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Green Economy in Eastern Partner Countries

De-risking green investments in the EU Eastern Partnership and in Central Asia



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Abstract

Over the last two decades, international financial institutions have made significant efforts to support investment in climate and environment related sectors in the countries of the EU Eastern Partnership (Armenia, Azerbaijan, Georgia, Moldova, and Ukraine) and Central Asia (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan). A growing focus of international support has become the objective to create instruments that address key investment risks, including policy risks, financial (e.g. cost and availability of capital) and technical risks as well risks related to the lack of capacity and awareness among both financial institutions and borrowers.

Prudent use of public capital can help reduce such risks. Risk mitigation measures, employed by public entities to improve market conditions for investors, can support greater financial flows into the green economy. De-risking can be achieved through a range of measures such as concessional debt, public equity, guarantees and currency hedging as well as technical assistance programmes.

Keywords: Climate change, environment, low-carbon technologies, financial markets, financial instruments, de-risking instruments.

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Executive summary

1. Achieving the green and net-zero transformation requires massive financial resources. Despite many years of evolution in financial markets and significant international support, many green projects across the world (particularly those requiring substantial upfront investment), remain unfunded due to a number of investment risks and barriers such as technology, infrastructure and information barriers or geopolitical and security risks, among others. Access to finance remains an issue, with high costs of debt capital, short maturities and stringent collateral requirements for potential green borrowers. Compared to more advanced market economies, these challenges remain particularly present in the countries of the European Union's Eastern Partnership (EaP) region and Central Asia.

2. However, public capital, applied judiciously to support risk-mitigation instruments, can reduce some of these risks and enhance investment flows into the green economy. Risk-mitigation instruments, that are available to both governments and private investors, are those that reallocate, share or reduce the existing or potential risks associated with investment. They fall into two broad categories: policy de-risking and financial de-risking. These instruments can be used to reduce risks impacting green projects and further scale up green investments in the region. Given the large number of financial sources and instruments, the report aims to help the reader navigate the complex landscape of the green international financing architecture and its specific tools. This report focuses mostly on financial de-risking.

Despite progress, financial and capital markets in the EaP and Central Asia countries continue to face challenges....

3. Over the past decade, progress has been made to make financial markets in the EaP countries and Central Asia more robust. A number of regulatory and supervisory changes have been implemented such as strengthening the standards for corporate governance and improving transparency requirements (e.g. in Azerbaijan) and conducting annual banking system-wide asset quality reviews (e.g. in Kazakhstan). At the same time, capital markets in the EaP and Central Asia region remain insufficiently developed due to economic, political, and regulatory challenges as well as the lack of expertise among financial institutions. Furthermore, these markets have been impacted by currency depreciation or a high degree of "dollarisation" of financial operations, whereby lending and consumption is undertaken in a foreign currency that is considered more stable. Foreign currency risks, in part derived from broader political instability, have created additional challenges which have led to a wave of bank failures and restructuring. The banking sector continues to be dominated by large banks which are often inefficient or politically connected.

To help unlock funds and facilitate green investments a number of risk-mitigation measures have been made available to the countries...

4. Green investment needs in the EaP and Central Asia countries are enormous, with some estimates showing that an average of about 20% of GDP will need to be invested between 2023-2050. However, domestic financial and capital markets do not yet provide much needed financing. To address the significant risks for lenders and investors that low-carbon infrastructure investments often present, other ways to unlock funds and facilitate investments are needed. Setting up and deploying risk-mitigation instruments is one possible approach to do so.

5. To reduce investment risks and increase financial flows for green projects in the EaP and Central Asia region, a combination of strategic policy steps and financial instruments are and can be employed. These include a mixture of technical assistance approaches to policy development and the deployment of risk-sharing and risk-reducing mechanisms, such as grants and concessional debt, guarantee schemes and risk-sharing facilities, that are often packaged in dedicated green investment funds or green bond structures.

6. There has been a range of financial de-risking instruments deployed by international partners in the EaP and Central Asia countries to overcome barriers to green investment. The most prominently used ones have been environmental credit lines provided by international finance institutions (IFIs) (such as EBRD and EIB) via domestic banks for on-lending. In these schemes, the terms of the commercial credit lines have been softened through concessional support (lower interest rates, longer tenor financing, supporting technical assistance) which has helped lower the costs of credit and make both borrowing and on-lending more attractive. The loans have been issued to large and small and medium-sized enterprises (SMEs), in a range of sectors, such as residential, commercial, and industrial. These have primarily focused on energy and resource efficiency and small-scale renewables. More than Euro 3 billion of international capital has been committed in this way over the last 20 years across the region.

7. These regions have also experienced a growth in the use of green bonds which have been issued mostly by corporate entities to raise capital for environmental investments. Green bonds often offer a lower risk profile for investors as they may be backed by favourable regulatory support and incentives, enhanced transparency and reporting standards, and are often underpinned by IFI participation as anchor investors. A particular acceleration in the use of green bonds has been observed since 2019, with some geographical centres of expertise emerging, such as Tbilisi, Georgia and Astana, Kazakhstan. Increased green bond issuance has been accompanied by the development of more robust policy frameworks for classifying green finance, often aligned with international benchmarks, including the EU Taxonomy.

8. Guarantees have also been largely deployed in the EaP and Central Asia regions through multilateral development banks and other development finance institutions. These include, among others, revenue guarantees for large scale investment in utility-scale solar photovoltaic plants and credit guarantees for green SME lending or currency hedging products, with the Currency Exchange Fund emerging as a cross-IFI platform offering local currency green finance products through multilateral development banks.

...with the European Union jointly with European finance institutions being at the forefront...

9. For almost two decades, the European Union (EU) and its Member States have supported environmental initiatives in the EaP region and Central Asia through a range of financing programmes, such as the Neighbourhood Investment Facility (NIF) (and its predecessor the Neighbourhood Investment Platform - NIP) and the Investment Facility for Central Asia (IFCA). Utilising a collaborative framework that includes multi-year planning and partnerships between the EU, partner governments, and international financial institutions, these programmes combined grants and investment loans to boost private sector and infrastructural development. Between 2008-2018, the NIF supported 156 projects in the EaP region, mobilising substantial public and private investments. Similarly, the IFCA contributed Euro 205 million between 2010 and 2020 towards environmental, energy, and SME projects in Central Asia.

10. More recently, the new EU Global Gateway Strategy, launched in July 2021, aims to enhance global trade and investment, prioritising sustainable and resilient economic growth. Its implementation is principally based on the Neighbourhood, Development, and International Cooperation Instrument – Global Europe. With a budget of nearly Euro 80 billion for 2021-27, this instrument covers both geographic and thematic programmes, supporting the EU's international partnerships agenda and the implementation of Sustainable Development Goals. The European Fund for Sustainable Development Plus (EFSD+), as part of this instrument, uses guarantees, blending, and technical assistance to encourage investments and policy reforms in partner countries, thus offering a comprehensive approach. Within this framework, the

EU has co-financed many initiatives, which are implemented by the EIB and the EBRD, as well as the bilateral banks of the EU Member States.

11. EU's increased use of de-risking instruments follows a general trend: many donors are already moving away from providing grants to more risk-focused instruments. The use of investment grants is downscaled since energy efficiency, renewable energy or clean transport markets are becoming commercial or near commercial.

The way ahead...

12. Despite all these efforts, more is needed both on the part of international partners as well as countries themselves. The first step is for the countries in the region to start using more proactively new de-risking instruments in order to scale up and accelerate the financing of green project pipelines especially in the private sector. There is no “one-fits-all” solution: which instrument is best to use is the project owner's or investor's decision and will largely depend on the country's enabling environment and market maturity as well as the specific needs of the project.

13. The use of risk mitigation approaches to support green financing has its limits in the face of significant political and economic uncertainty such as Russia's war of aggression in Ukraine or increased inflation. This war has created financing challenges not only for Ukraine but also for its neighbouring countries as international investors (particularly private sector) adjust their risk-premium expectations while inflation contributes to increases in the costs of green investment. It is difficult for risk-mitigation instruments aimed at addressing technology cost and awareness barriers to address more fundamental political and economic risks, so combinations of approaches (e.g. alongside political risk insurance) are required.

14. The development of green finance markets and instruments is therefore largely bounded by the wider development of financial and capital markets in the EaP and Central Asia regions. The use of concessional climate funds to offset market and governance risk rather than to address specific green technology barriers is not sustainable in the long term, and the availability of finance alone is not sufficient to deliver on climate change ambitions. Wider market development and reform is therefore key to progress. Green finance instruments can themselves act as a driver of market development and the development of green bond markets, for example, can help deepen both domestic capital pools and international linkages.

15. Compared to twenty years ago when investors were mostly concerned with technological risks, some clean energy technologies have now matured and are well understood. A few technologies are considered on track (solar photovoltaic, electric vehicles and lighting) to align with 2030 and 2050 Net Zero pathway targets. However, a significant proportion of emission reductions are still dependent on technology innovation. Nonetheless, investor risk perception is now shifting more to governance and macroeconomy: if a country is un-investable in other sectors, it will be un-investable in environmental finance sectors as well. Green finance cannot be used to compensate for these wider economy risks. Therefore, in order to improve the enabling environment, governments and their international supporters can further focus on:

- *Policy and regulatory frameworks:* Strengthening and stabilising policy and regulatory environments to offer clear, long-term signals and pricing to investors provide an important element of de-risking. This includes, among others, establishing renewable energy targets, feed-in tariffs, streamlined permitting, compliance and assurance processes.
- *Increased regional cooperation:* International partners can support de-risking through increased regional cooperation, such as the increased partnerships between IFIs, donors and climate funds. Being able to particularly provide local currency financing can offset a significant risk for both domestic and international investors.
- *Capacity building coupled with market development and awareness:* Enhancing local technical and operational capacities through training programmes and knowledge sharing is key to supporting the development and management of green investment project pipelines as well as new green financing products including the effective use of de-risking instruments.

Abbreviations and acronyms

ADB	Asian Development Bank
AIFC	Astana International Financial Centre (Kazakhstan)
AIX	Astana Stock Exchange (Kazakhstan)
AMD	Armenian Dram (national currency of Armenia)
CIF	Climate Investment Fund
DEG	Deutsche Investitions und Entwicklungsgesellschaft mbH (German Development Finance Institution)
DFI	Development finance institution
DPO	Development Policy Operation
EaP	EU's Eastern Partnership
EAEU	Eurasian Economic Union
EBRD	European Bank for Reconstruction and Development
ECA	Export Credit Agency
EDB	Eurasian Development Bank
EE	Energy efficiency
EFSD	European Fund for Sustainable Development
EIB	European Investment Bank
ENI	European Neighbourhood Instrument
ENP	European Neighbourhood Policy
ESG	Environmental, social and governance
EU	European Union

FDI	Foreign direct investment
FI	Financial institution
FINTECC	Finance and Technology Transfer Centre for Climate Change (EBRD)
FMO	Dutch Entrepreneurship Development Bank
GCF	Green Climate Fund
GCPF	Global Climate Partnership Fund
GDP	Gross domestic product
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environmental Facility
GEFF	Green Economy Financing Facility
GET	Green Economy Transition (EBRD approach)
GFC	Green Finance Centre (Kazakhstan)
GGF	Green for Growth Fund
GHG	Greenhouse gas (emissions)
GRPO	Georgian Renewable Power Operation
GWh	Gigawatt hour
IBRD	International Bank for Reconstruction and Development (World Bank)
ICMA	International Capital Market Association
IFC	International Finance Corporation
IFCA	Investment Facility for Central Asia
IFI	International Finance Institution
IMF	International Monetary Fund
JSC	Joint Stock Company
KASE	Kazakhstan Stock Exchange
KEGOC	Kazakhstan Electricity Grid Operating Company
KfW	Kreditanstalt für Wiederaufbau (German Development Bank)

KZT	Kazakh tenge (national currency of Kazakhstan)
LEDS	Low emission development strategy
MDB	Multilateral development bank
MIGA	Multilateral Investment Guarantee Agency
MRV	Monitoring, reporting and verification
MWh	Megawatt hour
NDC	Nationally Determined Contribution
NDICI	Neighbourhood, Development and International Cooperation Instrument (EU)
NEFCO	Nordic Environment Finance Corporation
NIF	Neighbourhood Investment Facility (EU)
NIP	Neighbourhood Investment Platform (EU)
NPL	Non-performing loan
OECD	Organisation for Economic Co-operation and Development
OeDB	Austrian Development Bank
PPP	Public-Private Partnership
RE	Renewable energy
SDG	Sustainable Development Goal
SE	Sustainable energy
SEFF	Sustainable Energy Finance Facility
SHP	Small hydropower
SIDA	Swedish International Development Cooperation Agency
SME	Small and medium-sized enterprise
SRMI	Sustainable Renewables Risk Mitigation Initiative (World Bank)
TA	Technical assistance
TCX	The Currency Exchange Fund
tCO ₂ e	Tonnes of carbon dioxide equivalent

UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
UZS	Uzbekistani Som (national currency of Uzbekistan)
VC	Venture capital

1 Macroeconomic context and financial sector

16. This chapter looks at the major macroeconomic factors that shape the context in which green lending in the EU Eastern Partnership (EaP) countries and Central Asia takes place. It also discusses the status of the banking sector and capital markets as they form major sources that might finance green investments.

1.1. Macroeconomic performance

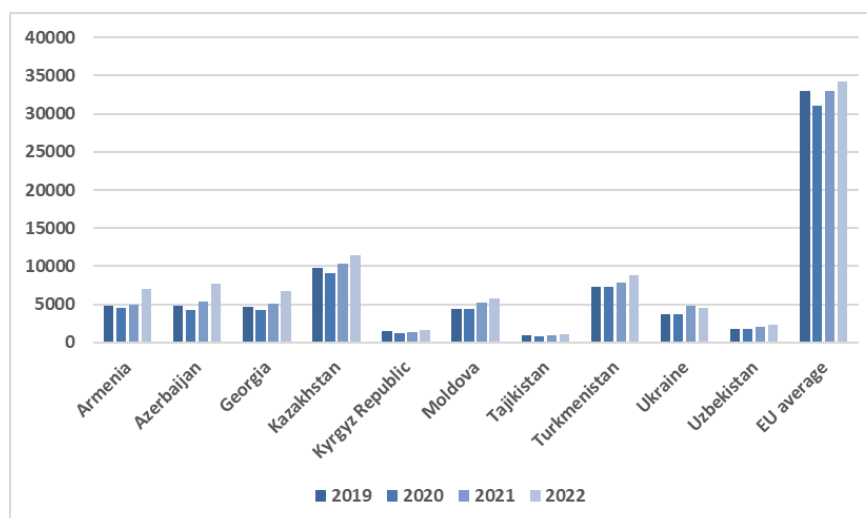
17. The economies of the EaP region and Central Asia are characterised by their limited diversification, rendering them susceptible to economic fluctuations. This vulnerability stems from their heavy dependence on oil, mining exports, and remittances from migrant workers. Significant economic disruptions, like the 2009 global financial crisis, the 2014-15 plunge in oil prices, the COVID-19 pandemic, and Russia's war of aggression against Ukraine, have triggered substantial economic instability and downturns and, in some cases, major currency depreciation. The region's intermittent reliance on tourism receipts and capital inflows further exacerbates its economic instability.

18. This persistent instability invariably impacts the countries' growth trajectories, the efficacy of monetary policies, and the stability of public finances. The high degree of dollarisation¹ (see further below) combined with limited economic diversification demands the implementation of structural macroprudential measures to curtail systemic risks.

19. From 2018 to the onset of the COVID-19 pandemic, the countries experienced moderate to strong economic growth, driven by rising commodity prices, particularly in oil and gas-exporting countries such as Azerbaijan and Kazakhstan. Countries with diversified economies like Armenia and Georgia also showed robust growth, attributed to increased investment and consumption. However, the pandemic brought significant disruption in 2020, causing economies across the region to contract due to lockdown measures, reduced global demand, and decreased remittances from abroad.

