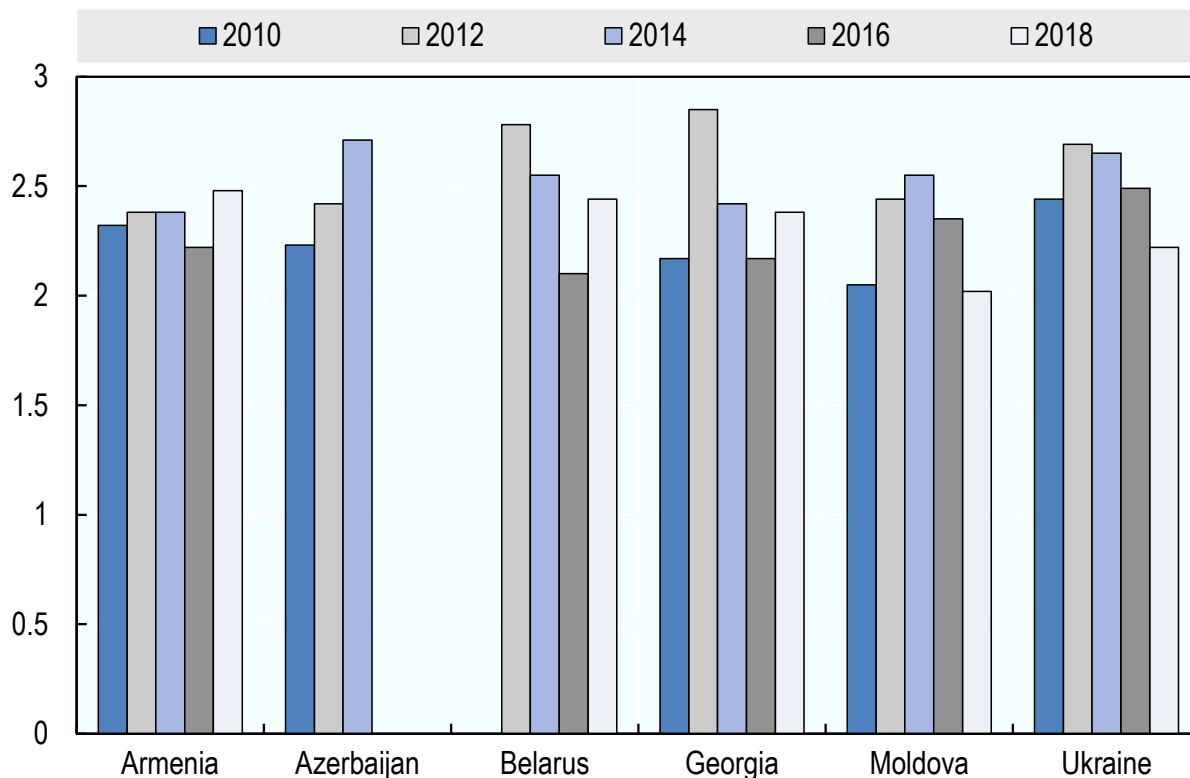


Source: World Bank (2021<sup>[65]</sup>), *Logistics Performance Index* (database), <https://lpi.worldbank.org/international/aggregated-ranking>; World Bank (2021<sup>[66]</sup>), *World Development Indicators* (database), World Bank, <https://data.worldbank.org/>

The performance of logistics infrastructure in EaP countries, as measured by the World Bank's Logistic Performance Index (LPI) infrastructure indicator, has not demonstrated a clear upwards trend over the past decade and, in some cases, appears to be in decline (Figure 0.3). While EaP countries in the South Caucasus have remained at the same level or shown slight improvement, the countries of Eastern Europe have, as a rule, performed worse on this metric in recent years than in the early 2010s. In general, low-quality infrastructure leads to high costs of transportation, which hampers competitiveness. With few exceptions such as Azerbaijan, economies of the region still face challenges linked to underperforming transport infrastructure and services as reflected in a number of infrastructure indicators and perception assessments (Table 0.1).

