

**DOCUMENT OF THE EUROPEAN BANK
FOR RECONSTRUCTION AND DEVELOPMENT**

Approved by the Board of Directors on 14 December 2022¹

REGIONAL

**EBRD INVESTEU FRAMEWORK FOR
SUSTAINABLE TRANSITION**

[Redacted in line with the EBRD's Access to Information Policy]

[Information considered confidential has been removed from this document in accordance with the EBRD's Access to Information Policy (AIP). Such removed information is considered confidential because it falls under one of the provisions of Section III, paragraph 2 of the AIP]

¹ As per section 1.4.8 of EBRD's Directive on Access to Information (2019), the Bank shall disclose Board reports for State Sector Projects within 30 calendar days of approval of the relevant Project by the Board of Directors. Confidential information has been removed from the Board report.

For the avoidance of any doubt, the information set out here was accurate as at the date of preparation of this document, prior to consideration and approval of the project.

As permitted by paragraph 2.6 of Section III of the Access to Information Policy, disclosure of this Board Report was deferred.

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ABBREVIATIONS

| | |
|----------|--|
| CO2 | Carbon dioxide |
| CoOs | Countries of Operations |
| Covid-19 | Coronavirus disease 2019 |
| DD | Due Diligence |
| EC | European Commission |
| EE | Energy Efficiency |
| EIB | European Investment Bank |
| ETS | (EU) Emission Trading System |
| EU | European Union |
| EU-12 | EBRD's 12 Countries of Operation within the EU |
| EU-15 | EU countries where EBRD does not operate |
| FLP | First Loss Piece |
| GDP | Gross Domestic Product |
| GET | Green Economy Transition |
| GHG | Greenhouse Gas |
| ICT | Information Communications Technology |
| IFIs | International Financial Institutions |
| PPA | Power purchase agreement |
| PPP | Public-Private Partnership |
| R&D | Research and Development |
| RE | Renewable Energy |
| SMEs | Small and medium-sized enterprises |
| TC | Technical Cooperation |
| TI | Transition impact |
| SIW | Sustainable Infrastructure Window |

PRESIDENT’S RECOMMENDATION

This recommendation and the attached Report concerning the EBRD InvestEU Framework for Sustainable Transition (“EBRD InvestEU FST” or the “Framework”) are submitted for consideration by the Board of Directors.

The proposed Framework consists of up to EUR 375 million of EBRD Loans to be extended to private companies and eligible public entities, supported by EUR 80 million of InvestEU first loss guarantees.

The Framework will support Green Economy Transition investments in non-FI sectors in EU countries.

The Framework will support Green and other most relevant transition qualities to achieve InvestEU policy objectives for the low carbon and climate resilient transition, and sustainable investments. Investments may support other InvestEU policy objectives where relevant. InvestEU will support the delivery of innovative investments, addressing market failures and sub-optimal investment situations. To accommodate a broad range and scope of potential impact sources across sectors, each sub-project will be assessed and rated on the basis of its individual TI merits. Sub-projects under the framework are likely to target Green as one of the transition qualities.

I am satisfied that the Framework is consistent with the Bank’s Strategies in its Countries of Operations – EU Member States, EBRD Sector Strategies for ICA and SIG sectors, the EBRD Strategic & Capital Framework (SCF) 2021-2025, the EBRD Green Economy Transition Approach and with the Agreement Establishing the Bank.

I recommend that the Board approve the proposed Framework substantially on the terms of the attached Report.

Odile Renaud-Basso

BOARD DECISION SHEET

| REGIONAL - EBRD InvestEU Framework for Sustainable Transition ("EBRD InvestEU FST" or "Framework") - DTM 54197 | |
|---|--|
| Transaction / Board Decision | <p>Board approval² is sought for a Regional EBRD InvestEU Framework for Sustainable Transition ("EBRD InvestEU FST" or "Framework") consisting of up to EUR 375 million EBRD loans ("EBRD Loans" i.e. loans from the Bank's capital resources) and supported by up to EUR 80 million InvestEU guarantees, to support Green Economy Transition investments in a broad range of sectors within the remit of ICA and SIG, in CoOs - EU Member States³.</p> <p>It is proposed that approval of sub-projects of up to EUR 25 million is delegated to Management. All sub-projects categorised as "A" will be submitted to Board for approval regardless of the size of the EBRD Loan. [REDACTED].</p> |
| Client | <p>The Framework is available to public sector companies, counties, municipalities, private sector companies and project promoters (SMEs, Small Mid-Caps, Large Mid-Caps and large corporates), public-private partnerships, special-purpose vehicles – in accordance with the EBRD-EC InvestEU Agreement, for the Sustainable Infrastructure Window General Debt Product. Funds and FI are excluded.</p> |
| Main Elements of the Proposal | <p>Transition impact is likely to stem primarily from the Green quality as the Framework seeks to support the low-carbon and climate resilient transition in EBRD's EU CoOs. Nevertheless, to accommodate the broad range and scope of potential impact sources under any of the transition qualities and allow sub-projects to present a project specific TI case, each sub-project will be assessed and rated on the basis of its individual TI merits.</p> <p>Additionality will likely stem from one or more of the following areas: financing structure, innovative financing structures and/or instruments, and standard setting: helping projects and clients achieve higher standards.</p> <p>Sound banking: Each sub-project will undergo a separate due diligence process and the financing structure will be subject to credit and other risk being mitigated.</p> |
| Key Risks | <p>Macroeconomic risk: Primarily related to growing inflation, interest rate increases in the EU, as well as EUR depreciation.</p> <p>Reputational and implementation risk: The InvestEU programme is targeting relatively complex projects at the technological frontier, where implementation risks are high.</p> <p>Sub-projects risk analysis: Detailed risk analysis will be undertaken for each sub-project to be submitted under the Framework given the different sectors/structures envisaged.</p> |
| Strategic Fit Summary | <p>The Framework is in line with the EBRD Country Strategies for the CoOs- EU Member States and the EBRD Sector Strategies for ICA and SIG. The Framework is also consistent with the EBRD Green Economy Transition Approach and the EBRD Strategic & Capital Framework (SCF) 2021-2025.</p> |