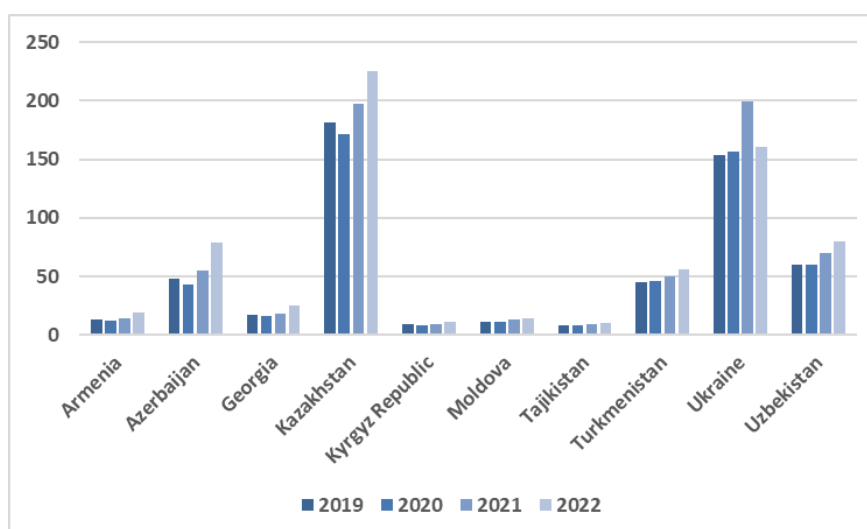
20. In the post-pandemic recovery phase, the countries showed a strong rebound, with most of them experiencing a V-shaped recovery, thanks to effective policy responses, the resumption of global trade, and the gradual return of international tourism, a critical sector for countries like Armenia and Georgia. By 2021 and into 2022, the countries' GDP growth rates began to recover, although the pace varied across countries depending on their economic structures, the speed of vaccination rollouts, and the extent of fiscal and monetary support.

Figure 1.1. GDP per capita for EaP countries and Central Asia, 2019-2022, current USD



Sources: (World Bank, n.d.^[1]), (Trading Economics, n.d.^[2]).

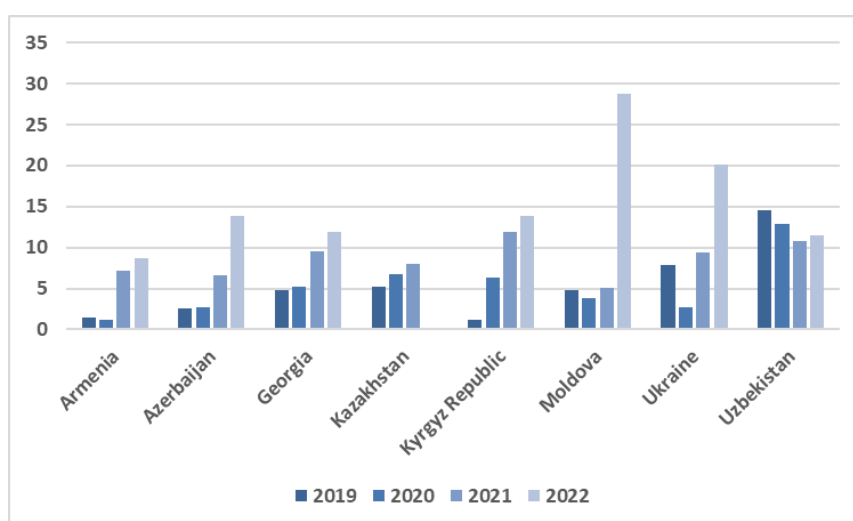
Figure 1.2. Total annual GDP for the EaP countries and Central Asia, 2019-2022, current USD billion



Sources: (World Bank, n.d.^[1]).

21. The EaP and Central Asia countries were subsequently hit hard by the Russian war of aggression in Ukraine, resulting in economic contraction. Despite the direct impacts inflation has been a significant concern for the region, with rates varying widely across the countries. Factors contributing to inflation include currency devaluations, rising food and energy prices, and supply chain disruptions. Central Banks across the countries have adopted various monetary policy measures to curb inflation, including interest rate hikes and tighter monetary conditions. Despite these efforts, inflation remains a challenge, eroding purchasing power and contributing to social discontent.

Figure 1.3. Annual consumer price inflation for the EaP countries and Central Asia, 2019-2022, %



Sources: (World Bank, n.d.^[1]).

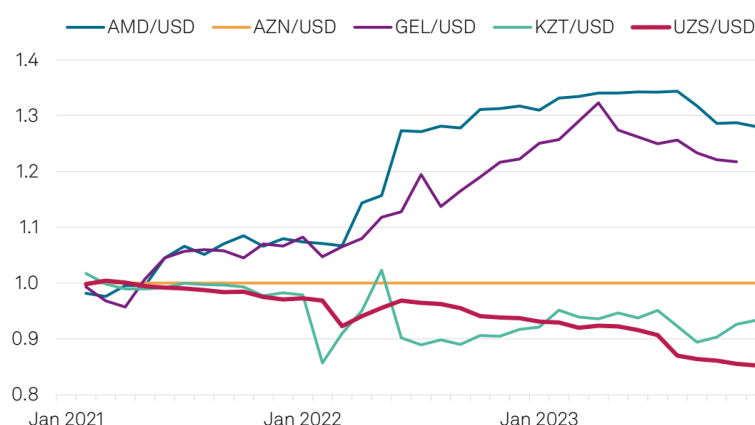
22. Trade dynamics in the region have been influenced by global economic conditions, geopolitical tensions, and regional integration efforts. The Eurasian Economic Union (EAEU), which includes Armenia and Kazakhstan, has facilitated increased trade among member states but also exposed them to economic sanctions and trade disputes. Meanwhile, countries like Azerbaijan and Georgia have sought to diversify their trade partners and attract investment through liberal economic policies and infrastructure development (IMF, 2023^[3]).

23. Foreign Direct Investment (FDI) flows into the region have been mixed, with geopolitical risks and economic uncertainties deterring some investors. However, sectors such as energy, mining, and telecommunications have continued to attract significant FDI, particularly in Azerbaijan, Kazakhstan and Uzbekistan, which have undertaken substantial reforms to improve their business environments.

24. Exchange rates have shown some volatility across the region, with local currencies in the Caucasus generally strengthening against the US dollar and weakening in Central Asia². Fluctuating exchange rates expose economies with high levels of dollarisation to credit and funding risks and can impact upon capital position of banks.

25. Economic policies and reforms across the region have aimed at improving governance, enhancing competitiveness, and diversifying economies away from dependence on natural resources. Efforts to strengthen financial sectors, improve public financial management, and combat corruption have been pivotal. Additionally, initiatives to develop human capital, enhance digital infrastructure, and promote sustainable development are increasingly prioritised to ensure long-term economic resilience.

Figure 1.4. Exchange rate changes vs. US dollar for selected countries, 2021-23



Sources: (S&P, 2024^[4]).

1.2. Financial sector

26. Access to finance for environmental investment remains a challenge in the EaP countries and Central Asia. As with other types of lending, those wishing to access debt finance for environmental purposes face relatively high cost of capital (10-20% on local currency loans), relatively short-term maturities (up to 3 years) and high collateral requirements (often > 100%). Borrowers are also exposed to currency risk when borrowing in foreign currency, which remains an issue given the lower interest rates on foreign currency lending. This can leave borrowers exposed to rapid currency movements or devaluation. This in part reflects a financial sector within the EaP and Central Asia countries that is underdeveloped and has magnified the impact of external shocks on domestic economic activity.

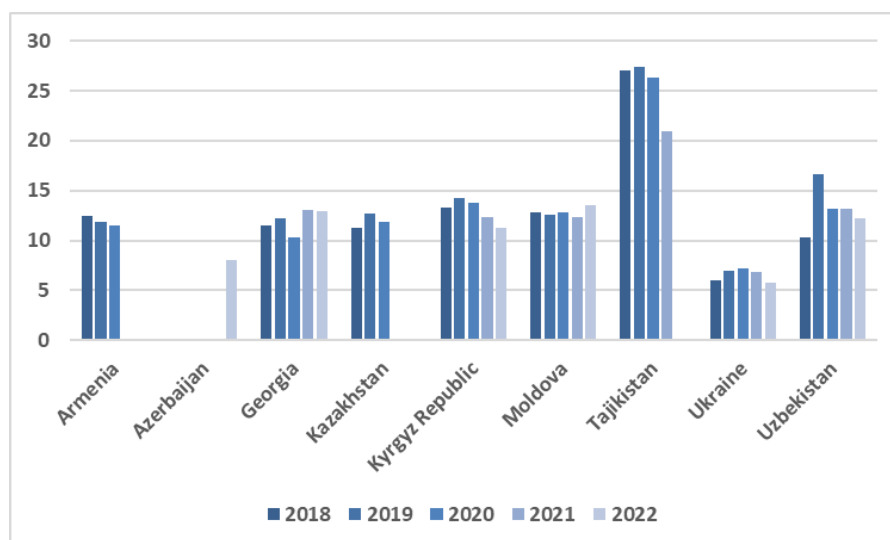
1.2.1. Banking sector

27. After the fall of the Soviet Union, the region emerged from a period of dominance by state-owned banks and limited competition. Directed and subsidised lending initiatives have slowly been replaced by greater levels of competition and enhanced regulation. Commercial banks now dominate financial markets in the EaP and Central Asia countries with much more limited access to other types of equity, project or risk financing. Armenia and Georgia have the most expansive banking sectors, when considering credit size allocated to the private sector as a share of GDP. On the other hand, countries like, Azerbaijan, Kazakhstan and Tajikistan lag, with their banking sectors measuring less than half of their counterparts in emerging Europe. This disparity can be partly attributed to severe credit contractions resulting from the 2014-15 oil shock.

28. At a national level, the sector is now characterised by a small number of larger, politically well-connected banks, which in turn compete with smaller institutions more exposed to financial risks and other market shocks. Overall capitalisation varies across the region, with Ukrainian banks significantly undercapitalised.

29. By 2020, the financial sector of most EaP and Central Asia countries was characterised by banking dominance, albeit on a reduced and underdeveloped scale. The banking sector has experienced significant impacts from economic downturns and currency depreciations due to their strong macro-financial linkages, vulnerabilities arising from significant financial dollarisation in the economy, and deteriorating asset quality. Consequently, many countries have faced frequent bank failures and undergone multiple restructurings.

Figure 1.5. Bank capital to asset ratio for the EaP countries and Central Asia, %



Sources: (World Bank, n.d.^[11]).

30. The high degree of dollarisation in the EaP and Central Asia region, surpassing even other emerging markets, accentuates external vulnerabilities, escalating the probability of financial crises. Rooted in the post-Soviet transition and largely a legacy from the hyperinflation in the 1990s, recurrent currency crises and reduced output, the region's financial dollarisation remains alarmingly high. By 2020, foreign currency deposits in the region accounted for about 46%, whereas loans in foreign currency averaged at 40% (IMF, 2022^[5]). Excess dollarisation is present in Armenia and particularly in Georgia. For example, in 2021, the rate of deposit dollarisation in Georgia reached 60%, corporate loan dollarisation 70%, and household loan dollarisation 41%. In addition, 80% of the public debt was denominated in foreign currency (Eradze, 2023^[6]).

Figure 1.6. Dollarisation of selected EaP and Central Asian countries, end 2023, %



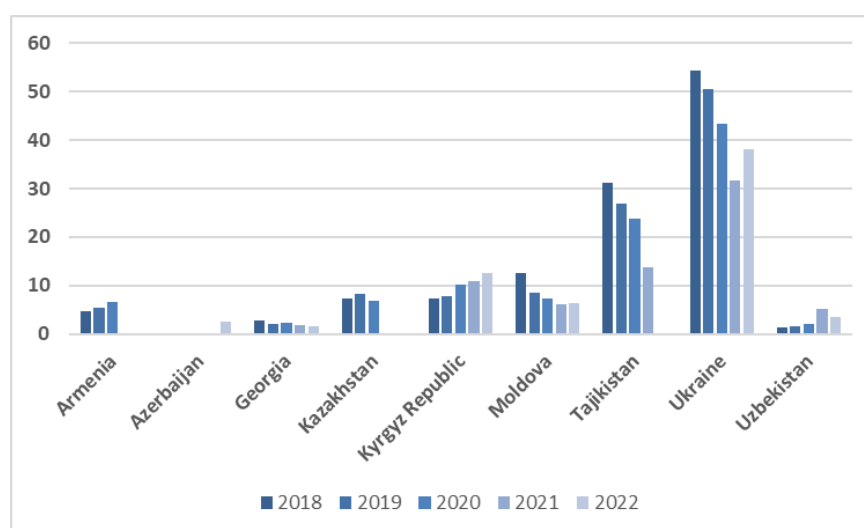
Source: (S&P, 2024^[4]).

31. While dollarisation remains high in the EaP and Central Asia countries, it has been on a gradual downward trend reflecting concerted policies by national authorities to incentivise the use of local currencies in domestic financial intermediation. Some of these include various macro-prudential measures

such as limitations (or an even outright ban) on foreign currency lending or differentiated reserve requirements for deposits (Neykov, 2021^[7]).

32. Furthermore, several banks across the countries are struggling with an extremely high proportion of problem, or non-performing, loans (NPLs), particularly in Tajikistan and Ukraine. This category includes restructured, watch-listed, and overdue loans. Such high levels of NPLs underline the ongoing weakness in asset quality. Delays in recognising loan losses and executing write-offs undermine confidence around reported capital adequacy, despite the reported capital adequacy ratios averaging around 18%, exceeding the set minimum benchmarks. For example, persistent issues with unresolved problem loans and subsequent failures to meet regulatory capital adequacy requirements resulted in the revocation of licenses for Muganbank in Azerbaijan in 2023, and for Turkiston Bank and Hi-Tech Bank in Uzbekistan in 2022 (S&P, 2024^[4]). These incidents indicate deficiencies in oversight and highlight a need for greater predictability and transparency in the banking sector.

Figure 1.7. Share of non-performing loans for the EaP countries and Central Asia, 2019-2022, %



Sources: (World Bank, n.d.^[11]).

33. However, overall there has been some progress in enhancing the sector. Countries such as Armenia, Georgia, and Kyrgyzstan have improved the resilience of their banking sectors through regulatory and supervisory effectiveness. Throughout 2023, regulators in the region implemented several measures to mitigate risks within the banking sector. In Kazakhstan, this included conducting annual system-wide asset quality reviews. Azerbaijan focused on strengthening the standards for corporate governance and improving transparency requirements. Meanwhile, in Uzbekistan, authorities incrementally tightened lending criteria in response to a sharp rise in consumer borrowing, especially car loans. Recent assessment of banking sector outlook in the region for 2024 indicates stable asset quality, ongoing lending growth, and sound funding and liquidity metrics across a range of markets (S&P, 2024^[4]).

1.2.2. Capital markets

34. An IMF study concluded that while countries in the region have made progress with financial and banking institutional development following the independence in the early 1990s, progress has been uneven. The development of capital markets has been significantly slower (IMF, 2022^[5]).

35. In Central Asia, Kazakhstan has made the most progress, with the Astana International Financial Centre emerging as a relatively sophisticated capital market actor playing an important role across the

wider region. Governments in the other countries are also working to improve their enabling environment to support capital market expansion. For example, Ukraine has sought to align regulatory standards and transparency with international norms and introduced a new legal framework for securities and derivative markets. In the Caucasus, Georgia has led the region in market reforms, including significant improvements in financial supervision and the launch of new financial instruments, and there have been developments in local currency bond issuance in both Armenia and Azerbaijan.

36. There is also evidence that private equity and venture capital (VC) markets are beginning to grow. For example, an estimated USD 110 million (about Euro 119 million) of venture capital investment was raised in 2023 in the Caucasus and Central Asia countries, dominated by Kazakhstan. Many countries in the region are looking to foster growth, using specialised agencies, free economic zones and public financing initiatives, such as the Georgia Innovation and Technology Agency. While these markets remain nascent, they are growing more rapidly than the European average (RISE Research, 2024^[8]).