**Figure 0.3. The World Bank's Logistic Performance Index, Infrastructure Indicator**

Score from 1 to 5 (best)



Source: World Bank (2021<sup>[5]</sup>), *Logistics Performance Index* (database), <https://lpi.worldbank.org/international/aggregated-ranking>

With regards to the energy sector, all countries have achieved universal access to electricity. However, energy infrastructure assets, notably transmission and distribution lines, are generally of poor quality due to underinvestment in maintenance and replacement of existing facilities in the past decade: losses along the electric grid are high, and power outages frequent. Coal is a major source of energy only in Ukraine, but natural gas and other fossil fuels remain crucial components of EaP countries' energy mixes. Reliance on fossil fuels extends even to countries like Georgia, where hydroelectricity is by far the largest source of electricity but, due to seasonal variation, needs to be supplemented by imported natural gas. Continued investment in fossil fuel-fired power generation risks locking certain EaP countries into unsustainable development pathways.

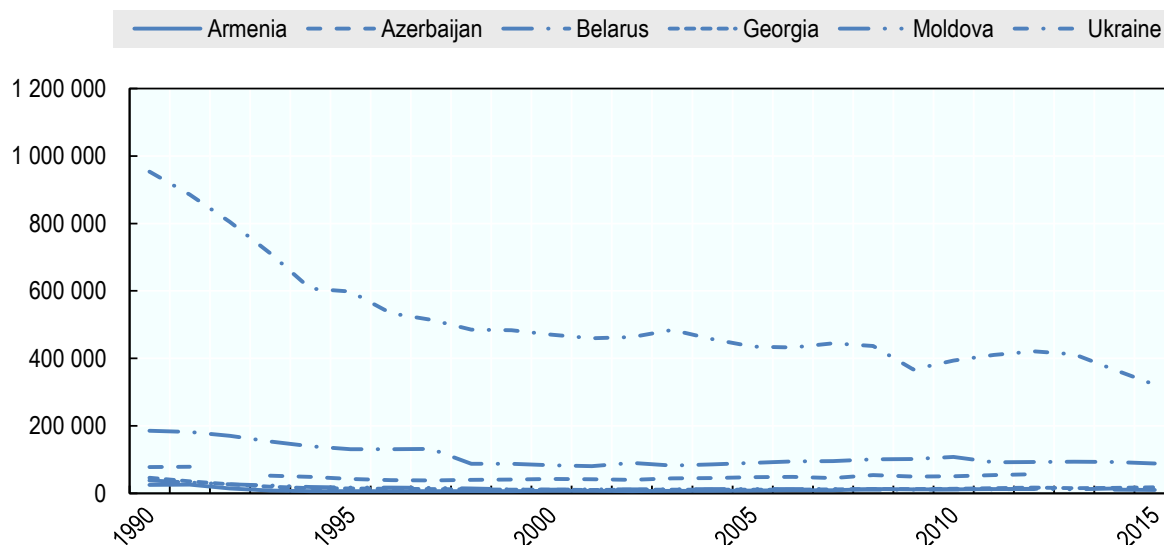
**Table 0.1. Selected infrastructure indicators in the EU Eastern Partnership**

	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
<b>Energy</b>						
Electricity production from coal sources (% of total) 2019	0	0	<0.1	0.1	0	30.8
Electric power transmission and distribution losses (% of output) 2019	11.1	9.8		6.8	18.8	10.3
<b>Transport</b>						
Quality of roads, 1 (worst) – 7 (best), WEF 2019	3.6	5.2		3.8	2.6	3.0
Quality of train services, 1 (worst) – 7 (best), WEF 2019	3.1	5.2		3.9	3.0	4.2
Quality of seaport services, 1 (worst) – 7 (best), WEF 2019	2.4	5.1		3.8	2.3	3.9
Quality of air transport infrastructure, 1 (worst) – 7 (best), WEF 2019	4.6	5.8		4.4	4.4	4.0
<b>Water and sanitation</b>						
People using safely managed drinking water services (% of population with access) 2017	86.5	73.6	94.5	80.0	72.9	92.0
People using safely managed sanitation services (% of population with access) 2017	48.2		80.5	27.2		68.5