² Article 27 of the AEB provides the basis for this decision.

³ Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia

ADDITIONAL SUMMARY TERMS FACTSHEET

| | |
|---|---|
| EBRD Transaction | <p>Regional EBRD InvestEU Framework for Sustainable Transition (“EBRD InvestEU FST” or “Framework”) consisting of up to EUR 375 million EBRD loans (“EBRD loans”) supported by up to EUR 80 million InvestEU guarantees, to support private and public sector investments in a broad range of sectors within the remit of ICA and SIG in the EBRD Countries of Operation - EU Member States.</p> <p>The focus on green investments will be achieved by (a) prioritising Green Transition Impact; (b) requiring that every project will make [REDACTED] contribution to climate and environment as defined under Annex 1 of the InvestEU Climate and Environmental Tracking Guidance [link]; and (c) assessing climate and environmental impact and finance for each sub-project using the EBRD’s Green Economy Transition methodologies.</p> <p>For this Framework, the InvestEU guarantee will be provided under the EBRD-EC InvestEU Agreement / General Debt Product / Sustainable Infrastructure Window, where EBRD will be the sole beneficiary of the guarantee “EBRD only model”. [REDACTED].</p> <p>The EBRD Loans can be provided in EUR or in local currency. Minimum and maximum principal amount of sub-operations (EBRD Loans supported by the InvestEU guarantees) is set [REDACTED].</p> |
| Existing Exposure | N/A |
| Maturity / Repayment | The Bank shall enter into financing agreements with eligible borrowers under the Framework [REDACTED]. The tenor and repayment profile will be determined separately for each sub-project, according to the relevant Sector Risk Guidance. [REDACTED]. |
| Potential AMI eligible financing | To be assessed at sub-project level. No syndication under this Framework. |
| Use of Proceeds | <p>According to the eligibility criteria as detailed in Section 3.2 of this report; to be assessed on sub-project level. [REDACTED].</p> <p>Compliance with EBRD’s E&S Policy, implementation of sub-project ESAPs and E&S reporting to the Bank.</p> |
| Investment Plan | To be analysed separately for each sub-project. |
| Financing Plan | To be presented separately for each sub-project. |
| Key Parties Involved | <ul style="list-style-type: none"> ▪ The borrowers under the Framework will be: private companies (domestic or foreign), municipalities and municipally owned companies, SOEs, other sub-sovereign entities, special-purpose vehicles. (Funds and FI are excluded). ▪ Co-lenders ▪ European Commission |
| Conditions to disbursement | To be presented separately for each sub-project. |
| Key Covenants | To be determined separately for each sub-project. |
| Security / Guarantees | Secured or unsecured, depending on the sub-project. |
| Other material agreements | For each sub-operation under the Framework: Loan Agreement, and if applicable security documents, to be signed with the individual Borrower. |

| | |
|---|--|
| Associated Donor Funded TC and co-investment grants/concessional finance | <p>Concessional Finance: Under this Framework EBRD will deploy up to EUR 80 million of InvestEU guarantees [REDACTED].</p> <p>Donor Funded TC: [REDACTED][U]p to EUR 25.4 million is provided for Technical Assistance (TA) to support the roll-out of the guarantee and/or contribute to the InvestEU policy objectives. TC is provided to a large extent for project preparation and implementation and to a limited extent for market development and capacity building. In addition, up to EUR 13.2 million are provided for TA to support specifically the Bank's response to the war on Ukraine.</p> |
|---|--|

[REDACTED]

INVESTMENT PROPOSAL SUMMARY

1. STRATEGIC FIT AND KEY ISSUES

1.1 STRATEGIC CONTEXT

InvestEU

InvestEU is the key programme of the European Commission (EC) focusing primarily on private sector investments in EU Member States for the 2021-2027 budget period. It aims to accelerate green transition, improve the competitiveness and socio-economic convergence in the EU, to support the recovery from the Covid-19 crisis and to address the impact of the war on Ukraine, by fostering sustainable and innovative investments and addressing market failures and sub-optimal investment situations.