37. Nonetheless, capital markets in the EaP countries and Central Asia remain relatively underdeveloped, impacted by a complex interplay of economic, political, and regulatory factors. Challenges include a lack of expertise among financial institutions and regulators, a lack of standardisation around definitions and reporting requirements, low liquidity and shallow markets, alongside wider political instability and governance challenges. Success depends on continuous reforms (e.g. around investor protection), increased transparency, and the ability to maintain political and economic stability.

2 Green finance context and barriers

38. To set the scene for further analysis, the chapter starts off with a discussion of some of the major issues related to the green finance market in the EaP and Central Asia countries as well as the role of the public sector in “de-risking” green investments. The chapter also discusses the main de-risking approaches and the main types of de-risking instruments employed to address a broad green investment range of risks.

2.1. Green finance market and the role of the public sector in de-risking green investments

39. Achieving the green and net-zero transition will require massive resources. While the private sector is expected to contribute significantly to financing the transition, the state has a key role to play in setting the right incentive framework to stimulate increased demand for green investments. Public support is one of the main policy instruments that governments have in their policy toolbox. If used in a smart and cost-effective manner, limited public resources can leverage significant private funds and contribute to the achievement of countries’ priority climate and energy-related national objectives.

40. Earlier OECD analysis (OECD, 2016^[9]) showed that International Finance Institution (IFI)-supported environmental credit lines disbursed through local commercial banks were, by large, the major source of green long-term finance for the private sector in the EaP countries and Central Asia. The analysis revealed that all major IFIs present in the region had established such credit lines and more than 70 local commercial banks had benefited from such support. Generally, local commercial banks had only established specific environmental credit lines when explicitly supported by IFIs. The analysis also showed that the IFI role in greening the financial system in these countries was critical: IFIs in conjunction with EU-backed financial facilities has helped create a market for clean energy products, demonstrating the commercial viability of new clean technologies and providing necessary long-term financing.

41. While IFI-supported credit lines continue to play a key role, important changes have taken place in the past few years in the green finance market in these countries. First, if earlier it was donors and IFIs who were pushing the green agenda, it is now national governments and the private sector in the countries that have taken ownership of this process. Second, donors are moving away from traditional grant instruments and are shifting to support risk-focused instruments, such as guarantees and hedging. The days of big grants to soften the loans are disappearing due to the fact that energy efficiency, renewable energy or clean transport markets are becoming commercial or near commercial, and it is difficult for donors and IFIs to justify continued concessional finance going into these sectors (Savage, M., 2023^[10]). This new dynamic however also shows the need for further environmental and wider private sector reform in order to incentivise the private sector to finance more green and net-zero investments.

42. Over the past few years, financial and capital markets in the EaP countries and Central Asia have significantly evolved. New instruments and lending products have been used (e.g. green bonds). And yet, many potential green, particularly infrastructure, projects remain unfunded. Climate-smart infrastructure investments often suffer from high up-front costs and present significant risks for lenders and investors, including among others: political (e.g. unstable political environment or change of policy priorities with the change of country’s leadership, military conflicts), regulatory (contradictory enabling policies, weak legal

frameworks, limited enforcement capacity), technology risks (mature vs less commercially established technology, limited in-country expertise in construction and operation of the technology, inadequate supporting infrastructure) (Choi, E. et al., 2022^[11]).

43. In order to manage such risks, lenders and investors require a risk premium³ which affects the cost of capital and makes it more expensive. What matters most for investors is the risk-return profile of projects they want to invest in where returns are seen in the context of the amount of risk involved (aka risk-adjusted returns). Because of such risks and related costs, many low-carbon investments are not sufficiently attractive for investors.

44. Generally, environmental and climate finance are subject to the same geopolitical, macroeconomic and financial risks that the rest of the economy is subject to. Compared to twenty years ago when investors were mostly concerned with technological risks, many of the clean energy technologies have now matured and are well understood. Investor risk perception is now shifting more to governance and macroeconomy: if a country is un-investable in other sectors, it will be un-investable in environmental finance sectors as well. Green finance should not be used to compensate for these wider economy risks.

2.2. Key barriers and risks associated with green investments

45. Risk — whether real or perceived — is the single most important factor preventing projects from finding financial investors, or raising the returns that these investors demand. Risk and risk perceptions vary significantly from project to project, technology to technology, industry to industry, and country to country.

46. Despite its rich natural resources and potential for sustainable development, the region faces multiple challenges in fostering green investment. Some of the major barriers and risks include the following:

1. *Economic risks*: Several countries in the region have a strong reliance on traditional industries. Countries such as Azerbaijan and Kazakhstan heavily rely on oil, gas, and mineral extraction as core components of their GDP. Historically, these sectors have been large contributors to government revenues, creating economic barriers and disincentives towards a green transition. Countries such as Kazakhstan and Ukraine also maintain a strong reliance on energy intensive industries. Countries with large agricultural focus (e.g. Ukraine) have traditionally focused on quantity rather than quality of production (with the potential for environmental impacts).
2. *Limited financial instruments*: The financial markets in many EaP and Central Asia countries are still emerging, and sophisticated green financial instruments such as green bonds, specialised investment funds, or use of green reporting or market tracking frameworks such as green indices are not yet widespread. The absence of these instruments can stifle the flow of capital towards sustainable projects. Limited access to financial resources and challenging budgetary circumstances in smaller economies (e.g. Moldova) can impact upon available public funding for green investment.
3. *Policy and regulatory hurdles*: Many countries have inconsistent or underdeveloped green regulatory frameworks. Most countries have made preliminary steps toward fostering a green economy but there is often a lack of consistent, clear, and enforceable regulations that incentivise or mandate green investments. This includes ongoing subsidies for fossil fuels, making them economically unattractive and dwarfing the funds allocated towards renewable or sustainable projects. Frequent policy shifts and government changes, coupled with political instability, create an uncertain environment that is unappealing to investors. The inconsistency in green and green finance policies discourages long-term investments in green initiatives (CPI, 2013^[12]).

4. *Infrastructure and technological barriers:* Much of the infrastructure in the EaP and Central Asia region still dates back to the Soviet era, tailored more for heavy industries and fossil fuel-based economies rather than green alternatives. While global advances in green technologies have been rapid, the adoption rate in the EaP and Central Asia regions has lagged. Factors such as high initial investment costs, lack of local expertise, and the absence of local manufacturing capabilities for green technologies play a role.
 5. *Informational and cultural barriers:* For many stakeholders, from local communities to regional politicians, there is a lack of awareness or understanding of the benefits of green investments, both in terms of long-term economic benefits and environmental sustainability. The historic focus on industrial capacity has already created a set of barriers where it is perceived as de-industrialisation.
 6. *Geopolitical and security risks:* With the EaP and Central Asian location at the crossroads of major powers, there are multiple border disputes and regional tensions. The Russian war of aggression in Ukraine or the tensions between Armenia and Azerbaijan are such examples. Such geopolitical complexities can deter international green investors, who may deem the region too risky. While OECD countries and China lead in green technology advancements, geopolitical allegiances and tensions might hinder the transfer of technology and expertise to the EaP and Central Asian countries.
 7. *Capacity and skill limitations:* The transition to a green economy requires a specialised skill set. The EaP and Central Asia region, however, lacks extensive training programmes in sustainable agriculture, green technology maintenance, sustainable urban planning, and other necessary skills. Often, the most capable staff seek opportunities in the West or in advanced Asian economies. This brain drain leaves a void in leadership and innovation in green initiatives.
 8. *Natural risks:* The vast geographical and climatic range in the EaP and Central Asia countries, from deserts to high mountains, means that a one-size-fits-all approach to green investment does not apply. Some areas might be suitable for wind energy, while others might be more apt for solar or hydroelectric projects. Different topography and climate mean a wide range of exposure to climate hazards, each of which drives different types of investment, but also vulnerabilities which can impact upon investor risk perception.
47. Of these risks, geopolitical risk and uncertainty remains a key barrier to making long-term investments in the region, while other risks (e.g. capacity, policy, financial, economic) are more common to other regions.
48. Experience shows that the careful application and use of public capital (in the form of domestic resources of the recipient countries and donor contributions) together with multilateral development bank support could help reduce the risks associated with such investments and could reassure investors to invest in green investment projects. The key sectors that are most appropriate for green investments in the EaP and Central Asia are briefly described in Box 2.1.

Box 2.1. Key sectors for green investment in EaP and Central Asia countries

Green investment is vital to support the sustainable economic development across a range of sectors impacted by climate change or providing the opportunity to reduce greenhouse gas emissions. These sectors include:

- **Renewable energy:** Solar power is a key focus for potential investment, particularly in the Central Asia region with high resources and available land. Kazakhstan has seen significant investment in solar with Ukraine and Uzbekistan also supporting international investment. Hydropower in mountainous regions (e.g. Georgia, Kyrgyzstan, Tajikistan) has the potential to decarbonise energy systems (particularly small and medium-sized power plants). Wind energy is also a strong potential resource (e.g. in Azerbaijan and Kazakhstan).
- **Energy and resource efficiency:** With a legacy of energy intensive industries and low-efficiency standards, the EaP and Central Asia region can benefit significantly from improvements in energy use across a range of sectors (industrial, buildings, heating systems). Urbanisation rates in major cities such as Almaty (Kazakhstan), Bishkek (Kyrgyzstan), and Tbilisi (Georgia) create a demand for sustainable architecture, green building materials, energy-efficient designs, and infrastructure.
- **Sustainable agriculture:** Climate risks, declining water availability and the need for greater resource efficiency mean that investment in efficient land and water management systems and use provide opportunities for green investment, such as efficient irrigation systems. This is relevant to all countries in the EaP and Central Asia region.
- **Transportation:** All countries have opportunities to green their transport systems through the shift towards electric vehicles and charging infrastructure, and the expansion of more efficient public transport systems (electric buses, mass rapid transit systems).
- **Water management:** Growing concerns over the availability of water (particularly in arid and semi-arid regions) is creating a focus on investment in efficient water distribution systems, wastewater treatment plants and water conservation projects.
- **Waste management and recycling:** Most countries in the region lag in efficient waste management systems. Investment opportunities exist in developing modern landfills, recycling plants, and waste-to-energy projects.
- **Afforestation and reforestation:** Deforestation has been a concern in parts of the Caucasus, especially in Armenia and Azerbaijan. Investing in reforestation not only aids in carbon sequestration but also supports biodiversity, prevents soil erosion, and creates jobs.

Source: Authors' compilation.

2.3. De-risking approaches

49. Risk mitigation measures or “de-risking” approaches employed by public institutions imply reallocating, sharing or reducing existing or potential risks associated with low-carbon investment Box 2.2.

50. Typically, the capital for financial de-risking is provided by public entities at national level (national/sub-national governments, national development banks, other public authorities) and/or international level (e.g. donor governments, bilateral banks, multilateral development banks, climate funds, EU financial vehicles) encouraging private investors to deploy capital by offering to bear a share of the risk (Choi, E. et al., 2022^[11]).

51. De-risking can be achieved through a range of measures such as debt (bonds or funds), equity and guarantees, spreading the risk across participating parties or transferring the risk to a third party. De-risking instruments involve either a direct use of public money or backing a project with public funds, both of which put public funds at risk. This distinguishing feature of de-risking instruments is an assumption of contingent liabilities by public funds (OECD, 2021^[13]). Managing such liabilities requires special attention by public sector financiers.

Box 2.2. De-risking approaches

Generally, de-risking approaches can be grouped into two main categories:

- policy de-risking (mitigating project risks through policy measures), and
- financial de-risking (mitigating risks through financial measures).

Policy de-risking instruments seek to remove the underlying barriers that are the root causes of investment risks. These instruments make use of policy interventions to mitigate risk. For example, renewable energy projects usually require obtaining a number of permits and approvals. A policy de-risking approach may involve, among others, streamlining the permitting process, clarifying institutional responsibilities, reducing the number of process steps.

Financial de-risking instruments do not seek to directly address the underlying barrier but, instead, function by transferring investment risks to public actors, such as development banks. These instruments can include public loans and guarantees, political risk insurance and public equity co-investments. For example, partial loan guarantees can provide local banks with the security to lend to project developers, thus motivating the local financial sector to get more actively involved in investing in renewable energy.

Source: Adapted from (Choi, E. et al., 2022^[11]).

52. Public financial institutions play indeed a critical role in taking the de-risking responsibility, as they provide the de-risking capital, instrument or mechanism. When public resources are deployed strategically, a previously un-bankable project can attract and mobilise capital from commercial and institutional investors. As such, de-risking presents a powerful policy option that can break down barriers to private sector participation in green and climate action. Anecdotal evidence from the EaP and Central Asia countries however suggests that de-risking is still largely underutilised in the region.

2.4. Types of risk mitigation and financing approaches

53. There are a number of de-risking instruments and financing approaches that are provided by governments, development banks or financial institutions in order to address a broad green investment range of risks. The main ones are set out below, organised by the type of financing structure (debt, equity, guarantees and grants). Of these the use of concessional debt has been the most prominent in the region to date, although IFI support for green bond issuance (both technical assistance and acting as an anchor investor) is increasingly common.

- *Debt*: Concessional credit lines and revolving funds are common financing mechanisms that support both project-specific and corporate lending for green investments by providing funds on favourable terms, such as lower interest rates, extended loan tenors, or grace periods. They are particularly important in developing markets where access to affordable financing is constrained by high-risk perceptions, underdeveloped financial markets, and macroeconomic instability. These debt facilities can be administered directly by public financial institutions, such as national development banks, or indirectly through commercial banks and financial intermediaries, with the

latter approach primarily incentivising lenders by reducing their perceived credit risk rather than directly benefiting borrowers. By absorbing part of the financial risk, concessional finance makes it more attractive for private institutions to invest in green projects that might otherwise be deemed too risky due to long payback periods, technology uncertainty, or regulatory instability. Additionally, revolving funds create a self-sustaining financing structure by reinvesting repaid funds into new projects, ensuring continuous capital availability for sustainable initiatives. By providing low-cost capital, longer repayment periods, and partial risk-sharing, concessional credit can enhance the financial viability of green projects and support long-term financial sustainability.

- *Equity*: Public entities play a critical role in mobilising equity investment for green projects, companies, and infrastructure by strategically deploying public capital to de-risk investments and attract private sector finance. One of the most effective approaches is the establishment of equity investment funds or fund-of-funds models, which capitalise investment vehicles that leverage additional contributions from both public and private investors. By committing public capital to these funds, governments and development finance institutions (DFIs) create a first-mover effect, signalling confidence in the market and reducing perceived risks. This can encourage institutional investors, pension funds, and impact investors to participate. These investment funds often take direct equity stakes in green projects or companies, providing not only financial backing but also managerial and strategic expertise to enhance project design, governance, and operational efficiency. The involvement of public (or publicly backed) equity investors helps address early-stage risks, facilitating financial close and commercial scalability, particularly during the financing phase, where securing long-term equity commitments is crucial for project bankability. Additionally, by co-investing alongside private investors, public entities can diversify risk, improve financial structuring, and promote innovative financing mechanisms, such as blended finance or public-private partnerships (PPP).
- *Guarantees*: Guarantees play a crucial role in de-risking green investments, encouraging private sector participation, and facilitating access to finance for sustainable projects. There are a broad range of guarantee approaches:
 - *Loan guarantees* are commonly used to reduce credit risk by ensuring that a portion of the loan is repaid in case of borrower default, making green financing more attractive to banks and investors.
 - *First-loss guarantees* provide an additional layer of security by covering the initial losses in a project or portfolio before other investors bear any risk, thereby incentivising private investment in high-risk markets.
 - *Political risk guarantees* (e.g. offered by entities like the Multilateral Investment Guarantee Agency (MIGA) of the World Bank) protect against non-commercial risks such as government policy changes, expropriation, or currency inconvertibility, making them particularly relevant where political risks or instability deter foreign investors. In general, MIGA is tasked with providing guarantees to promote foreign direct investment into developing countries.
 - *Credit enhancement guarantees* improve the creditworthiness of green bonds or loans, allowing borrowers to secure better financing terms.
 - Additionally, *performance guarantees* ensure that green technologies or infrastructure meet expected sustainability standards, boosting investor confidence. They are often critical in the project development and execution phases where lenders or investors seek reassurance against defaults or unforeseen risks.