Source: World Bank (2021<sup>[6]</sup>), World Economic Forum (2019<sup>[7]</sup>)

Energy, including fuel combustion from transport, accounts for more than half of all greenhouse gas emissions in EaP countries, ranging from 62% in Belarus and Georgia to 75% in Azerbaijan. Due in part to ageing, inefficient infrastructure and insufficiently insulated buildings, there is considerable scope for energy efficiency improvements and, consequently, greenhouse gas emissions reductions. The largest greenhouse gas emitter in absolute terms among EaP countries is Ukraine, by far the most populous country in the region, with emissions that are nearly twice those of the other five EaP countries combined. Ukraine's emissions have declined since independence and currently amount to less than half of their pre-independence levels (Figure 0.4). In per capita terms, Belarus is the largest emitter, closely followed by Ukraine.

Figure 0.4. GHG emissions by country, 1990-2015

In ktCO<sub>2</sub>e

Source: World Bank (2021<sup>[6]</sup>), *World Development Indicators (database)*, World Bank, <https://data.worldbank.org/indicator/EN.ATM.GHGT.ZG>

### ***Regional initiatives are an opportunity to close the infrastructure gap***

The EaP countries' economic development strategies recognise the need to address infrastructure bottlenecks and to enhance connectivity. A number of sub-regional projects, programmes and strategies focus on transport infrastructure and are intended to increase connectivity, improve infrastructure service delivery and spur competitiveness (Table 0.2). This includes the European Union's Transport Corridor Europe-Caucasus-Asia (TRACECA), which focuses on the development of trade and transport connections as well as broader economic relations between the European Union and twelve countries, including five of the six EaP countries. Such regional programmes aim to provide sufficient infrastructure to ensure a high level of transport connectivity and integration into different modes of transport (OECD, 2018<sup>[8]</sup>).

**Table 0.2. Regional transport corridor initiatives in Eastern Europe, the Caucasus and Central Asia, including the EaP countries**

Project name	Amount of investment (in USD billion)	Countries or continents covered
Belt and Road Initiative (BRI)	900-8000	<b>Europe</b> , Asia, Africa
The Central Asia Regional Economic Cooperation (CAREC) Program	31.5	Afghanistan, <b>Azerbaijan</b> , People's Republic of China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, Uzbekistan
Transport Corridor Europe Caucasus Asia (TRACECA)	0.16	<b>Armenia</b> , <b>Azerbaijan</b> , Bulgaria, <b>Georgia</b> , Kazakhstan, Kyrgyzstan, Iran, Moldova, Romania, Turkey, <b>Ukraine</b> , Uzbekistan, Tajikistan, Turkmenistan, plus the member states of the European Union.
Trans-Asian Railway (TAR)	75.6	Afghanistan, <b>Armenia</b> , <b>Azerbaijan</b> , Bangladesh, <b>Belarus</b> , Bhutan, Brunei, Cambodia, China, India, Indonesia, Iran, Kazakhstan, Laos, Mongolia, Nepal, Pakistan, South Korea, Russia, Sri Lanka, Tajikistan, Thailand, Turkey, Turkmenistan, Uzbekistan, Vietnam.