The InvestEU guarantee provided to EBRD comprises of EUR 450 million of unfunded guarantees of debt financing (either direct or intermediated lending) to support investment projects meeting InvestEU policy objectives. In parallel with the guarantees, the EC has allocated EUR 25.4 million of TC funds to EBRD for project advisory, capacity building and market development and additional EUR 13.2 million TC for response to the war on Ukraine. The InvestEU guarantees will facilitate the financing of investment projects by the Bank which it could not have carried out (under the same terms) without EU support due to their higher level of risk and/or innovative nature. The InvestEU guarantee and the associated TC will enable the Bank to deepen its support in the region in the areas of (i) the sustainable recovery from the Covid-19 pandemic, (ii) progress towards green, low-carbon economies, (iii) the digital transition and (iv) mitigation of the challenges brought by the war on Ukraine.

Under this Framework the InvestEU guarantee will be provided under the General Debt Product whereas EBRD will be the sole beneficiary of the guarantee “EBRD only model”. In addition, the framework will cover only projects which are covered by the Sustainable Infrastructure Window “SIW”. [REDACTED].

Further details about the InvestEU programme are provided in Annex 1.

Green Economy Transition

The EU Green Deal’s thematic objectives⁴ are closely aligned with EBRD’s GET thematic focus areas. InvestEU is one of the major pillars of the EU’s plan to finance the Green Deal, called the “Sustainable Europe Investment Plan”. This plan aims to mobilise at least EUR 1 trillion of sustainable investments in this decade; approximately 30% of the mobilised investment is estimated to come via InvestEU.

This Framework is funded under the Sustainable Infrastructure Window (SIW) of InvestEU. [REDACTED].

⁴ Clean, affordable and secure energy; mobilising industry for a clean and circular economy; building and renovating in an energy and resource efficient way; a zero pollution ambition; preserving and restoring ecosystems and biodiversity; an environmentally friendly food system; accelerating the shift to smart and sustainable mobility.

As such, the primary principle for this Framework is the alignment with the “Green Economy Transition Approach (GET) 2021-2025”, facilitating the delivery of GET objectives along with the EU’s policy objectives. The Framework will support the acceleration of the transition to a green, low-carbon economy in the EU 12 CoOs by scaling up investment in multiple GET thematic areas e.g. industrial decarbonisation, clean energy systems, electric mobility and alternative fuels, cities and environmental infrastructure, green buildings, sustainable connectivity and circular economy. This strong focus of the Framework will contribute to achieving the Bank’s target to reach a green finance ratio of more than 50% by 2025.

The sub-projects will benefit from the strategic partnerships that EBRD has put in place with the EC and associated parties in several green economy areas including battery value chains, clean hydrogen, bio-based materials, critical raw materials, Just Transition and energy efficiency financing instruments.

Sector & Country Strategy Fit

The primary focus on green sub-projects under the Framework supports the alignment with various sector strategies. Low carbon options, lower pollution, EE and resource efficiency are common themes and overall, will help support the transition to more sustainable investments. For example, the Transport Sector Strategy 2019-2024 calls for development of sustainable transport, including zero-emission solutions, transport modes or solutions which limit non-CO2 air pollution. According to the Municipal and Environmental Infrastructure Sector Strategy, 2019–2024, sustainable and environmental infrastructure investments are needed to reduce infrastructure gaps and energy intensity. The Framework covers renewable energy, investments in energy infrastructure and alternative low carbon fuels, aligning it to the Energy Sector Strategy 2019-2023, while cutting across many other sectors.

The Framework is in line with the EBRD Country Strategies for the 12 EU Member States which all have Green as a common theme and emphasise the importance of sustainable and green investment, industrial decarbonisation and technology upgrade of energy systems, reduction of energy intensity in industry, promoting EE and resource efficiency, and strengthening sustainable infrastructure and regional development.

1.2 TRANSITION IMPACT

The aim of the Framework is to help markets in EBRD's EU CoOs accelerate their transition to a low carbon and climate resilient future, improve the competitiveness and socio-economic convergence. Investments will support EU-12 CoOs in their recovery from Covid-19 crisis and address the impact of the war on Ukraine.

EU12 CoOs are [REDACTED] lagging behind other European peers, facing larger decarbonisation and environmental challenges, as exemplified by high CO₂ intensity of energy systems⁵, more energy intensive industrial stock, limited reform of linear waste management systems⁶, and a concentration of the majority of the EU's coal industry sector jobs⁷. Furthermore, decarbonisation and environmental challenges are visible by the low current rates of buildings renovation and low ranking for ambient air quality in the 12 EU CoOs.⁸

Therefore, it is expected that sub-projects are likely to target Green as one of the transition qualities, contributing to a high GET share on framework level. All projects need to make [REDACTED] contribution to climate and environment as defined under Annex 1 of the InvestEU Climate and Environmental Tracking Guidance. Each project under the Framework will be assessed according to EBRD's GET methodology to quantify climate and environmental benefits and finance.