However, issuing guarantees typically requires more paperwork, complexity, and a larger staff team for both the public financing institution and the recipient compared to concessional credit. While not technically a guarantee, *currency risk management tools*, including instruments like swaps and forwards⁴ offer protection against potential losses from currency exchange rate

fluctuations. This is important during the operational phase of an investment, especially if revenues are generated in a different currency than the investment currency, ensuring returns are not eroded by exchange rate movements.

- *Technical assistance grants:* Grant-funded technical assistance facilities play a crucial role in de-risking green projects by addressing upfront barriers such as high development costs, lack of expertise, and weak market structures. These funds support feasibility studies, capacity building (e.g. for developers or financial institutions or regulators and technical advisory services), ensuring that green projects progress from concept to investment-ready status. By covering preliminary costs, grants help reduce financial risks for investors and increase the bankability of sustainable projects. They also fund the standardisation and certification of green finance instruments, such as green bonds, by developing national green taxonomies, aligning them with international standards like the Green Bond Principles of the International Capital Market Association (ICMA) and EU Taxonomy, covering the costs of certification and third-party verification, and promoting investor engagement.

54. More generally, public participation in green investment projects, whether through debt, equity, or guarantees, can serve as a powerful market signal, reducing perceived risks and encouraging private sector participation. When governments, development banks, or international financial institutions commit capital to a project, they demonstrate confidence in its viability, reducing concerns over financial, regulatory, or technological uncertainties. This first-mover effect helps attract private investors who might otherwise hesitate due to high upfront costs, long payback periods, or policy instability. Private investors will regard the participation of public investors as aligning incentives to address potential market, policy or governance challenges that might impact returns.

55. Different instruments therefore support de-risking at different stages of the investment process. At the design and planning phase, technical assistance funds are most important to ensure projects are developed in a way that can minimise risk. As financiers evaluate the investment, guarantees, public co-investments, and first-loss capital provisions can support decision making, turning a perceived high-risk venture into an attractive opportunity. In terms of execution and operation, currency risk management tools, political risk insurance, and revolving credit lines become more important. They ensure smooth operations, safeguarding investments from external shocks or changes in the business environment. Finally, in terms of exit or divestment, as investments mature, the earlier involvement of equity funds or the provision of guarantees can simplify the divestment process, ensuring optimal returns and facilitating a smooth transition to new ownership or project phase.

56. De-risking instruments are common to a range of sectors and developing country environments. However, they are particularly useful for green investment where the sector, associated technologies and supply chains are still in development. The scale and speed of the green transition means that countries have to invest and overcome wider macro-economic investor concerns in order to deliver on their national green targets. The role of private sector finance in meeting the scale of green investment challenge is central, making the use of public funds as de-risking instruments more important.

3

De-risking and financing instruments in the EaP and Central Asia countries

57. De-risking instruments are instruments that help investors reduce or manage investment or project risks (sometimes in exchange for a fee), thereby improving the perceived risk-reward profile of an investment. They include insurance (e.g. currency, political risk), credit-risk guarantees, export credit agency (ECA) support, technology performance guarantees and credit enhancement instruments (e.g. reserve accounts). They can also include technical assistance support and grant funding (e.g. for project preparation). These instruments are often used in combination with or alongside financing instruments (e.g. debt, equity, bonds, carbon finance) in blended or hybrid approaches. De-risking tools help align risk appetites with potential rewards, ensuring that capital can flow to where it is most needed (WEF, n.d.^[14]). There are a number of de-risking instruments, provided by IFIs and donors to the EaP and Central Asia region, that can be used to scale up green investments in these countries.

3.1. Typical financing and de-risking approaches

58. This section provides examples of the main financing and de-risking approaches currently available in the EaP and Central Asia region. Because de-risking instruments are primarily used in combination with financing instruments, they are presented here as combinations of approaches that are common in the region. The examples are chosen on the basis of their scale (i.e. those that facilitate the largest volume of investment). This section also reviews the main sources of concessional finance (soft loans and grants) and the specific types of financial instruments that exist in the region. The main finding from this overview is that de-risking instruments have not been used to their full potential in the countries in the region and that the national authorities need to do more to scale up and accelerate the financing of green project pipelines, especially in relation to supporting the private sector.

3.1.1. Concessional credit lines through financial intermediaries

59. Credit lines extended by IFIs and disbursed through local banks have been the key form of risk mitigation instrument for green investment provided by the international community in the EaP and Central Asia region. The provision of long-term finance, often at concessional rates, allows for local banks to scale their offer for green finance. Local banks often then blend these funds with their own capital and on-lend to private sector clients (households, small and medium-sized enterprises (SMEs), industrial companies and developers). Such credit lines facilitate access to longer-term finance and make borrowing more accessible. Funds are not necessarily cheaper than ordinary loans when on-lent, but the end user and the local bank can often benefit from consultancy services and training. This helps to reduce the risk to local banks and improves overall project effectiveness.

60. Prior to 2015, such credit lines were sometimes supported by incentives to borrowers (to overcome barriers around awareness), supported by grant funding. However, such incentives have over time disappeared due to higher energy prices and the desire by IFIs not to distort the wider market for green lending products. More usual now are technical assistance funds to build capacity within lending institutions (e.g. for marketing, analysis, energy audits, due diligence).

61. An update of an earlier OECD 2016 assessment (OECD, 2016^[9]) estimates that IFIs have extended environmental credit lines to more than 50 banks and credit institutions in the EaP and Central Asia region (although some of these institutions have since merged or disappeared). Many of these banks have agreed more than one credit line and some have credit lines with multiple IFIs. Ukreximbank in Ukraine has had the biggest number of IFI-supported credit lines in the region by number and total financial volume of support. Overall, the estimation prepared for this report shows that in excess of EUR 3 billion has been approved or committed by IFIs and other concessional funders with EUR 2 billion provided to the EaP countries to date and a further EUR 1 billion in Central Asia. This figure could be significantly higher if wider SME lending with environmental mainstreaming is included. The World Bank Energy Efficiency Credit Facility in Uzbekistan (Box 3.1) provides a more detailed example of an IFI lending facility extended through country's local commercial banks.

Box 3.1. World Bank Energy Efficiency Credit Facility in Uzbekistan

The World Bank has provided three tranches of credit (USD 325 million) to improve energy efficiency (EE) in industrial enterprises in Uzbekistan. The facility provided a first loan of USD 25 million in 2010 to support energy-efficiency lending businesses in three participating banks – Asaka Bank, Hamkorbank and Uzpromstroybank. Based on the success of the pilot phase, a further USD 100 million was approved in 2013. Funds were targeted primarily at state-owned enterprises. The three banks which represented 29% of Uzbekistan's total banking assets in 2014, pioneered EE lending to industrial enterprises. Each bank has established a dedicated implementation unit for preparing and closing EE investment sub-loans and developing and maintaining EE business knowledge. This was then supplemented by a further USD 200 million approved in 2018. This third tranche saw the expansion of the borrower base to include private sector SMEs, as well as the inclusion of three additional banks - National Bank for Foreign Economic Activity of the Republic of Uzbekistan, Invest Finance (InFin) Bank and Asia Alliance Bank. This third tranche has a maturity of 25 years with a grace period of 5 years.

Overall, the project has made a significant impact by providing an increase in access to dedicated commercial bank EE financing; raising the capacity of large industrial energy users to undertake EE projects; and establishing and demonstrating a viable business model for local banks to lend for a variety of industrial EE projects based on project-specific and corporate-level criteria and following good safeguards practices. Due to the success of the project, the Government formally recognised EE credit lines as a key mechanism for scaling up industrial EE investments and included it in the Action Programme for Further Development of Renewable Energy, Improvement of Energy Efficiency in Sectors of Economy and Social Sector during 2017–2021 (PoU, 2017^[15]). In addition to the continued engagement with the World Bank, the Government also negotiated with the Asian Development Bank to open another EE credit line to support its ambitious EE investment programme.

Source: (World Bank, 2018^[16]).

62. Environmental credit lines have been developed by a broad range of donors and IFIs. All major funding institutions have offered these types of facilities, including the European Bank for Reconstruction and Development (EBRD), the International Finance Corporation (IFC), the European Investment Bank (EIB), the World Bank (International Bank for Reconstruction and Development - IBRD), the Asian Development Bank (ADB), and selected European Development Finance Institutions (DFIs) (e.g. German Development Agency - KfW, the Austrian Development Bank - OeDB), and the Nordic Environment Finance Corporation (NEFCO).

63. Originally, environmental credit lines were only available as a stand-alone product. This remains a core approach, as can be seen in the EBRD Green Economy Financing Facilities. However, over the last several years, IFIs and other donors are increasingly taking a mainstreaming approach, aligning their overall lending operations with targets set out in the Paris Agreement and incorporating climate objectives into mainstream SME and corporate lending.

Box 3.2. Selected examples of IFI-supported environmental credit lines in the EaP and Central Asia region

Further detail on IFI-supported environmental credit lines is set out below:

- **EBRD:** The EBRD has been the largest provider of green credit lines, having approved and/or committed approximately Euro 1 billion to the EaP and Central Asia countries, weighted slightly towards the EaP countries reflecting its longer-term engagement with the region. The EBRD has been implementing Sustainable Energy Financing Facilities since 2004, later evolving into the Green Economy Financing Facility (GEFF) (EBRD, n.d.^[17]). These facilities are supported and co-financed by a range of donors, e.g. the European Union, and climate funds. The EBRD extends credit lines to local financial institutions for sustainable energy projects, with a considerable portion of its portfolio dedicated to energy-efficiency and small-scale renewable energy projects, supporting businesses and homeowners wishing to invest in green technologies. GEFF financing for businesses typically ranges from a few hundred thousand to several million euros to support the purchase and installation of efficient equipment, systems or processes. These facilities have supported projects across all sectors, including agribusiness, food processing, manufacturing, industry, construction, and services. Residential loans extend from a few thousand euro for domestic projects to several hundred thousand euros to support improvements in the communal building envelope. The EBRD operates GEFF as a much broader geographic facility, but it has substantial investments in the region. The EBRD also participates in a multi-lateral facility that is supporting environmental finance through local financial institutions – the Green for Growth Fund (see Box 3.3).

EBRD's programme "Finance and Technology Transfer Centre for Climate Change" (FINTECC) helps companies in participating EBRD countries to implement climate technologies including in energy efficiency, renewable energy, water and materials efficiency. The programme is active in 17 countries including the EaP and Central Asia region. As a complement to EBRD financing the EBRD provides incentive grants (up to 25% of the cost of the specific technology) and technical assistance which are co-financed by the Global Environmental Fund (EBRD FINTECC, n.d.^[18]).

Under the "Women in Business" Programme, the EBRD provides access to finance through credit lines to local banks dedicated to women-led SMEs, alongside business advice to help businesses become more competitive. This programme is available in most EaP countries and is co-financed by a number of international and private finance institutions. The EBRD also works closely with their local partner financial institutions in the countries to help them offer financial products that better meet the needs of women-led businesses (EBRD, n.d.^[19]).

- **World Bank (IBRD):** The IBRD provides finance for environmental purposes through its lending operations. It has developed environmental credit lines for large state-owned banks aimed at improving energy efficiency for industrial, commercial, and municipal customers. This is particularly important in countries where the banking sector has significant government participation, and where there is consequently the need for a sovereign lending component. Key credit line operations for energy efficiency have included Ukraine through Ukreximbank (about USD 200 million alongside more recent support associated with the Russian war of aggression) and Uzbekistan (about USD 325 million).

- *IFC*: The IFC (the private sector arm of the World Bank) was particularly active in sustainable energy finance between 2005-15 across the EaP and Central Asia region, developing credit lines and providing technical assistance for sustainable energy and cleaner production. The IFC supports energy-efficiency and renewable energy projects through credit lines to commercial banks, coupled with technical assistance facilities. Key markets included Ukraine and the Caucasus, with recent investments in Central Asia. For example, in 2021, the IFC issued a USD 75 million local currency credit line in Uzbekistan to Uzpromstroybank to support SME lending, of which 50% was dedicated to climate finance, enabling the bank to scale up its green banking programme.
- *EIB*: The EIB, as the EU climate bank, has climate change as a priority, and offers intermediated loans through local financial institutions, primarily for SMEs, that may include an environmental component. The EIB deploys credit lines which include a specific climate change focus (although this is not the exclusive nature of the facility). It is challenging to estimate the total value of climate finance due to this mainstreaming approach, but as an example, loans with a green component approved in Georgia in 2024 include credit lines to TBC Bank and Bank of Georgia totalling Euro 240 million. Total lending volumes in the region are large and therefore mainstreaming components are potentially substantial in terms of overall volume.
- *ADB*: The ADB promotes access to green finance, especially in Central Asia, through projects like the Access to Green Finance Project in Tajikistan, aimed at providing credit for energy efficient and environment friendly solutions.
- *Other DFIs*: Key national development finance institutions (DFIs) including NEFCO, KfW, and the Austrian Development Bank directly finance public and private entities in Moldova and Ukraine for energy saving and cleaner production projects, contributing to the achievements of environmental benefits in these regions.
- *Multilateral finance instruments*, including the Green for Growth Fund (GGF), the Global Climate Partnership Fund (GCPF) also play significant roles in providing debt instruments for green finance. For example, the Green for Growth Fund has committed credit lines in excess of USD 226 million to 18 financial institutions, while the GCPF has provided USD 75 million to banks in Armenia, Georgia and Ukraine.

Source: Authors' compilation.

64. The World Bank Group, for example, has committed to ensuring that 35% of its financing has climate co-benefits, with half of the World Bank's climate financing supporting adaptation and resilience measures. Similarly, the EIB has set a goal to dedicate at least 50% of its annual lending to climate action and environmental sustainability by 2025 and aims to support Euro 1 trillion of investments in climate action and environmental sustainability from 2021 to 2030. The ADB plans to provide USD 80 billion in climate finance from 2019 to 2030.

Box 3.3. Green for Growth Fund

The **Green for Growth Fund** (GGF) is a specialised impact investment fund to mitigate climate change and promote sustainable economic growth by investing in measures that reduce energy consumption, resource use, and CO₂ emissions in Southeast Europe and the EU Neighbourhood regions. Initiated by the European Investment Bank and KfW Development Bank, the GGF is a public-private partnership that leverages risk capital provided by public institutions with additional private capital. The GGF channels dedicated financing to businesses and households through local financial institutions, and also makes direct investments in eligible projects and companies. By 2023, GGF has reported providing in excess of USD 226 million in credit lines to 18 financial institutions in the EaP region for on-lending for energy-efficiency and renewable energy projects. The activities of the GGF are supported by a Technical Assistance Facility, which provides know-how and technical expertise to ensure that these investments are successfully implemented. Among others, GGF receives funding from the EU's Neighbourhood Investment Platform.

Source: (GGF, 2023^[20]), (GGF, n.d.^[21]).

65. As a result, green elements are increasingly incorporated into mainstream credit line products. For example, the EBRD commits to dedicating a substantial portion of its annual investment to green projects under its Green Economy Transition (GET) approach. As a result, much of its SME lending in the EaP and Central Asia region is provided with the expectation that 70% of total financing should align with GET principles. This mainstreaming of green finance allows for scale but raises questions over transparency and oversight.

3.1.2. Guarantees and currency hedging

66. The use of guarantees for project and portfolio lending has emerged as an important mechanism for fostering sustainable lending and green finance (CPI, 2024^[22]). Guarantees serve as a risk mitigation tool that encourages financial institutions to extend credit to green projects which may otherwise be regarded as higher risk due to lack of familiarity with technology or nascent regulatory frameworks for green initiatives. They work by providing underwriting⁵ repayments or providing a level of first-loss cover at the portfolio level against potential losses. This approach is particularly effective in markets that are also exposed to economic volatility, political instability, or nascent regulatory frameworks for green initiatives.