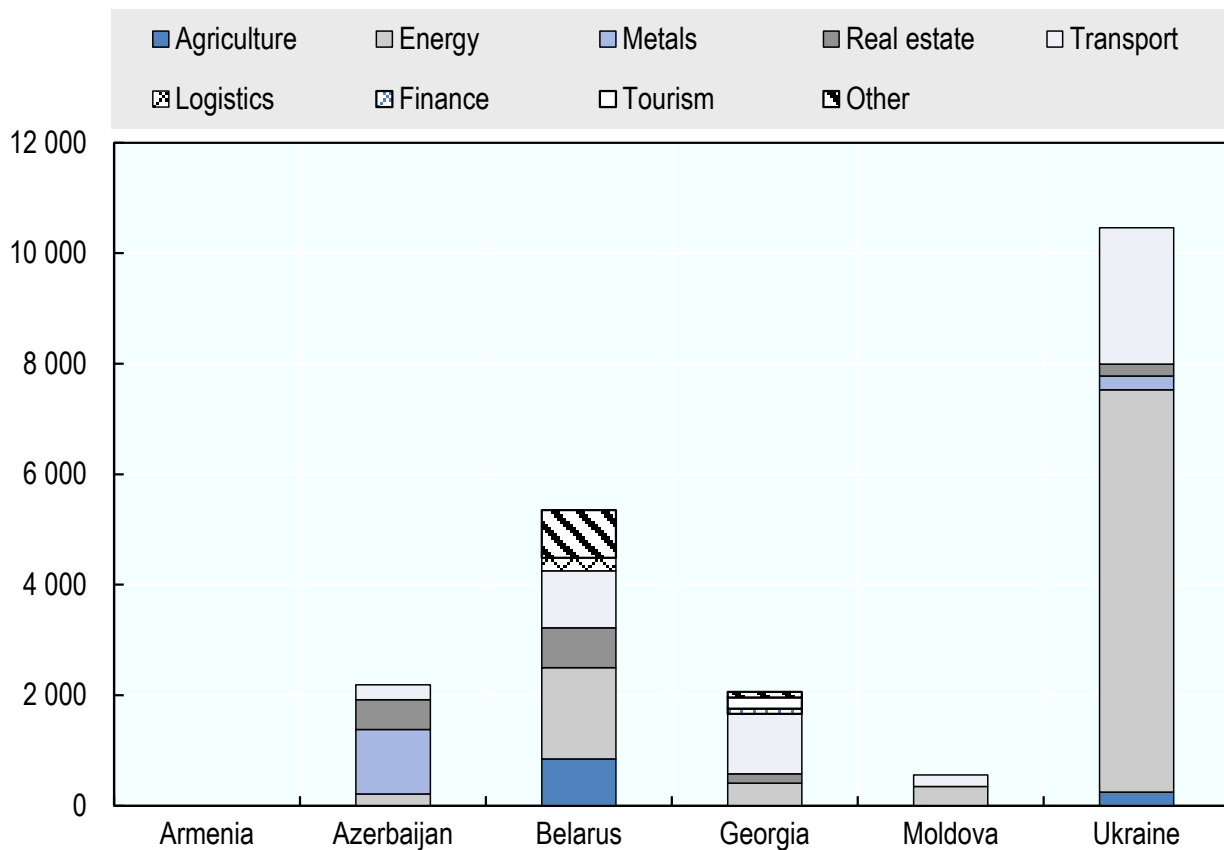
Source: ITF (2019<sup>[4]</sup>), "Enhancing Connectivity and Freight in Central Asia", International Transport Forum Policy Papers, No. 71, OECD Publishing, Paris.

Another significant global infrastructure initiative with significant implications for Eastern Europe and the Caucasus is China's Belt and Road Initiative (BRI). Proposed in 2013, the BRI aims to improve global connectivity and co-operation. While the scope of the BRI is not clearly defined, there are two main components involving investments in infrastructure, namely the Silk Road Economic Belt (the overland "Belt") and the New Maritime Silk Road (the sea routes constituting the "Road") (Freund and Ruta, 2018<sup>[9]</sup>). The Belt will link China to Central and South Asia and onward to Europe, while the Road will better connect China with Southeast Asia, the countries of the Persian Gulf, East and North Africa and to Europe. The BRI could significantly improve trade, investment and living conditions for citizens in the region. However, this will only occur if China and the individual recipient countries implement deeper policy reforms aimed at improving transparency, expanding trade, improving debt sustainability, while mitigating environmental, social and governance risks (World Bank, 2019<sup>[10]</sup>). As part of the BRI, there are six proposed overland economic corridors, two of which pass through the EaP countries: the New Eurasian Land Bridge (which connects China to Europe via Kazakhstan, Russia and the Eastern European EaP countries) and the China-Central Asia-West Asia Economic Corridor (which passes through the South Caucasus).