The Framework will support a broad range of projects across several sectors while aligning with different InvestEU policy objectives. To accommodate the diversity of sectors and to allow sub-projects to present a project specific TI case, it is proposed that each sub-project will be assessed and rated on the basis of its individual TI merits and will be monitored at the sub-project level. This approach will allow to capture the objectives that specific TI angle may offer. Relevant transition qualities may contribute to the transformation of the EU12 CoOs in the following way addressing identified challenges:

- Competitive by adopting advanced technologies and by creating the framework to enable low carbon economic activity, contributing to increased productivity, supporting innovation of products and services as well as economies of scale to reduce the productivity gap with the EU frontier, as well as bringing private sector into the projects, including in the form of concessions/PPPs;
- Resilience by supporting well-functioning energy markets;
- Integrated by providing infrastructure between or within regions that are currently inadequately connected;
- Inclusive, to promote equality of opportunities for disadvantaged groups, e.g., by supporting young people and women entering the workforce or addressing regional disparities;
- Well-governed, to address some of the governance challenges present in the country, especially in the area of corporate climate governance.

⁵ <https://www.electricitymap.org/>

⁶ https://ec.europa.eu/environment/eir/pdf/eir_2019.pdf

⁷ <https://www.eib.org/en/publications/investment-report-2019>

⁸ Mostly newer Member States and Italy <https://www.eea.europa.eu/publications/air-quality-in-europe-2019>

Delivery Risks: The Framework and its sub-projects are subject to the usual commercial risks as well as to the challenging political and macro-economic environment, including impacts from the war on Ukraine. Project-specific delivery risks will be assessed at the sub-project level.

1.3 ADDITIONALITY

The below represents potential additionality triggers and sources identified at Framework level. These will be assessed for each sub-project individually as part of the project approval process, together with any other triggers and sources that might be relevant and not described below.

| Identified triggers | Description |
|--|---|
| A subsequent/consecutive transaction with the same client/group either with the same use of proceeds or in the same destination country (repeat transaction). | In some cases the Bank might propose transactions backed by sponsors that are (or will be) existing clients of the Bank at the time of proposal. However, this does not necessarily mean that EBRD's additionality will be absent, as each sub-project will be assessed individually. |
| The project's overall PD rating is at or better than 'one notch below investment grade' (4.7) / strong sponsor, who can obtain better terms financing through access to international market | Innovative projects are often developed and implemented by established sponsors that are positioned at the technological frontier and are focused on R&D. [REDACTED]. |

| Additionality sources | Evidence of additionality sources |
|--|--|
| Financing Structure <ul style="list-style-type: none"> - EBRD will offer financing that is not available in the market from commercial sources on reasonable conditions relating to factors such as pricing, collateral requirements, the type of finance, the tenor of financing provided or other conditions. Such financing is necessary to structure the project, <i>or</i> - EBRD offers a large volume instrument that fills a market funding gap and is required to structure the project, <i>or</i> - Crisis response: EBRD financing effectively bridges a financing gap due to adverse market conditions | <p>[REDACTED].</p> <p>Including the guarantee in financial structures offers the possibility of extended maturities and lower interest rates which will make it more viable for clients to invest in low carbon, climate resilient and other green measures.</p> <p>In addition, the market for long-term borrowing for entities with higher credit risks is, in many instances, extremely limited, especially amid the current financial and macroeconomic turbulence.</p> <p>Guarantees will also help to facilitate investments in projects supporting the recovery from the Covid-19 crisis and addressing the impact of the Ukrainian crisis.</p> |
| Standard-setting: helping projects and clients achieve higher standards | On sub-project level the EBRD will continue to support clients to achieve higher environmental, energy efficiency, resource efficiency, climate resilience and performance standards, as well as |

| | |
|--|---|
| | <p>digitalisation, towards lowering climate and environmental impacts.</p> <p>In the context of corporate climate governance, relevant clients will be supported in understanding how their operations should fit with the low carbon and climate resilient pathways relevant to their sectors. This will ensure that they remain relevant in a low carbon future, increasing competitiveness both at client level and for the sector within the CoO.</p> |
|--|---|

1.4 SOUND BANKING - KEY RISKS

A sound banking analysis will be undertaken for each sub-project separately.

| Risks | Probability / Effect | Comments |
|--|----------------------|---|
| <i>Project specific risks</i> | | |
| Technological viability and industry shifts | Medium/Low | Considering the nature of InvestEU programme, the sub-projects will often represent a technological frontier in implementing their sustainable and innovative investments. |
| Sub-project Implementation and Management Risk | Medium/High | Project implementation risks are always present and need to be measured accurately on the sub-project level. Implementation capacity of each client will be assessed as part of the due diligence and risk mitigation such as involvement of an independent consultant and use of internationally recognised forms of contract be proposed. |
| <i>External risks</i> | | |
| Macro-economic risk | Medium/High | Macroeconomic risks will be analysed for each sub-project and will primarily address the consequences of high inflation and increased interest rates for the borrowers' ability to repay the EBRD debt. |
| Competitive environment and supply/demand dynamics | Medium/High | The structure of the market will be analysed to ensure commercial viability of sub-projects considering the existing and potential competition along the supply chains. |
| <i>Other material risks</i> | | |
| Framework implementation reputational risk | Low / High | <p>The Framework is expected to help the EBRD clients to move towards more sustainable, green solutions. This has raised expectations on the role that InvestEU will play in achieving decarbonisation targets.</p> <p><i>Mitigants: Each sub-project will be screened for eligibility and Framework (and potentially sub-projects) are subject to EU's policy and investment committee approval. [REDACTED].</i></p> |
| Operational Risk related to donor unfunded guarantees [REDACTED] | High/ High | [REDACTED]. |

| | | |
|---|-----------------|------------|
| | | |
| Operational Risk related to donor unfunded guarantees [REDACTED] | High/ Medium | [REDACTED] |

2. MEASURING / MONITORING SUCCESS

Given the wide range of sectors and projects under the Framework, it is proposed that each sub-project will be assessed and rated on the basis of its individual TI merits. The framework will be monitored at sub-operation level only.