67. Prior to the Russian war of aggression, the EBRD had included Ukraine in a programme to use portfolio guarantees to unlock financing for solar and wind projects, mitigating the perceived risks associated with the country's fluctuating energy market and regulatory uncertainties. These guarantees, the first EBRD guarantee programme receiving funding through the EU External Investment Plan, were designed to allow commercial banks to make investments alongside EBRD loans for sustainable investments in clean energy.

68. Guarantees are often deployed to offset payment risk on investments in new and innovative technologies. For example, in 2020, the World Bank Group provided a USD 15.1 million payment guarantee to backstop payment obligations for the first large scale, privately developed and operated renewable energy facility in Uzbekistan. The 100 megawatt (MW) facility was also supported by loans from the IFC, ADB and EBRD to support the developer – Masdar.

69. Typically, portfolio guarantees are often deployed in the context of SME lending, where banks perceive higher credit risk among the client base (who generally lack collateral). Increasingly, green lending guarantees are mainstreamed into broader SME finance credit guarantees, rather than structured as standalone green finance products. This is because the risk is increasingly associated with the type and creditworthiness of the borrower, rather than the nature of the technology. This is now a core approach of

EU institutions, such as the EU4Business Guarantee Facility (EIF, n.d.^[23]) which was piloted in five countries to support SME lending, including for green purposes. The Swedish Development Agency (SIDA) is also using risk instruments to support green technologies through its SME portfolio in Georgia (see Box 3.4).

Box 3.4. SIDA supporting sustainable lending through risk guarantees in Georgia

In Georgia, the SIDA launched a guarantee programme for market-leader TBC Bank and microfinance institution Crystal. This support was primarily focused on SMEs and marginalised borrowers who were unable to access finance to support their transition to a green economy. By sharing the risk with SIDA, TBC Bank and Crystal are able to provide business loans to previously unbanked SMEs and micro-enterprises respectively, with majority of them based in the regions of Georgia. The TBC guarantee has been designed in such a way that it is especially favourable for the bank to cater to start-ups, women-led /-owned as well as to green businesses. Via SIDA's guarantee scheme, which is backed by the Swedish state, TBC Bank has been able to disburse over 1 700 guaranteed micro- and SME loans for a total amount of close to USD 72 million.

Source: (UN Global Compact, n.d.^[24]).

70. In 2020, the EBRD and EU agreed a Euro 50 million programme of financial guarantees aimed at scaling up investment in renewable energy in Ukraine and in the EU's Southern Neighbourhood. Under the programme, the EBRD provides guarantees to lenders such as local commercial banks, which allows them to provide financing to projects alongside EBRD loans. The guarantee is expected to help generate total investments of up to Euro 500 million (Bennett, V., 2020^[25]).

71. Green-oriented portfolio guarantees are also now being used in Ukraine to support bank lending to the private sector, in the context of the Russian war of aggression. For example, in 2024, the EBRD announced Euro 10 million guarantees to Ukreximbank to support USD 40 million new financing for the private sector. Of this, 20% is expected to support private micro- and SME long-term investments in EU compliant green technologies, improving their competitiveness on domestic and foreign markets. The EBRD is being provided with first-loss cover⁶ by the United States of America to mitigate the risk exposure.

72. Currency risk, often overlooked, plays a pivotal role in shaping the landscape of green investment. Green infrastructure investment projects are often long-term and often exposed to currency fluctuations, particularly in volatile regions such as the EaP countries and Central Asia which can be exposed to economic instability, political uncertainty, or reliance on commodity exports. Currency fluctuations can negatively impact investment returns and the financial resilience of the borrower and project, disincentivising investment. Currency risk is a key barrier to mobilising private and scaling up climate finance, and foreign exchange risk needs to be dramatically reduced for both private and public sector borrowers.

73. To mitigate currency risk, investors and project developers often employ hedging strategies, using financial instruments such as futures, options, and swaps to lock in exchange rates.⁷ While effective, these tools can be costly in some countries, however, many domestic markets in developing countries lack the required depth and availability of instruments to hedge against currency risks. The Currency Exchange Fund (TCX) has been set up by development finance institutions and governments to protect borrowers in emerging markets from currency risk (see Box 3.5). The Fund provides hedging instruments for essentially all emerging and frontier market currencies and all tenors when there are no or insufficient commercial alternatives.

74. The EaP and Central Asia region is a key market for TCX. In 2023, the Fund de-risked USD 726 million of loans to public and private sector borrowers in the region taking the currency risk on its own

balance sheet. TCX encourages borrowers to inquire about currency risk-free financing (indexed local currency financing) with their lenders (Goudriaan, X., 2023^[26]).

75. Another approach is the seeking of financing and the structuring of investments in stable currencies, although this can transfer the currency risk to the project company in countries with weaker or volatile currencies. Multilateral financial institutions, like the EBRD can play a crucial role by providing financing and guarantees in local currencies, thus reducing the currency risk for investors in green projects in these regions. Increasingly, IFIs are offering local currency loans to support green lending.

76. More generally, multilateral development banks and development finance institutions should seek to prioritise local currency lending to protect borrowers from foreign exchange risk. This can be achieved in two main ways. Either by issuing bonds locally and activating the local savings base, or by tapping into the larger external savings base and managing the resulting currency risk by scaling up global currency risk-sharing platforms such as TCX. In addition, foreign exchange risk management must also be fully integrated into climate finance strategies (Volz, U. et al., 2025^[27]).

Box 3.5. TCX: A global solution to currency risk

The Currency Exchange Fund (TCX) is a development finance initiative that takes on and manages currency risk from emerging and frontier countries. The investor base of TCX consists of many of the multilateral development banks, development finance institutions and impact investors, as well as the European Commission and the governments of the Netherlands, the United Kingdom, Germany, France and Switzerland.

TCX's purpose is to provide protection against currency depreciation, making green investments in these regions more palatable to foreign investors. In essence, TCX enables indexed local currency lending, where the lender is able to offer hard currency financing but with repayments fixed to the local exchange rate. This way, borrowers (e.g. project developers) are unimpacted by exchange rate movements, making their debt repayments predictable. TCX indirectly strengthens the financial markets of these countries, creating a more conducive environment for green investments.

Source: (TCX, n.d.^[28]).

3.1.3. Equity Funds

77. For clean infrastructure developers, typically a lack of equity is a key barrier to being able to mobilise larger volumes of debt. Private equity plays a critical role in managing risk in the development of sustainable energy and green projects. By injecting capital into innovative but often risk-laden sustainable energy projects, private equity firms not only fuel the advancement of green technologies but also manage and mitigate financial risk through diversified portfolios and strategic planning. Their involvement is pivotal in bridging the funding gap faced by many renewable energy start-ups and projects that traditional financial institutions often view as too risky or unproven.

78. Private equity has the potential to align with the inherently long gestation periods of sustainable energy projects. By being willing to commit capital for extended periods, these investors allow green technologies to mature and reach commercial viability without the pressure of short-term returns. This patient capital approach is crucial for developing infrastructure that supports sustainable energy, from wind farms and solar power plants to innovative waste-to-energy solutions.

A number of internationally supported funds are seeking to address this issue, including through the Global Energy Efficiency and Renewable Energy Fund (GEEREF), a facility managed by the EIB. These fund of fund models (also including the IFC), typically make equity investments in sub-funds as well as provide

technical assistance at both sub-fund and project level. However, the penetration of private equity in the EaP and Central Asia regions is still at its nascent stages compared to Western markets. One of the main challenges is the regulatory and political environment, which can be unpredictable, with underdeveloped regulatory frameworks, making it difficult for private equity firms to assess risks and returns accurately. Additionally, the energy markets in these regions are often dominated by state-owned enterprises or legacy industries, presenting hurdles for new entrants.

Box 3.6. Private equity fund investments in renewable energy in the Caucasus

The EIB-managed Global Energy Efficiency and Renewable Energy Fund (GEEREF) is a fund of funds that has invested in 15 private equity funds active in developing countries. Initiated by the European Commission in 2006, it was supported by additional funding from Germany and Norway. These funds in turn invest in renewable energy and energy-efficiency project vehicles in emerging markets. GEEREF raised additional capital bringing funds under management to approximately Euro 222 million and by 2019 was fully invested.

GEEREF invests in private equity funds which, in turn, invest in private sector projects, thereby further enhancing the leveraging effect of GEEREF's investments. It is estimated that, with Euro 222 million of funds under management, over Euro 10 billion could be mobilised through the funds in which GEEREF participates and the final projects in which these funds invest.

In the EaP and Central Asia countries, GEEREF has made a USD 13 million investment in the Caucasus Clean Energy Fund. This is a private equity fund that invests in small and medium-scale hydropower plants in Georgia. It targets projects in the range of 10-20 MW, focusing on introducing international best practices in respect of the construction and operation of hydropower plants, as well as their environmental and social management

Source: (GEEREF, n.d.^[29]).

79. Private equity is one green area where governments are beginning to invest in green investment vehicles. For example, the Sovereign Wealth Fund of Azerbaijan is an investor in the IFC Catalyst Fund (private equity) alongside the governments of the United Kingdom of Great Britain and Canada.

3.1.4. Technical assistance and investment anchoring: The case of Green Bonds

80. A lot of IFI support in the EaP and Central Asia region is oriented towards support for structuring and issuing of green bonds. This is in the form of both technical assistance (i.e. building the institutional capacity or transaction structuring), or anchoring (i.e. participating in the issuance as a purchaser to create market confidence).

81. Green bonds are financial instruments designed to raise debt at the capital market for projects with environmental benefits, aligning investor returns with positive climate and environmental outcomes. They offer several de-risking elements for investors which may include favourable regulatory support and incentives, enhanced transparency and reporting standards, potential environmental and social reputational benefits, as well as a hedge against future regulatory changes (e.g. portfolio climate reporting disclosure).

82. There are a number of different approaches that are deployed:

- *Use-of-proceeds green bonds*: The most common type, where the proceeds are earmarked for green projects, but the bond itself is backed by the issuer's entire balance sheet.
- *Asset-backed green bonds*: These bonds are secured against specific assets or revenue streams from green projects.

- *Green project bonds*: Issued to finance a specific green project, with investors repaid from the cash flows generated by that project.
- *Green sukuk*: Islamic finance instruments structured in compliance with Sharia law, funding environmentally sustainable projects.

83. Green bonds finance a wide array of projects aimed at mitigating climate change and protecting the environment. This includes renewable energy projects, energy-efficiency upgrades in buildings and industries, sustainable water and wastewater management, pollution prevention and control, sustainable land use and forestry, clean transportation, and biodiversity.

Box 3.7. Building a market for green bonds in Kazakhstan

Kazakhstan is among the most advanced of the Central Asian markets for green bond issuance. In 2017, it introduced the Concept of Green Financial System for Kazakhstan, highlighting green bonds as a key market innovation alongside the introduction of Green Bond Rules for the Astana International Exchange (AIX) and a Green Finance Centre (GFC)-backed reimbursement scheme to support green bond issuers. In 2021, the Astana International Financial Centre (AIFC) developed precise definitions of green finance, bonds, loans, projects, and taxonomy within the Environmental Code of the Republic of Kazakhstan. This was complemented by amendments in the Entrepreneurial Code, delineating economic incentives for the adoption of green loans and bonds, including subsidies for interest and coupon rates to propel green project initiatives. October 2021 saw the introduction of the “Business Road Map-2025”, a state programme designed to financially bolster micro-, SMEs engaging with green finance, offering a coupon rate for green bond issuers at 7%. At the end of the year, on 31 December, the government formalised the Taxonomy of Green Projects eligible for financing through green bonds and loans, underlining its dedication to a sustainable financial ecosystem.

By the end of October 2023, the issuance of green bonds was reported at KZT 127.9 billion (about USD 290 million) (AIFC/GFC, 2023^[30]). International financial institutions (Asian Development Bank, Eurasian Development Bank) are the largest issuers of green financial instruments, followed by energy companies (Samruk-Energy Joint Stock Company and Kazakhstan Electricity Operating Company Joint Stock Company - KEGOC JSC), domestic financial institutions with state participation (Development Bank of Kazakhstan JSC, Damu Entrepreneurship Development Fund), and local private financial institutions (Halyk Bank). The revenues from the issuance of green bonds and green loans in Kazakhstan are primarily used for energy-efficiency and renewable energy projects (32% and 31%, respectively), with the remainder being mixed green projects. Energy-efficiency projects include the building and operation of street lighting networks, as well as the restoration of electrical networks, which help to reduce greenhouse gas emissions while enhancing energy efficiency.

Source: (Green Finance Platform, n.d.^[31]).

84. Green bonds have seen rapid growth across the region. Issuance has been supported by a range of IFIs and donors, with increasing capacity to both develop and issue in local markets (particularly in Kazakhstan). This has in some cases led to replication effect, with subsequent private issuance without IFI or public participation. Some key examples across the region are given below (OECD, Forthcoming^[32]):

- *Armenia*: Ameriabank was the first issuer of green bonds in Armenia, offering a five-year EUR 42 million green bond in 2020, supported by the Dutch Entrepreneurship Development Bank (FMO). This was followed by a further successful public offering for a total value of USD 8 million and AMD 3 billion in February 2022. Proceeds were primarily used for solar plants, SME solar and solar leasing, and small hydropower (SHP).
- *Georgia*: Georgia has seen the issuance of several corporate green bonds with a total value more than USD 1 billion, traded both domestically and internationally:

- In 2020, Georgia Capital's utilities business, Georgia Global Utilities issued a USD 250 million green bond to be traded on the Irish Stock Exchange, supported by Deutsche Investitions und Entwicklungsgesellschaft mbH (DEG – a German Development Finance Institution), the Dutch Entrepreneurship Development Bank and the Asian Development Bank as anchor investors.
- In 2021, Georgian Railways issued a USD 500 million green bond to refinance eligible green projects, with the EBRD as an anchor investor (USD 50 million), traded on the London Stock Exchange.
- In 2022, Georgian Renewable Power Operations (GRPO), an affiliate of Georgia Capital, issued an USD 80 million green bond for sustainable energy with participation by IFC (USD 20 million) and ADB (USD 4 million), traded domestically.
- In 2023, Georgia Capital issued a USD 150 million sustainability bond traded on the Tbilisi Stock Exchange to support its portfolio companies to invest in energy efficiency and renewable energy.
- In 2024, Georgia Global Utilities issued a USD 300 million green bond to improve outdated water infrastructure and equipment and expand the country's water network. This issuance - the largest ever by a Georgian private company - is listed on the Euronext Dublin exchange. The ADB, the EBRD, the German development finance institution DEG and IFC participate in the bond issuance.
- *Ukraine:* In 2021, Ukrenergo, the country's leading energy supplier, issued USD 875 million five-year Green and Sustainability-linked Eurobonds⁸ with the EBRD as an anchor investor. The proceeds were to finance or refinance new or existing eligible green projects and the outstanding debt owed to renewable generators. Subsequent green bond issuance has been impacted by the Russian war of aggression.