In recent years, certain EaP economies have become large recipients of Chinese investments, with over USD 20.6 billion of investments between 2005 and 2020 (Figure 0.5). The China Global Investment Tracker, a database that tracks investment projects by China worldwide, demonstrate that most of these investments in the EaP region focus on the energy sector, accounting for almost half (48% or USD 9.9 billion) of total investments. The transport sector received the second most investment (24.5% or USD 5 billion), followed by real estate (8%) and metals (8%). The largest recipient of Chinese investments in the region is Ukraine (USD 10.5 billion, mostly in energy and transport), followed by Belarus (USD 5.4 billion, spread across energy, transport, agriculture and real estate), Azerbaijan (USD 2.2 billion, mostly in metals and real estate) and Georgia (USD 2.1 billion, mostly in transport).

**Figure 0.5. Chinese investment across EaP countries, by sector**

In USD million



Source: American Enterprise Institute (2021<sup>[11]</sup>), "China Global Investment Tracker", <http://www.aei.org/china-global-investment-tracker/>

## The investment environment

### ***The investment climate is improving in the EaP region but private sector participation needs to be scaled up***

In recent years, EaP countries have implemented reforms that have made them more attractive destinations for investment. Their improving investment climates are reflected in selected indicators in Table 0.3. According to the World Bank Doing Business indicators, the region has made progress in the areas of fiscal, regulatory and political reforms. Increased electricity access, coupled with strengthened rule of law and better corporate tax regulations have further improved the confidence of investors to invest in individual countries in the region. For instance, Georgia has become one of the most open economies in the world in terms of ease of doing business, ranking 7<sup>th</sup> worldwide in 2020. Azerbaijan also performed relatively better than its regional peers in 2020, ranking 34<sup>th</sup>. In most countries, deeper reforms are needed to further leverage domestic and international private investment. An endemic problem in several EaP countries is corruption, which not only discourages investment but also impacts public service delivery and infrastructure development due to misuse of funds. Corruption is perceived to be a particularly pervasive problem in Azerbaijan, Moldova and Ukraine.



**Table 0.3. Selected investment climate indicators in EaP countries**

	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
GDP per capita (USD, constant 2010 dollars, 2019)	4 732	5 880	6 679	4 978	3 720	3 225
FDI, net inflows (as % of GDP, 2019)	1.9%	3.1%	2.0%	7.3%	5.0%	3.8
Number of procedures [and number of days] to start a business, 2020	3 [4]	3 [3.5]	4 [8.5]	1 [1]	4 [4]	6 [6.5]
Number of procedures to get electricity, 2020	2	7	3	3	6	5
Number of tax payments per year, 2020	15	9	7	5	10	5
Hours required to file taxes per year, 2020	264	159	170	216	183	328
Ability to trade across borders (0 to 100 best performance), 2020	91.7	77	96.5	90.1	92.3	80.1
Corruption Perceptions Index (rank out of 180 countries, 2020)	60	129	63	45	115	117

Source: World Bank (2021<sup>[6]</sup>), Transparency International (2020<sup>[12]</sup>).

## Overview of current infrastructure projects, planned and under construction

The OECD's database on large-scale infrastructure investment projects in the transport, energy, industry and water sectors (see Reader's guide for information on methodology and scope) tracks around USD 120 billion of planned and under construction infrastructure projects in the six EaP countries – Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. Energy projects account for just under half (46% or USD 55 billion), followed by transport (35% or USD 42 billion) and industry and mining projects (16% or USD 19 billion) (Figure 0.6). Finally, water projects, primarily water supply and sanitation projects, account for 2.5% (USD 494 million) of total investments tracked by the database.