3. KEY PARTIES

3.1 BORROWERS

- The borrowers under the Framework will be private clients (domestic or foreign), municipalities and municipally owned companies, SOEs, other sub-sovereign entities, public-private partnerships, special-purpose vehicles. A detailed description of each Borrower will be provided at the sub-project level.
- The borrowers will implement eligible projects in EU12 CoOs through locally incorporated entities and/or for the benefit of making proceeds available in the EU12.
- Financing under the Framework will be channelled to various non-FI sectors of the economy on a demand-driven basis to support green development goals. Energy, Transport, Municipal sectors and ICA have the potential to be key sectors for the deployment of the guarantee based on the policy objectives of InvestEU.

3.2 SUB-PROJECTS ELIGIBILITY CRITERIA

| Sub-Projects eligibility criteria | |
|-----------------------------------|---|
| Eligible borrowers | <ul style="list-style-type: none"> • Private corporates: Large-caps, mid-caps, SMEs, special purpose vehicles • Sub-sovereign entities including municipal authorities, cantons and regions • Public corporates including state-owned enterprises and sub-sovereign owned entities • Companies providing municipal services |
| Eligible Country | Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia |
| Eligible Projects | Projects under this Framework will need to concurrently [REDACTED]: |

| | |
|--|---|
| | <p>1) Fall under one of the following areas within the remit of ICA and SIG operations:</p> <ul style="list-style-type: none"> ○ Transport ○ Cleaner, safe and smart mobility ○ Energy generation and grids ○ Municipal and Environmental Infrastructure ○ Digital Connectivity ○ Circular Economy ○ Areas of strategic importance ○ Clean Water ○ Energy Efficiency, Clean Energy and Low Carbon Innovation in Industry and SMEs ○ Other low carbon technologies ○ Bioeconomy ○ REPowerEU ○ Just Transition ○ Buildings sector ○ Food systems encompassing the whole value chain (primary, processing and retail) ○ Tourism ○ Climate Adaptation and Resilience (see further details in Annex 2) <p>AND</p> <p>2) Make [REDACTED] contribution to climate and environment as defined under Annex 1 of the InvestEU Climate and Environmental Tracking Guidance, available at this link. Climate and environmental benefits and GET finance will be determined for every sub-project in line with EBRD's Green Economy Transition Methodology.</p> |
|--|---|

3.3 Co-INVESTOR

Co-investors for sub-projects may include commercial and investment banks, as well as other IFIs and DFIs. A detailed description of each co-investor will be provided at the sub-project level.

3.4 GUARANTOR

Corporate guarantees are common for ICA transactions. For non-sovereign transactions, any loan to the utility company may be guaranteed by the relevant municipality. Moreover, other guarantees with exception of sovereign guarantees could be applied when appropriate.

4. MARKET CONTEXT

- Since the early 2000s the EU has been at the forefront of climate action, adopting laws and policies leading to greenhouse gas emissions reductions and the increased uptake of renewable energy in its Member States. With the presentation of the European Green Deal by the European Commission in 2019, transition towards green economy has become the overarching strategy for the EU across all policy areas and sectors.
- Even though in last 30 years absolute GHG emissions in EBRD's EU-12 have significantly dropped, when compared to 1990, this reduction has been largely due to structural factors although decarbonisation efforts have helped to some extent. As a result, a significant gap persists between them and the EU-15. Furthermore, several EU-12 countries project increases in emissions between 2005 and 2030 levels. Although the EBRD's EU CoOs reached 76% of the average EU GDP per capita, all are characterised by a relatively strong carbon intensity of economy, well above the average for the EU-15 and the EU overall. Average share of renewable energy sources in electricity consumption in EBRD's EU-12 is 40% lower than the average for EU-15 – moreover, when these data are disaggregated, it is revealed that the gap between certain EBRD's EU CoOs [REDACTED] and the EU average is even larger. [REDACTED].
- While large investments in EU-12 are needed in climate mitigation, climate adaptation is another area of great importance. Many regions within the EU-12 are particularly vulnerable to climate change. This is in part because of their geographical location and characteristics, but also a consequence of historic under-investment, which has resulted in aging infrastructure and facilities that are less able to withstand changes in climatic conditions.
- Similar differences exist in other areas of green economy transition, such as circular economy – [REDACTED] the EU-12 will need to double the rate of recycling to catch up with EU-27 average rate of use of circular material.
- While the above itself calls for the strong increase of green investments in EBRD's EU-12 that would allow them to achieve the objectives of EU policies and align with the EU-15, these needs have become even more important in the wake of the recent energy crisis as many of EBRD's EU-12 countries were highly dependent on energy imported from Russia [REDACTED]. The REPowerEU Plan offers a credible pathway to eliminate this dependence and accelerate the transition towards a carbon neutral economy, but this will require the immediate launch of new investments. Selected needs in certain sectors are summarised below.
 - In the Energy Sector further decarbonisation of electricity generation will be needed through increased uptake of renewables, accompanied by rising storage capacity and investments in smart grids.
 - In the Transport Sector, decarbonisation may be achieved through transition towards electric mobility that requires the roll-out of alternative fuels infrastructure. At the moment it is to a large extent missing in the EU-12. While half of all charging points for electric cars in the EU are concentrated in only two countries, the overall number of charging points, as well the share of battery and plug-in electric cars, in EU-12 is disproportionately low.
 - Industry needs massive investments in new greenfield capacity for the green economy, such as e-mobility, and further investments in energy and resource efficiency along with other solutions allowing for reduction of