85. In the Central Asia region:

- *Kazakhstan:* Kazakhstan has been at the forefront of green finance in Central Asia. International financial institutions are the largest issuers of green financial instruments, followed by energy companies, and domestic financial institutions with state participation (see Box 3.7). The success of this issuance encouraged other Central Asian countries to explore green bonds.
 - In August 2020, Damu Fund, supported by the United Nations Development Programme (UNDP) issued green bonds on the Astana International Exchange to a value of KZT 200 million (about USD 500 000), whose proceeds were to be channelled to second-tier banks and micro-finance organisations for further financing of small-scale investment projects in renewable energy sources.
 - In November 2020, the ADB issued green bonds totalling about USD 23.7 million and USD 9.1 million to finance ADB's portfolio of climate change adaptation and mitigation projects in Kazakhstan. They were the first green bond issuances on the Kazakhstan Stock Exchange (KASE) and the second in Kazakhstan.
 - In 2021, the Eurasian Development Bank (EDB) placed a green bond on KASE for a value of KZT 20 billion to finance environment, social and governance (ESG)-related projects in Kazakhstan.
 - In November 2022, Samruk-Energy JSC, a 100% subsidiary of Kazakhstan's Sovereign Wealth Fund Samruk-Kazyna JSC, placed its first green bond on the AIFC's Stock Exchange for about USD 42.2 million. The full amount was raised via the Astana Stock Exchange through a public offering (Samruk Energy, 2023^[33]).
 - In March 2023, the Kazakhstan Grid Operating Company KEGOC, issued green bonds that were listed on KASE with a total value of KZT 16.9 billion (about USD 38 million). The investors

were the Development Bank of Kazakhstan JSC and the EBRD. The proceeds were to be used to rehabilitate electricity transmission infrastructure.

- In December 2023, the Development Bank of Kazakhstan placed a USD 15 million green bond on the Astana Stock Exchange to fund its renewable energy, increasing energy efficiency, and modernising existing energy infrastructure.
- *The Kyrgyz Republic:* Kyrgyzstan has seen the issuance of two green bonds to date:
 - In 2020, the EBRD issued a USD 8.5 million green bond to support the development of small-scale hydropower projects in the country. These projects contribute to both renewable energy generation and rural electrification.
 - In 2023, Dos-Kredobank, issued a domestic bond of 85 million som (about USD 1 million) to finance tourism, electric vehicles, agriculture and buildings.
- *Tajikistan:* In 2024, the IFC began working with Bank Eskhata to become the first green-focused bank in Tajikistan. It has committed USD 10 million subscription and Bank Eskhata will use the proceeds to finance a green lending portfolio. The IFC supports bank processes, identifying a pipeline in agriculture and sustainable energy.
- *Uzbekistan:* Uzbekistan has seen the emergence of a green bond market:
 - In 2020, the ADB issued a USD 4 million green bond to support the development of solar power plants in Uzbekistan. This issuance was part of a broader effort to promote sustainable energy sources in Uzbekistan (OECD, 2023^[34]).
 - In August 2023, SanoatQunlishBank (SQB), one of the biggest banks in Uzbekistan, issued a green bond with a total value of USD 100 million. The receipts will be predominantly spent on renewable energy sources.
 - In January 2024, Saipro Group became the first private company in Uzbekistan to issue "green" bonds, with a total value of UZS 50 billion (USD 4 million). The receipts will be used in Bostanliq region, to support eco-tourism and renewable energy projects.

86. In addition, IFIs are themselves raising affordable finance through placement of green bonds on the capital markets (leveraging their credit rating). Funding raised is then allocated to suitable green projects in the EaP and Central Asia region. For example, the IFC has funded the following projects under its own Green Bond financing programme:

- *Transport projects in Ukraine (2021):* The IFC used proceeds from its Green Bond financing to provide a loan of USD 35 million to fund three clean transportation projects in Ukraine: Lviv E-Buses Project will finance up to 50 battery electric trolleybuses and infrastructure, the Kryvyi Rih Trams Project financing up to 50 electric tramcars, tramway track rehabilitation, and rail grinder equipment and the Smart Zaporizhia Project will finance a "smart city" platform plus a municipal data centre, up to eight electric buses, up to 20 battery electric trolleybuses, upgrade of electric transport network equipment, road reconstruction and maintenance machinery, passenger communication system, and public park upgrade.
- *Masrik Solar, Armenia (2020):* Under the Green Bond financing programme, the IFC has provided a green loan of USD 8.8 million to finance the development, construction, operation and maintenance of a photovoltaic plant located in the municipality of Mets Masrik, Armenia. The project was the first grid scale photovoltaic project in Armenia and will reduce GHG emissions by increasing the share of electricity supply from renewable sources, improve energy security and lower generation costs by reducing the country's reliance on imported fuels for power generation.

87. The global green bond market has been growing significantly over the past years on the back of changes in the world economy and strong investors' demand. While the EaP and Central Asia countries have been slow to tap into capital markets, there have been signs that green bonds are becoming an asset class in its own right and have begun to gain traction in the region as a complement to bank financing.

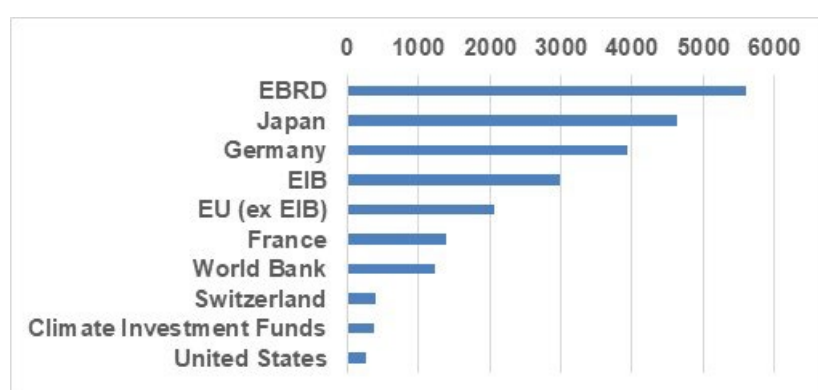
International IFI and donor support to green bond issuance in the region helps develop domestic green bond markets and scale up resources for green investments. As anchor investors particularly for first-time green bond issuers, IFIs help enhance the issuer's credibility and encourage private investors to invest (OECD, Forthcoming^[32]).

3.2. Sources of concessional risk capital and types of funding institutions

88. Across the EaP and Central Asian countries, several institutions and sources provide concessional capital for risk instruments, crucial for financing projects that address climate change, support sustainable development, and mitigate various risks. These sources of concessional capital play a pivotal role in leveraging additional investment, reducing financing costs, and enhancing the viability of projects in these regions. These institutions include:

- *Multilateral development banks (MDBs)*: Institutions like the EBRD, the World Bank, and the ADB are key players, offering loans, grants, and technical assistance at below-market rates. They often focus on infrastructure, energy-efficiency, and climate-resilience projects.
- *International finance institutions (IFIs)*: The International Monetary Fund (IMF) and various United Nations (UN) agencies provide financial support and expertise for economic stabilisation and development projects, including those aimed at environmental sustainability.
- *Bilateral donors*: Governments from developed countries, through bilateral aid programmes, offer concessional finance for development projects. The European Union, through mechanisms like the European Fund for Sustainable Development Plus, also provides substantial funding and support in these regions.
- *Climate funds*: Specialised funds, such as the Green Climate Fund (GCF) and the Global Environment Facility (GEF), offer grants and soft loans for projects addressing climate change mitigation and adaptation.

Figure 3.1. Climate finance flows to the EaP countries and Central Asia by donor, 2000-2021, USD million



Sources: (World Bank, n.d.^[1])

89. Of these public flows, the EBRD has been the single largest MDB investor in the region on climate-related issues, followed by the EIB and the World Bank. Alongside sustainable lending operations, most of IFI flows have been allocated to direct investments in green businesses or projects (e.g. renewable energy, water and waste management, sustainable agriculture). There are also lending operations that integrate technical assistance with investment through programmatic support. One recent example is the World Bank Georgia Resilient Agriculture, Irrigation, and Land Project (USD 75 million) approved in 2024.

The Project Development aims to improve irrigation, drainage services, and agricultural production in project areas, and strengthen national irrigation and land management institutional capacity for climate resilient planning.

90. MDBs are also increasingly mainstreaming climate and environmental targets into their Development Policy Operations (DPO). Recent examples include World Bank DPOs to Armenia (USD 100 million) and Georgia (USD 50 million), both of which include components to support climate change mitigation and adaptation, improving the regulatory framework for environmental management. These funds leverage improvements in national policy and budget resource allocation.

91. Donor flows tend to be focused on the provision of grant based technical assistance to improve policy and planning, institutional capacity, data and decision making. One example is the EU4Climate Programme (2018-2023) (EU4Climate, n.d.^[35]). EU4Climate provides Euro 8.8 million support (through UNDP) for a range of measures, including implementation and update of Nationally Determined Contributions (NDCs), Low-Emission Development Strategies (LEDS), emission Measurement, Reporting and Verification (MRV), alignment with the EU *acquis*, mainstreaming climate, guidelines on Paris Agreement, climate investment, adaptation planning, Ukraine response and reconstruction.

92. Increasingly, climate finance flows are being channelled through dedicated climate funds, of which the most important are the Climate Investment Funds (CIF) and Green Climate Fund (GCF), both of which offer de-risking type approaches.

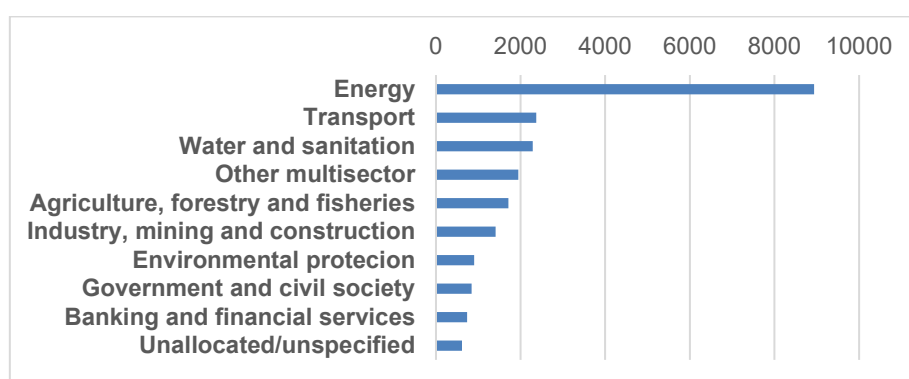
- The *Green Climate Fund* is a global fund established to support developing countries in their efforts to counter climate change. It finances projects focused on adaptation and mitigation practices, aiming to limit or reduce GHG emissions and enhance climate resilience. The GCF is a key instrument of the United Nations Framework Convention on Climate Change (UNFCCC) financial mechanism. The GCF is increasingly acting as an anchor partner for large-scale projects in the EaP and Central Asian region. By 2023, it had approved more than USD 255 million for clean energy and adaptation projects in the EaP countries (Armenia, Georgia, Moldova), and in excess of approximately USD 390 million in the Central Asia region (UNFCCC, 2023^[36]).
- The *Climate Investment Funds* are a group of funds managed through the MDB system designed to provide financial resources to developing countries for climate change mitigation and adaptation efforts covering renewable energy scale-up, adaptation, coal phase-out, smart cities, renewables grid integration, landscapes and industry decarbonisation. The Climate Investment Funds have been supporting mitigation projects in Ukraine (USD 340 million) and Armenia (USD 13.9 million) as well as resilience-oriented projects in Central Asia including USD 72 million for climate resilience in Tajikistan, USD 65 million in Kazakhstan for clean energy, and USD 2 million in Kyrgyzstan.

93. Increasingly, these climate funds are integrating their operations with MDBs in joint de-risking approaches. For example:

- The EBRD implements a number of EaP and Central Asia-relevant GCF supported multi-country programmes, including GCF contributions of USD 95 million for its Green Cities Facility, USD 378 million Green Economy Financing Facility (GEFF) and USD 258 million for its High Impact Programme for the Corporate Sector (industrial lending). The latter is using performance and sustainability-based loans with interest rates enhancements reflecting industrial and corporate achievement on the basis of delivery of agreed environmental targets and actions.
- The World Bank is running GCF- and CIF-supported programmes including the Sustainable Renewables Risk Mitigation Initiative (SRMI) Facility that covers Kyrgyzstan, Tajikistan and Uzbekistan. SRMI brings together a range of risk mitigation measures including upstream and downstream technical assistance, blended finance for investment and risk-mitigation instruments (World Bank Group guarantees and political risk insurance) for residual private sector risk.

94. Climate finance flows to the EaP and Central Asia regions from these funds have been allocated across a broad range of sectors, with a strong focus on supporting sustainable energy. These flows have been primarily in the form of loans (approximately 78%), with the remainder in grants (21%) and in equity and other forms of support.

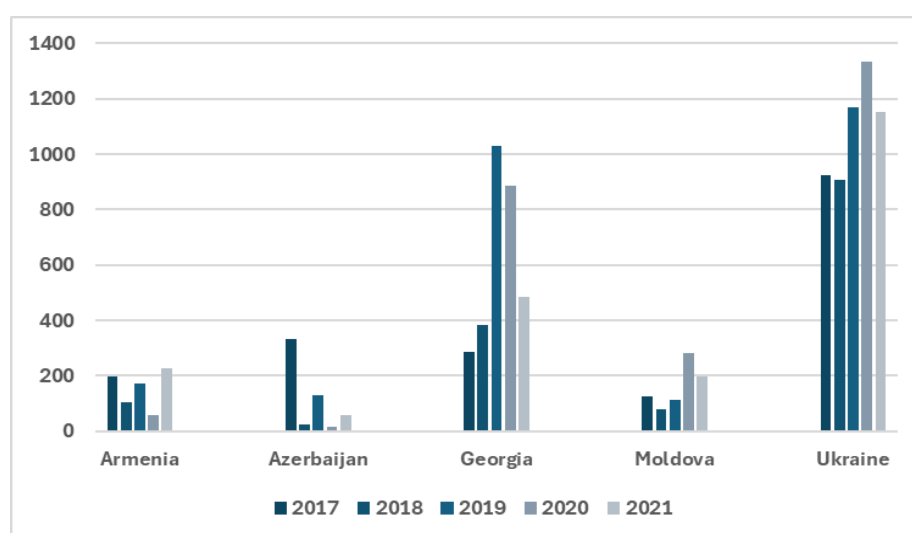
Figure 3.2. Climate finance flows to the EaP countries and Central Asia by sector, 2000-2021, USD million



Sources: (World Bank, n.d.[1]).

95. Generally, climate finance had been demonstrating a rising trend in the region, although this was subsequently impacted by COVID-19 and the Russian war of aggression in Ukraine. While In 2020-21, Ukraine and Uzbekistan received the largest commitments in absolute terms (both grants and loans) on a *per capita* basis it was Georgia and Moldova that got most of the support.

Figure 3.3. Climate development finance flows to selected EaP countries, grants and loans, 2017-2021, USD million



Sources: (World Bank, n.d.[1]).

96. Our research has shown that there is a wealth of programmes and instruments, offered by international partners, that the EaP and Central Asia countries can make use of to stimulate and de-risk green and net-zero investments. These include, among others, blending grants, guarantees, currency

hedging instruments, support for green bonds to develop green capital markets. As discussed with partners, one of the main challenges in applying these instruments is matching demand with supply and subsequent uptake by the countries. National authorities in the EaP and Central Asia region need to collect more information about these programmes and spread this information across country stakeholders to scale up and accelerate the financing of green project pipelines, especially in the private sector.

97. In addition to other OECD sources already quoted throughout the report, in the last few years, the OECD has prepared a number of reports on de-risking green investments in different regions of the world and different sectors that can be relevant for the EaP and Central Asia countries. These include among others: *Leveraging De-Risking Instruments and International Co-ordination to Catalyse Investment in Clean Hydrogen* (OECD, 2024^[37]), *Scaling Up the Mobilisation of Private Finance for Climate Action in Developing Countries: Challenges and Opportunities for International Providers* (OECD, 2023^[38]) or *Blended Finance Guidance for Clean Energy* (OECD, 2022^[39]). A forthcoming *Financing Toolkit for the Climate Club* (OECD, Forthcoming^[40]) provides an overview of 27 economic, de-risking and financing instruments that can be used for financing industry decarbonisation. The description of instruments will be complemented with a suite of case studies to showcase how they are being implemented in real-world projects. All these sources provide additional valuable information and lessons learnt that could be of direct use to both public and private investors in green projects in the EaP and Central Asia region.