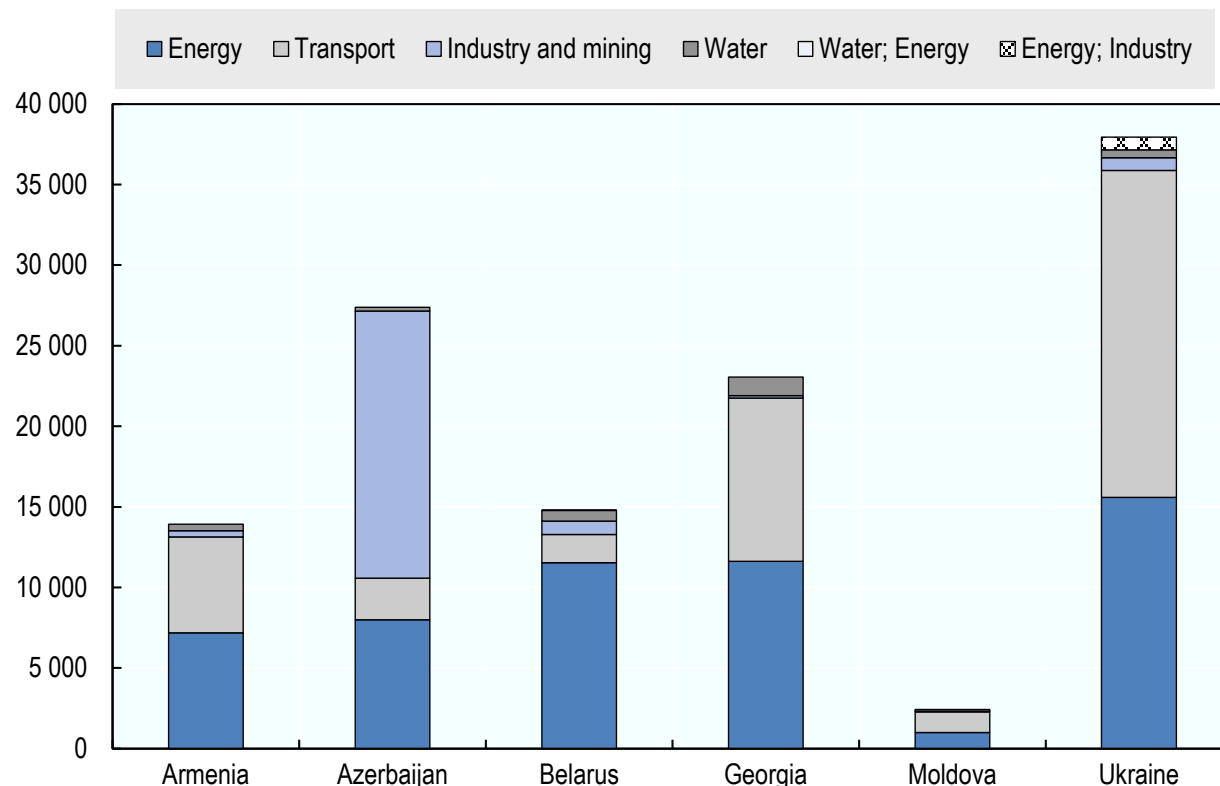
Within energy projects, electricity generation projects account for over half of investments by value (63% or USD 40 billion) followed by oil and gas pipelines (13% or USD 8.5 billion) and upstream oil and gas (11% or USD 7.1 billion). Capital-intensive nuclear energy projects in Armenia and Belarus make up just over half of all power generation investments in EaP countries, while hydroelectric projects, particularly in Georgia, account for 29.8% of power generation investments. Non-hydro renewable projects, predominantly wind, collectively account for a further 15.7%. Many EaP countries have prioritised energy security and diversifying their energy mixes away from natural gas. Armenia and Belarus have adopted strategies based on nuclear energy development, while other EaP countries have begun turning to renewables as a means of diversifying power supply.

In the transport sector, road projects represent two thirds of investments by value (66% or USD 27.8 billion), while rail accounts for 16% of transport investments (USD 6.6 billion). In certain EaP countries, investment projects focus on improving and expanding existing road networks, due to concerns about domestic transport connectivity and providing access to quality roads to facilitate economic mobility.

Country-by-country analyses of trends in infrastructure investment in the six EaP countries are presented in Chapters 1-6 of the present report.

**Figure 0.6. Investment projects in the Eastern Partnership, by country and sector**

In USD million



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

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## Notes

<sup>1</sup> 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.



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