GHG emissions, e.g. through carbon capture and storage or through the use of green fuels and gases, like green hydrogen or biomethane.

- Many cities in EBRD's EU-12 have some of the poorest air quality in the EU, which causes not only an environmental challenge, but also a serious threat to public health. In order to tackle this challenge, investments in district heating systems and public transit, including e-buses, are needed.
- It is not uncommon that in EU12 CoOs that water supply and wastewater treatment fall short of required standards and performance benchmarks due to years of underinvestment. Further investments in the sector are required to reduce non-revenue water, improve efficiency and reduce environmental pollution.
- EBRD's EU CoOs saw a massive amount of multi-owner residential buildings construction between the 1950s and 1980s. This building stock tends to be amongst the most energy inefficient, with low insulation characteristics and high heat leakage. A true renovation wave of these buildings along with single-family houses is very much needed.
- In the Agribusiness Sector, investments along the whole value chain (primary, processing and retail) need to continue in order to increase the sustainability of this sector that plays an important role in many EBRD's EU-12.

5. FINANCIAL / ECONOMIC ANALYSIS

Detailed financial analysis, sensitivity analysis and projected profitability of each sub-project under the Framework will be presented for each sub-project's approval.

6. OTHER KEY CONSIDERATIONS

6.1 ENVIRONMENT

The Framework itself is not categorised under the Bank's 2019 Environmental and Social Policy, however each sub-project will be categorised on a case by case basis, and will be subject to environmental and social due diligence (ESDD). The ESDD will also address the environmental and social as well as the climate requirements of InvestEU's Sustainable Proofing Guidance together with support from CSD. Such requirements are broadly in line with EBRD's E&S requirements. Invest EU has a strong focus on EU environmental standards and directives which is required by the EBRD. E&S consultants will be engaged to support ESDD based on the risks and impacts associated with sub-projects. An environmental and social action plan (ESAP) and SEP (if required) will be developed for each sub-project to ensure compliance with EBRD's E&S requirements and those of InvestEU. All sub-projects categorised as "A" will be submitted to Board for approval regardless of the size of the loan.

6.2 INTEGRITY

Standard Integrity procedures will be applied for each of the relevant companies, its shareholders and its ultimate beneficial owners for each sub-project to be submitted under the Framework.

6.3 OTHER ISSUES

Procurement

Procurement arrangements will be categorised for each sub-project and the relevant project implementation arrangements will be consulted with PPAD's country dedicated procurement implementation advisers and subject to PPAD sign-off. Goods, works and services for public sector clients will be procured in accordance with the Bank's Procurement Policies and Rules ('PPR') for the public sector, using the Bank's electronic procurement portal ('ECEPP'). In exceptional cases, when sub-Projects are expected to be co-financed with other financial institutions, the Bank may agree to the application of alternative procurement rules as applied by other institutions as provided for in the Bank's PPR. For private sector clients, acceptable procedures to the Bank's private procurement procedures will apply. Where EBRD is financing private operators of a public concession, article 4.4 of the Bank's PP&R will be applicable.

Concessional Finance

Type of Concessional Finance: Under this Framework the EBRD will deploy the InvestEU guarantee [REDACTED], subject to need and commercial requirements of sub-projects [REDACTED].

Main objective of Concessional Finance and how it supports the investment: As outlined in the InvestEU Regulation and acknowledged in the EBRD-EC InvestEU Agreement, the EU guarantee is to be used to address various market failures and

suboptimal investment situations. [REDACTED] The EU guarantee will enable EBRD to support projects which would otherwise not be financed or not be financed with the same scope or ambition [REDACTED].

ANNEXES TO OPERATION REPORT

| | |
|---------|--------------------------------|
| ANNEX 1 | InvestEU Programme |
| ANNEX 2 | Framework Eligibility Criteria |
| ANNEX 3 | Market Overview |