4 European Union initiatives

98. The European Union and its member states have also been a major supporter of environmental investment in the EaP countries and Central Asia. By 2023, this has been done primarily through the Neighbourhood Investment Platform (previously the Neighbourhood Investment Facility and subsequently incorporated into the European Fund for Sustainable Development+ (EFSD)). Over the years, these instruments have evolved and now provide significant financing, including de-risking instruments to mitigate various green project risks. This chapter looks specifically at the evolution of EU funding instruments available to the EaP and Central Asia countries with a particular focus on risk mitigation measures employed by the EU such as blended finance and budgetary guarantees.

4.1. Evolution of EU funding instruments for the EaP and Central Asia countries

99. Over the years, the European Union has put in place a number of instruments to finance investments in infrastructure and other sustainable development projects beyond the borders of its member states including in the countries of the EaP and Central Asia region. These instruments have evolved over time. The European Neighbourhood Instrument (ENI) (2014-2020) and, since 2021, the Neighbourhood, Development and International Cooperation Instrument (NDICI) (aka Global Europe) have been the main vehicles to deliver financing to the EaP countries in particular. The Neighbourhood Investment Facility (NIF), later on transformed into Neighbourhood Investment Platform (NIP) as part of the European Fund for Sustainable Development (EFSD) as well as EFSD+, both including other regional financing facilities, have been the investment arm of the NIF and NIP initiatives. The EFSD+ builds on the EU's experiences with different development financing instruments, including blended finance and guarantees. These instruments aim to mobilise additional investment for EU global development objectives by shaping the risk-to-return calculus for investors. They are therefore considered to have a de-risking function. These instruments are discussed in more detail further below.

100. Recently, blended finance and budgetary guarantees have gained traction in the European Union as means of deploying limited public funding to mobilise additional development finance from public and private sources in support of external action objectives. Blending refers to a collaborative approach to financing based on the combination of grant-based components with loans, equity, or guarantees from development finance institutions or commercial investment to increase the financial viability of projects with a high social and economic return (European Parliament, 2022^[41]).

4.1.1. Neighbourhood Investment Platform (formerly “Facility”)

101. The European Union Neighbourhood Investment Facility (NIF) has been an important financial instrument used by the European Union to support its neighbouring regions, including countries in the Eastern Partnership, the Southern Neighbourhood, and the Western Balkans. Launched in 2008 as part of the European Neighbourhood Policy (ENP), the NIF has played a significant role in promoting economic development, stability, and cooperation in these regions. In September 2017, the Neighbourhood Investment Facility became an integral part of the European Fund for Sustainable Development (EFSD) as the Neighbourhood Investment Platform (NIP) (EIP/NIP, n.d.^[42]).

102. The primary objectives of the EU Neighbourhood Investment Platform are:

- *Promoting sustainable development:* The NIP aims to foster economic growth and sustainable development in neighbouring countries. It supports projects and initiatives that contribute to job creation, poverty reduction, and overall economic stability.
- *Enhancing infrastructure:* Infrastructure development is a key focus of the NIP. It seeks to improve essential infrastructure, including transport, energy, and social infrastructure, to facilitate economic integration and regional cooperation.
- *Strengthening governance:* The NIP supports governance reforms in partner countries, promoting good governance, transparency, and the rule of law. These efforts aim to enhance political stability and create an enabling environment for investment.
- *Mitigating climate change:* Climate change mitigation and adaptation are integral components of the NIP's agenda which supports green and sustainable projects that address environmental challenges and promote a transition to a low-carbon economy.

103. The NIP key features are as follows:

- *Multi-annual programming:* The NIP operates through multi-annual programming exercises that identify priority areas and allocate resources accordingly. This process ensures alignment with partner countries' development goals.
- *Coordinated approach:* The NIP fosters coordination among various stakeholders, including the EU, partner countries, international financial institutions, and the private sector. This collaborative approach enhances project implementation and leverages additional funding sources.
- *Grant and investment components:* The NIP offers grants to support policy reforms, technical assistance, and capacity building. Additionally, it provides investment financing, such as loans and guarantees, to promote private sector development and infrastructure projects.
- *Focus on cross-border cooperation:* Promoting regional and cross-border cooperation is a priority for the NIP. It funds projects that enhance connectivity, trade, and cooperation among neighbouring countries, fostering stability and economic integration.
- *Flexibility and adaptability:* The NIP's programming can adapt to changing circumstances and emerging challenges. This flexibility enables it to address evolving needs in partner countries.

104. The NIP has a broad range of instruments, including co-financing, loan guarantees, interest rate subsidies, technical assistance and risk-capital operations. It pools grant funds from the EU budget and Member States and leverages loans from European Financial Institutions (e.g. EBRD, EIB) alongside contributions from ENP partner countries. Between 2008-2018, the NIP had supported 156 projects with contributions of Euro 2.3 billion, leveraging Euro 21 billion of DFI capital and total capital of Euro 38 billion.

105. The EU Neighbourhood Investment Platform has had a significant impact on the EU's neighbouring regions in terms of:

- *Infrastructure development:* The NIP has contributed to the development of vital infrastructure, including the construction and renovation of roads, railways, energy networks, and social infrastructure such as schools and healthcare facilities.
- *Economic growth:* By promoting private sector development, job creation, and trade, the NIP has supported economic growth in partner countries. It has also facilitated investments in renewable energy, contributing to a more sustainable and secure energy supply.
- *Cross-border projects:* The NIP has funded numerous cross-border projects, fostering regional cooperation and integration. For example, it has supported initiatives to improve transportation links between Eastern European countries and their Western counterparts.

- *Climate resilience:* The NIP's focus on climate change adaptation and mitigation has helped partner countries address environmental challenges, reduce emissions, and enhance climate resilience.
- *Governance reforms:* Through its grant component, the NIP has supported governance reforms, including efforts to improve the business environment, strengthen the rule of law, and combat corruption.

106. Despite its successes, the NIP faces challenges related to political instability, bureaucratic hurdles, and the need for continued financial support. However, as the EU evolves its neighbourhood policies and priorities, the NIP remains a crucial tool for fostering economic development, stability, and cooperation in the EU's neighbouring regions. Its adaptability and multi-stakeholder approach position it well to address emerging challenges and contribute to the long-term prosperity of partner countries.

4.1.2. Investment Facility for Central Asia

107. The EU Investment Facility for Central Asia (IFCA) operates as a multi-donor financial instrument, bringing together contributions from the European Union, individual EU member states, and other international partners. Modelled on the NIF, and with a Secretariat based in Astana, the IFCA provides financial non-refundable contributions to support loans to Central Asian countries from the EIB, the EBRD and other European multilateral and national development finance institutions. The facility provided Euro 205 million over the period 2010-2020 to promote additional investments and key infrastructure with an initial priority focus on energy, environment, SMEs and social infrastructure.

108. The IFCA structure consists of the following key elements:

- *Funding sources:* The IFCA receives financial contributions from the European Union's budget, individual EU member states, and international financial institutions. These contributions are pooled together to finance development projects and programmes in Central Asia.
- *Management:* The IFCA is managed by the European Investment Bank (EIB, n.d.^[43]) on behalf of the European Union. The EIB, as the implementing agency, oversees the allocation of funds, project selection, and disbursement.
- *Project implementation:* The IFCA projects are implemented in close collaboration with relevant national authorities and stakeholders in the beneficiary countries. The EIB works alongside local governments, partner institutions, and project beneficiaries to ensure successful project execution.
- *Project portfolio:* The IFCA supports a diverse portfolio of projects across various sectors, including energy, transport, water, environment, and private sector development. The focus is on projects that enhance regional connectivity, promote sustainable development, and improve living conditions in Central Asia.

109. The EU Investment Facility for Central Asia holds several key values and objectives:

- *Regional cooperation:* The IFCA encourages regional cooperation and integration by financing projects that improve cross-border connectivity, trade facilitation, and economic linkages among the Central Asia countries. Enhanced regional cooperation contributes to political stability and economic growth.
- *Sustainable development:* The IFCA prioritises sustainability and environmental considerations in project selection and implementation. It supports projects that promote green technologies, energy efficiency, and climate resilience, contributing to sustainable development goals.
- *Economic growth:* By investing in infrastructure, private sector development, and job creation, IFCA contributes to economic growth and poverty reduction in Central Asia. It helps diversify economies and improve the business environment.

- *Good governance:* The IFCA projects often include components aimed at strengthening governance, transparency, and the rule of law in Central Asia countries. These efforts enhance political stability and create an enabling environment for investment.

110. Since its inception, the EU Investment Facility for Central Asia has achieved significant milestones and made a positive impact on the region. Several of these have been energy and environment related. For example, the IFCA has invested in the energy sector, promoting energy-efficiency and renewable energy projects. This includes the financing of energy efficient buildings and the development of renewable energy sources, contributing to a more sustainable energy supply. The IFCA has financed environmental protection projects, including initiatives to mitigate the impacts of climate change, protect ecosystems, and improve water resource management in the region.

4.1.3. EU Economic and Investment Plan

111. In 2020, the EU adopted its Economic and Investment Plan. The Plan proposed to mobilise Euro 2.3 billion from the EU budget, in grants, blending and guarantees, to support the post-COVID 19 pandemic recovery and to sustainably transform the economies of the Eastern Partnership to make them more resilient and integrated. It was estimated that the Plan could leverage up to Euro 17 billion in public and private investments.

112. The Economic and Investment Plan is a comprehensive strategy designed to support economic development, resilience, and connectivity in the EaP countries and other neighbouring regions. The structure, objectives, and key aspects of the Plan are discussed further below.

113. The Economic and Investment Plan is particularly relevant for the EaP region due to its proximity to the European Union and shared historical, cultural, and economic ties. Key aspects of its relevance include:

- *Enhanced cooperation:* The Plan deepens the cooperation between the EU and EaP countries, fostering a stronger partnership and shared objectives in areas such as sustainable development, governance, and connectivity.
- *Economic growth:* By promoting investments in SMEs, green energy, and digitalisation, the Plan supports economic growth and job creation, contributing to the socio-economic development of EaP countries.
- *Climate action:* The emphasis on green and sustainable initiatives aligns with the EaP region's growing commitment to addressing climate change and environmental challenges.
- *Regional integration:* Improved connectivity and regional infrastructure development facilitate greater integration of the EaP countries into the European and global markets, enhancing economic opportunities.
- *Political stability:* The Plan's focus on governance reforms and resilience building contributes to political stability, which is essential for the EaP countries' long-term development.

Box 4.1. Key pillars and initiatives under the Economic and Investment Plan

The Economic and Investment Plan consists of several key pillars and initiatives:

- *Recovery and investment:* This pillar aims to support the post-pandemic recovery in the EaP countries by mobilising investments in key sectors, including healthcare, green and digital transitions, and small and medium-sized enterprises. It emphasises the importance of private sector engagement and the need for structural reforms to enhance competitiveness.
- *Resilience:* The resilience pillar focuses on strengthening the resilience of partner countries by enhancing economic and political stability. This includes support for institutions, governance reforms, and efforts to combat corruption. It also promotes the rule of law and human rights.
- *Green and digital transitions:* The Plan places a strong emphasis on green and digital transformations. It aims to align partner countries with EU standards in these areas, fostering sustainable development, climate action, and digitalisation.
- *Connectivity:* The connectivity pillar seeks to improve physical and digital connectivity within the EaP region and with the European Union. It supports the development of transport and energy infrastructure, as well as digital networks, to enhance trade and economic integration.
- *People-to-people contacts:* This initiative encourages people-to-people contacts, cultural exchanges, and educational opportunities between the EU and EaP countries. It aims to strengthen societal ties and mutual understanding.

The EU Economic and Investment Plan aims to achieve several key objectives:

- *Economic recovery:* It seeks to facilitate the economic recovery of the EaP countries in the aftermath of the COVID-19 pandemic. By mobilising investments, it aims to stimulate economic growth and job creation.
- *Sustainable development:* The Plan promotes sustainable development by supporting green initiatives, such as renewable energy projects and environmentally friendly infrastructure. It also encourages digitalisation and innovation.
- *Resilience building:* The Plan focuses on strengthening the resilience of partner countries by improving governance, enhancing the rule of law, and fostering political stability.
- *Regional integration:* Enhanced connectivity within the EaP region and with the EU is a fundamental objective. This supports regional trade, economic cooperation, and integration into the European market.
- *Quality of life:* The Plan aims to improve the quality of life for citizens by investing in healthcare, education, and social services. It also promotes people-to-people contacts and cultural exchanges.

Source: (EC, 2021^[44]).

4.2. New and recent instruments

4.2.1. Global Gateway

114. The EU **Global Gateway** is a strategic overarching initiative launched by the European Union aimed at strengthening Europe's role in global trade and investment. Announced in July 2021 as part of the EU's post-pandemic recovery and resilience plan, the Global Gateway seeks to bolster Europe's economic competitiveness, promote sustainable growth, and deepen its engagement with key partners worldwide. Global Gateway has a number of key objectives:

- *Trade facilitation:* The EU Global Gateway focuses on improving the EU's connectivity with global markets. It aims to enhance transport and digital infrastructure to reduce trade barriers, streamline logistics, and boost trade volumes.
- *Green transition:* Sustainability is a central theme of the Global Gateway. It encourages investments in green and digital technologies, supporting the EU's transition to a low-carbon economy and advancing climate goals.
- *Resilience:* The initiative aims to enhance the resilience of European supply chains by diversifying sources and ensuring access to critical goods, especially in times of crisis or disruption.
- *Development cooperation:* The Global Gateway seeks to collaborate with partner countries, including developing nations, to promote sustainable development, create economic opportunities, and address global challenges.

115. The key components of the programme are:

- *Trade and investment:* The EU Global Gateway promotes trade and investment by investing in critical infrastructure such as ports, railways, and digital networks. It aims to foster connectivity between Europe and key regions such as Asia, Africa, and the Americas.
- *Sustainable finance:* The initiative encourages sustainable finance mechanisms and investments in renewable energy, clean technologies, and environmentally friendly projects. It aligns with the EU's Green Deal and climate objectives.
- *Research and innovation:* The Global Gateway supports research and innovation to develop cutting-edge technologies, including artificial intelligence, 5G, and digitalisation, to strengthen Europe's competitive edge in global markets.
- *Digital connectivity:* Enhancing digital connectivity is a key focus, as the initiative seeks to bridge the digital divide, promote digital trade, and foster innovation across sectors.

116. The EU Global Gateway aims to engage with international partners and organisations to maximise its impact. It seeks cooperation with countries along the EU's trade routes, including partners in Asia, Africa, and the Americas. By fostering global partnerships, the initiative aims to create a network of like-minded nations committed to sustainable development and open, rules-based trade.

117. In summary, the EU Global Gateway is a forward-looking initiative that reflects the EU's commitment to boosting its global competitiveness, promoting sustainability, and expanding its presence in international trade and investment. By investing in critical infrastructure, green technologies, and digital connectivity, the Global Gateway seeks to position the EU as a global leader in shaping the future of sustainable and resilient economic growth.

118. Team Europe has been created to support the coordination and implementation of the Global Gateway initiative. The "Team Europe" approach aims at improving joint working across European Institutions. By working together and pooling resources and expertise, the outcome is greater effectiveness and impact. Team Europe consists of the European Union, EU Member States — including their implementing agencies and public development banks — as well as the EIB and the EBRD.

119. Team Europe was initially put in place to ensure a co-ordinated and comprehensive response between the EU and its Member States to the COVID-19 pandemic and its consequences. The new approach has quickly become the backbone of Global Europe (the main financial tool for EU international cooperation from 2021 to 2027) and its programming. It notably includes the conception of Team Europe Initiatives, which are the flagships of the Team Europe approach. Fundamental to all is a renewed and re-energised EU ambition to "work better together", as originally outlined in the 2017 European Consensus for Development (EU, 2017^[45]).

4.2.2. Neighbourhood, Development and International Cooperation Instrument – Global Europe

120. The “Neighbourhood, Development and International Cooperation instrument – Global Europe” (NDICI - Global Europe) (EC, n.d.^[46]) is the main financial instrument for the EU’s external action. It entered into force on 14 June 2021. Global Europe simplifies the EU external financing architecture by replacing and merging ten instruments under the previous budgetary cycle (2014-2020) into one comprehensive instrument. It strengthens the Union’s capacity to deliver on its strategic priorities and international commitments by providing flexibilities and innovative tools to forge stronger trust and collaboration with EU partner countries.