ANNEX 1: INVESTEU PROGRAMME

InvestEU Guarantee Product

In response to the EC's call for expression of interest, the EC indicated their willingness to allocate [to EBRD] EUR 450 million of unfunded guarantees of debt financing (either direct or intermediated lending) to support investment projects meeting InvestEU' policy objectives over 2022-2027. The InvestEU Fund should operate through four policy windows that mirror the key EU policy priorities, namely, sustainable infrastructure; research, innovation and digitisation; SMEs; and social investment and skills. The InvestEU Fund, as a single fund, which builds on the experience of the European Fund for Strategic Investments (EFSI) set up under the Investment Plan for Europe, should provide more efficiently functioning support to final recipients by integrating and simplifying the financing offered under a single budgetary guarantee scheme. In parallel with the guarantees, the EC has allocated EUR 38.6 million of TC funds to EBRD, of which EUR 13.2 million to address the impact of the Ukrainian crisis in the EU CoOs. The TC funds will be used in particular for advisory services for projects benefiting from guarantee or projects which are aligned with the InvestEU's policy objectives. The InvestEU Programme focuses on the EU's medium- and long-term policy priorities such as the European Green Deal, the Strategy on shaping Europe's digital future and the Strong Social Europe for Just Transitions. The EUR 450 million of EU unfunded guarantees provides [REDACTED] debt products [REDACTED] and [REDACTED] financing products deployed through financial intermediaries ('FIs'). The Bank can roll out the guarantees across its 12 EU CoOs on a demand driven basis. Based on the allocation as agreed at submission to the EC in June 2021, the guarantees will focus on the following InvestEU policy objectives: General Debt Product:

- Sustainable Infrastructure Window ("SIW") General debt includes target areas: Transport, Energy generation and grids, Municipal and Environmental Infrastructure, Digital connectivity, Manufacturing and Services sector, Buildings sector, Agribusiness and retail;
- Research, Innovation, Digitalisation Window ("RIDW") General Debt Product includes target areas: Technology, Media, and Telecom sector, Transport, Clean Energy, Digital and Health Infrastructure, Manufacturing and Services sector, Buildings sector, Agribusiness and retail;
- General Debt for Social and Healthcare Infrastructure and Services Window ("SISW") includes target areas: Social Infrastructure and Services, with a focus on PPP or private-led Facilities Management.

Thematic Debt Product:

- EBRD RIDW & SIW High Impact Risk cover includes target areas: (clean) transport, clean energy, green buildings sector, ICT sector, manufacturing & services sector, agribusiness & retail sector.

Portfolio Guarantees:

- Green Uncapped Portfolio Guarantee for Green/Sustainability includes target sectors: Sustainable Transport, Energy efficiency, Renewable energy – Communities and local actors;
- Green Capped Portfolio Guarantee includes target sectors: Clean Energy Transition, Transition to Circular Economy, Modernisation and decarbonisation of industry, Sustainable tourism.

The EU guarantees will facilitate the financing of investment projects by the Bank that it could not have carried out (under the same terms) without EU support due to their higher level of risk and/or innovative nature. This will enable the Bank to deepen its support in the region to (i) the sustainable recovery from the Covid-19 pandemic, (ii) progress towards green, low-carbon economies, (iii) the digital transition and (iv) the challenges brought by the Ukrainian crisis. In order to benefit from InvestEU financing, potential projects must: (i) address market failures or investment gaps and be economically-viable; (ii) need EU backing in order to get off the ground; (iii) achieve a multiplier effect and where possible crowd-in private investment; (iv) help meet EU policy objectives.

Under this Framework the guarantee will be provided under the General Debt Product, which can support any type of transactions categorised as debt by EBRD. EBRD will be the beneficiary of the EU guarantees [REDACTED]. The framework will cover the “EBRD only model” whereby EBRD provides a direct loan to a client. The EBRD exposure will benefit from partial EU cover. [REDACTED].

All InvestEU supported operations should have a clear Union added value. Furthermore, operations supported by the InvestEU Fund should not duplicate or crowd out private financing or distort competition in the internal market.

Two further components, which complement the InvestEU Fund are: (i) the InvestEU Advisory Hub, providing technical support and assistance with the preparation, development, structuring and implementation of projects, including capacity building, and (ii) the InvestEU Portal, bringing together investors and project promoters by providing an easily-accessible database.

ANNEX 2: FRAMEWORK ELIGIBILITY CRITERIA

[REDACTED]