121. With a budget of nearly Euro 80 billion for the period 2021-2027, Global Europe covers more than 70% of the EU’s external relations funding. It is based on three pillars: geographic programmes, thematic programmes and rapid response actions.

122. The implementation of Global Europe is now underway. It is transforming the EU’s and joint priorities with partner countries into concrete projects to support the EU geopolitical agenda as well as the implementation of the UN Sustainable Development Goals (SDGs). It also addresses the global consequences of the Russian war of aggression against Ukraine.

123. Global Europe supports the EU’s long-standing commitment to youth around the world as clearly shown by the renewal of the Erasmus+ Programme, which now benefits from more financial resources and outreach. Civil society engagement is a major priority, with a focus on women and youth organisations, with local and regional authorities and with the private sector to enable governments and policymakers to define and implement the necessary policy reforms to address challenges and promote sustainable development, peace and stability.

124. Finally, Global Europe is key to supporting the Global Gateway, the value-based connectivity approach, which will also be implemented through Team Europe Initiatives, putting together the leverage and know-how of EU institutions and the EU Member States.

125. In 2022, the EU launched Global Gateway, the new European Strategy to improve investment globally across a range of sectors, including in energy and transport, with a view to helping address climate change and deliver environmental outcomes. Global Gateway draws on the new financial tools in the EU multi-annual financial framework 2021-2027. The new NDICI- Global Europe instrument merges several former EU external financing instruments. The NDICI-Global Europe instrument unifies grants, blending and guarantees, which will allow the EU to strategically promote public and private investment worldwide in support to sustainable development through the European Fund for Sustainable Development Plus (EFSD+), the financial arm of NDICI-Global Europe. Under the Global Gateway, the EU pledged to mobilise Euro 300 billion of investments (EC, 2021^[47]) between 2021 and 2027, of which EIB needs to mobilise Euro 100 billion through the EFSD+ instruments.

4.2.3. European Fund for Sustainable Development +

126. EFSD+ (EC, n.d.^[48]) is a comprehensive instrument that includes guarantees, grants provided through “blending” (a strategic mix of EU grants with bank loans, equity, beneficiary resources or other forms of financing), technical assistance to help improve the quality of projects to make them bankable as well as the implementation of reforms and other tools to support the development of partner countries.

127. Blending is used to mobilise additional investment in public infrastructure where returns are low but economic and social benefits are significant. Unlike blending, guarantees are an unfunded instrument, and require no transfer of money. EU guarantees use the weight of the EU budget which has a triple AAA rating. As a result, guarantees are able to support and de-risk a large range of investments and

counterparts (credit, political risk), making them valuable to address wider macro-economic risks (Kouneva, M., 2023^[49]).

128. The EFSD+ investment framework also includes the External Action Guarantee. The External Action Guarantee has a capacity of Euro 130 billion to guarantee EFSD+ operations. Together with the private sector and thanks to the leverage effect, this may mobilise more than half a trillion euros in investments for 2021-27. On the other hand, the European Commission expects that Euro 2.4 billion of guarantee coverage for the Neighbourhood region can mobilise investments in the order of Euro 17 billion in priority sectors.

129. The guarantees EFSD+ provides will be used for de-risking activities and leveraging private investment, working together with the EIB and other European financial institutions. The EFSD+ guarantees are offered on favourable, highly competitive conditions. They allow private investors to finance projects in more challenging markets, by assuming the risks of more unstable environments while avoiding market distortions. Because the EFSD+ covers a share of the risks, the EU's development finance partners can match the EFSD+ guarantees with their own resources, which in turn will attract additional investors. EFSD+ instrument makes available Euro 40 billion in guarantee capacity.

130. Where projects have a public added value that is not monetised and that guarantees cannot address, the EU will use EFSD+ blending facilities. These facilities use grants and loans to support non-bankable investment projects in EU partner countries while enhancing their sustainability, climate-proofing and development impact.

131. Currently, the European Commission has set up 60 guarantee programmes for all regions in priority sectors, of which 16 programmes are dedicated to the EU's Enlargement and Neighbourhood region. A dedicated guarantee programme for Central Asia is also being set up. The European Commission is currently scaling up these instruments to be used in future financial facilities, such as the Ukraine Facility (Euro 50 billion) which will provide both blending grants and guarantees to support Ukraine's green reconstruction efforts.

132. While EFSD+ aims to catalyse green public and private investments using both blending and guarantee instruments which can help reduce borrowing costs and risks, these do not replace the need for direct country support or traditional bilateral grants. In order to fully benefit from these instruments and scale up and accelerate the financing of green project pipelines especially in the private sector, the EaP and Central Asia countries need to more proactively use these opportunities.

133. Given the complex nature of these instruments it will be helpful to develop country-specific brochures which can gather all relevant information in one place and distribute it across public and private potential beneficiaries. Such brochures can provide detailed information on each funding source and related de-risking instruments available in the country, its financial terms and application requirements as well as the necessary steps to approach the funding source. This can help increase the uptake of instruments as well as the scale up of green investments in the region.

5 Lessons learnt and future work

5.1. Key lessons learnt

134. To reduce investment risks and increase financial flows for green projects in the EaP and Central Asia region, a combination of strategic steps and financial instruments can be employed. These include a combination of technical assistance approaches and the deployment of risk-sharing and risk-reducing mechanisms alongside financing instruments.

135. In order to reduce risk for investors, the following financial instruments can be deployed:

- *Concessional debt financing*, including credit lines and revolving funds, is essential for supporting green investments by providing capital on favourable terms such as lower interest rates, extended loan tenors, and grace periods. This is particularly crucial in developing markets where high-risk perceptions, underdeveloped financial markets, and macroeconomic instability make access to finance costly and limited. Often administered through public financial institutions or commercial banks, concessional finance reduces the perceived risk for lenders, making green projects more attractive by absorbing part of the financial burden. Revolving funds further sustain green investments by reinvesting repaid funds, ensuring continuous capital availability. Over the past 20 years, concessional loans and grants from international development agencies have been instrumental in lowering the cost of capital, supporting feasibility studies, and financing pilot projects across the EaP and Central Asia region. These mechanisms have successfully channelled donor and IFI funding towards environmental initiatives, particularly through local financial intermediaries for energy efficiency and small-scale renewable projects. While these instruments have driven an emerging policy focus on green markets, their long-term sustainability remains uncertain once concessional finance and technical assistance are withdrawn.
- *Equity financing*, facilitated by public-backed investment funds, is instrumental in mobilising private capital for green projects, particularly in markets where debt financing is insufficient or too risky. Governments and development finance institutions often establish equity investment funds or fund-of-funds models, leveraging public capital to attract institutional investors, pension funds, and impact investors. Public sector involvement in equity financing reduces perceived risks, particularly during the early stages of project development, and helps ensure long-term financial sustainability. By taking direct stakes in green projects or co-investing alongside private investors, these funds provide not only capital but also strategic oversight, enhancing governance, operational efficiency, and commercial scalability. Blended finance structures and public-private partnerships further enhance risk diversification, making equity financing a powerful tool for advancing large-scale green investments.
- *Guarantees and currency hedging* are essential de-risking instruments that reduce investment risk and unlock private capital for green projects by ensuring repayment obligations and shielding investors from financial and regulatory instability. Loan guarantees mitigate credit risk by covering potential losses in case of borrower's default, while first-loss guarantees provide additional security for high-risk markets. Political risk guarantees, such as those offered by the World Bank Multilateral

Investment Guarantee Agency, protect against non-commercial risks like government policy changes, expropriation, and currency inconvertibility, making green investments more viable in politically unstable regions. Currency hedging instruments, including swaps and forwards, safeguard investors from foreign exchange volatility, ensuring stable financial returns. In the EaP and Central Asia region, guarantee mechanisms and risk-sharing facilities are particularly valuable in attracting private sector investment that might otherwise be deterred by high geopolitical and economic risks. Credit guarantees and risk-sharing products, increasingly used to support lending, are expected to become a core element of EU-backed green finance initiatives in the region. Over time, these mechanisms are being integrated into broader SME and corporate lending products, strengthening financial resilience and accelerating green investment.

- *Technical assistance* plays a fundamental role in de-risking green investments by addressing knowledge gaps, strengthening institutional capacity, and ensuring the successful implementation of sustainable projects. Grant-funded technical assistance supports feasibility studies, regulatory framework development, and capacity-building programmes for financial institutions, project developers, and policymakers. These initiatives help create an enabling environment by standardising green finance instruments, aligning national regulations with international sustainability standards, and providing advisory services for structuring green investments. Additionally, technical assistance ensures that green projects are investment-ready by covering upfront costs related to planning, certification, and third-party verification. By reducing informational and operational barriers, technical assistance enhances project bankability, making it easier for both public and private stakeholders to commit capital to the green transition.
- *Fund anchoring* is a strategic approach to mobilising capital for green investments by using public institutions as early investors to build market confidence and attract additional financing. Governments, international financial institutions, and climate funds act as anchor investors in green bonds, equity funds, and credit facilities, helping to establish a robust market for sustainable investments. By committing capital upfront, fund anchoring reduces perceived risk and signals viability, encouraging private sector participation. Additionally, fund anchoring fosters long-term financial sustainability by ensuring adequate liquidity for green investment funds and supporting market infrastructure development. This approach is particularly effective in emerging economies, where financial markets are less developed, and private investors may be hesitant to engage in new green sectors. By leveraging public capital to catalyse private investment, fund anchoring accelerates green finance deployment and enhances the overall resilience of climate-focused investment strategies. Green bonds have been a core focus for IFIs by participating in both public and private issuance, particularly in larger markets such as Kazakhstan.

136. International partners can support this process through increased regional cooperation, as is the case in increased partnerships between IFIs, donors and climate funds. Being able to provide local currency financing can offset a significant risk for both domestic and international investors. Efforts should be made to build local capacity for risk transactions, such as is the case in Georgia and Kazakhstan where domestic institutions have been able to issue green finance notes to be traded on domestic exchanges.

137. The use of risk approaches to support green financing has its limits in the face of significant political uncertainty. Beyond the specific challenges for Ukraine itself (e.g. direct impacts on infrastructure, investment delays and diversion), Russia's war of aggression has created financing challenges for neighbouring countries also as international investors (particularly private sector) adjust their risk-premium expectations and inflation has increased the costs of green investment (such as for renewable energy infrastructure). It is difficult for risk-mitigation instruments aimed at addressing technology cost and awareness barriers, to address more fundamental political and economic risks. Public funding flows into Ukraine are now primarily focused on recovery and economic stability, with efforts being focused on stabilising the energy grid (including through the use of more distributed renewables).

138. The development of green finance markets and instruments is therefore largely bounded by the wider development of financial and capital markets in the EaP and Central Asia regions. The use of concessional funds to overcome market and governance risk, rather than specific green technology or business model barriers is not sustainable in the long term. This is particularly true as technologies such as renewable energy and electric vehicles commercialise, climate mitigation becomes business as usual and the level of available concessional capital decreases. Wider market development and reform is therefore key to progress. Nonetheless, green finance instruments can themselves act as a driver of market development and the development of green bond markets, for example, can help deepen both domestic capital pools and international linkages.

139. Nonetheless, political uncertainty has also driven many in the policy and investment community to reassess their approach to energy security, which in turn is driving greater commitment towards energy independence and renewable energy (alongside indigenous coal and gas where this is available). High energy prices have also reignited an interest in energy and resource efficiency. Both of these factors can help drive momentum towards the green transition, and de-risking instruments can play a key role in supporting this transition.

140. In order to further improve the enabling environment, governments and their international supporters need to focus on:

- *Policy and regulatory frameworks:* Strengthening and stabilising policy and regulatory environments to offer clear, long-term, including pricing, signals to investors provide an important element of de-risking. This includes, among others, establishing renewable energy targets, feed-in tariffs, and streamlined permitting, compliance and assurance processes.
- *Capacity building:* Enhancing local technical and operational capacities through training programmes and knowledge sharing to support the development and management of green projects.
- *Market development and awareness:* Promoting awareness among consumers and businesses about the benefits of green investments and technologies, supported by campaigns and incentives to stimulate market demand.

5.2. Recommendations for future work

141. There are a number of recommendations for on-going and future research that emerge from this report: These include, among others:

- *Comparative benefits:* Different instruments serve different purposes in relation to different types of risks associated with green investment. Each is suited to particular barriers. Further work could be undertaken to understand the relative benefits and effectiveness of different risk mitigation instruments (e.g. guarantees vs. credit lines) and in which country contexts they are best suited in the EaP and Central Asia region.
- *Domestic capital markets:* Given the potential linkages between the depth and maturity of capital markets and the availability of green finance, it would be beneficial to understand the linkages and study how developments in capital markets feed through into environmental and climate outcomes, and in particular, what needs to be done to ensure that these co-benefits are achieved.
- *Risk-based instruments and guarantees:* The international donor and IFI community are moving away from grants and concessional loans towards more risk-based instruments to address climate change. It would be useful to understand the relative effect of these compared to more traditional forms of support, particularly with regards to financial mobilisation and sustainability.

- *Sustainability:* After 20 years of support for green lending products, there are questions around why the development of local financing institutions, markets and products has been so slow. It may be useful to review approaches to understand if these products have been developed in a way that induces dependence on donor and IFI grant and concessional support.
- *Carbon markets:* Carbon markets remain an untapped source of green finance for investment in the region. Work could be undertaken to understand how carbon finance flows could help de-risk investments (e.g. through additional revenue streams, pooled carbon funds, enhanced market confidence), particularly where they are integrated alongside other forms of green investment.

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Endnotes

¹ The term dollarisation is a shorthand for the use of any foreign currency by another country where the foreign currency is used in parallel with the domestic currency. The reasons for this phenomenon are country-specific, but in most cases, the root cause is the instability of the domestic currency and high inflation. In addition and due to the fact that the US dollar is used as a global reserve currency and a global trade currency, most economic trade and a significant amount of global debt are dollar-denominated.

² Note that the Azerbaijani Manat is pegged to the USD Dollar.

³ A risk premium is the investment return an asset is expected to yield in excess of the risk-free rate of return. An asset's risk premium is a form of compensation for investors. It represents payment to investors for tolerating the extra risk in a given investment over that of a risk-free asset.

⁴ A swap is a financial agreement taking place between two parties to exchange assets that have cash flows for a set period of time. A forward contract is a customised contract between two parties to buy or sell an asset at a specified price on a future date.

⁵ Underwriting - financing or guaranteeing - is the process through which an individual or institution takes on financial risk for a fee.

⁶ A type of guarantee in which the guarantee provider agrees to bear losses incurred up to an agreed percentage in the event of default by the borrower.

⁷ Futures, options, and swaps are financial derivatives used by investors, companies, and financial institutions to manage risks associated with exchange rate fluctuations. As mentioned earlier, futures are contracts to buy or sell a specific currency at a predetermined price and date in future which are then traded on exchanges. Options provide the right, but not the obligation to buy or sell a currency on or before a certain date at a given price. Swaps involve two parties exchanging loan principal and interest in different currencies over a period to offset risk and secure more favourable rates.

⁸ A Eurobond is a bond issued offshore by governments or corporates denominated in a currency other than that of the issuer's country.



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Green Economy in Eastern Partner Countries

De-risking green investments in the EU Eastern Partnership and in Central Asia

The report presents analysis of the risk mitigation instruments offered by public entities, particularly international, available for the countries of the EU Eastern Partnership and Central Asia and the role these instruments play in helping unlock and further mobilise private capital for green investments. Given the large number of financial sources and instruments, the report helps the reader navigate the complex landscape of the green international financing architecture and its specific de-risking tools. This report focuses mostly on financial de-risking instruments, such as concessional debt financing, public equity, guarantees, investment anchoring and currency hedging as well as technical assistance programmes.

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