ANNEX 3: MARKET OVERVIEW

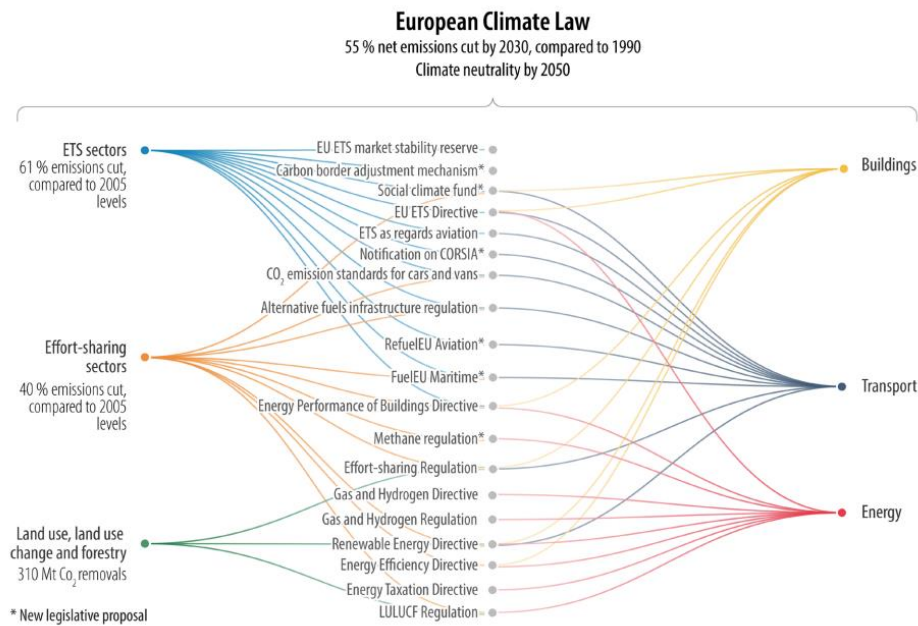
- The EU integration process put the objective of economic convergence among its Member States. Although the EBRD's EU CoOs (EU-12) reached 76% of the average EU GDP per capita, differences between countries persist: the Czech Republic had by 2021 reached almost 90% of the EU average, while other countries from the group, such as Bulgaria, Greece, Slovak Republic and Croatia remain below or at 70% of the EU average.
- Following the a strong post-pandemic recovery in 2021 and in the H1 2022, whereby EU-12's real GDP grew by 6.1% yoy and 6.3% yoy respectively, mostly propelled by a shift in household demand towards services from accumulated savings, the second half of 2022 is seeing a significant reduction in economic activity in this region; GDP growth started to decelerate, dragged down by fast-rising inflation, especially in energy and food prices, weakening currencies, waning external demand, droughts and a strained geopolitical situation.
- Following the rebound after the pandemic, real investment in the EU returned to the pre-pandemic levels in the second quarter of 2021, after a year of recovering, however those trends differ across EU: [REDACTED]
- While there is a strong need for stimulating the growth of investments in EU-12, it is even more prevalent in the area of green economy transition, which needs to accelerate in order to enable EBRD's EU CoOs meet the EU climate objectives and become more aligned with non-EBRD EU-15. This will be important to their competitiveness in the medium to long term.

I. POLICY AND REGULATORY ENVIRONMENT FOR THE EU-12

CLIMATE ACTION IN THE EU

- The EU has been on the forefront of climate action since the early 2000s, when it adopted its first legislation aimed at accelerating the roll-out of renewable energy and cutting GHG emissions. In 2001 first renewable electricity directive (Directive 2001/77) was enacted with an objective of 22.1% indicative share of electricity produced from renewable energy sources in total Community electricity consumption by 2010. Two years later the ETS Directive (2003/87) followed, which established the EU Emissions Trading System being the first large greenhouse gas emissions trading scheme in the world.
- Throughout the ensuing period, new policies, laws and objectives have been developed which led to re-designing the energy markets and incentivised significant amounts of investments. EU climate and energy objectives for 2020 consisted of three main targets:
 - 20% cut in greenhouse gas emissions (from 1990 levels)
 - 20% of EU energy from renewables
 - 20% improvement in energy efficiency.

All the three above targets were achieved, but the EU has continued to further increase its ambitions.



Source: European Parliament's Briefing Note: Fit for 55 Package

Figure 1. Impact of certain EU laws on GHG emissions reductions effort and certain sectors

EUROPEAN GREEN DEAL

- In December 2019 the new European Commission presented its overarching strategy: 'European Green Deal'. It aims to transform the entire EU economy so as to ensure that strengthening of EU sustainability commitments results in new opportunities across all policy areas leading to a new model of growth that is at the same time inclusive for all and enables just transition.
- In order to enshrine the above ambitions into binding commitments, the European Climate Law (Regulation 2021/1999) was adopted in June 2021, which sets the 2050 climate-neutrality objective for the EU and the target of 55% reduction of net greenhouse gas emissions by 2030, when compared to the level from 1990.
- To facilitate the achievement of these objectives in July and December 2021 the European Commission presented a comprehensive set of proposals for new laws and amendments to the existing key pieces of EU climate and energy legislation, including:
 - Proposal for the revision of EU Emissions Trading System;
 - Proposal for the establishment of the carbon border adjustment mechanism;
 - Proposal on the revision of effort sharing regulation;
 - Proposal on the revision of the LULUCF regulation;
 - Proposal for a revision of the renewable energy directive;
 - Proposal on the revision of energy taxation directive;
 - Proposal for the revision of the energy performance of buildings directive;
 - Proposal for the revised gas markets and hydrogen directive.

- At the same time in last 3 years the European Commission has continued to publish new strategies and other action plans that lay down the EU vision on how specific sectors may evolve in line with the overall climate objectives and sustainability commitments. These include:
 - European Industrial Strategy;
 - Circular Economy Action Plan;
 - Farm to fork strategy;
 - EU Biodiversity Strategy for 2030;
 - EU strategies for energy system integration and hydrogen;
 - Renovation wave;
 - Methane Strategy;
 - New European Bauhaus.

REPowerEU

- While all the above policy documents will have impact on how the EU economy changes in the years to come, one of the most important came with the presentation of the RePowerEU Plan in May 2022. The latter had been prepared in response to the energy crisis triggered by the war on Ukraine with an overall objective to rapidly reduce the EU's dependence on fossil fuels from Russia by accelerating the clean transition and pursuing a more resilient energy system.
- Specific REPowerEU measures include:
 - Faster roll-out of solar and wind energy projects and reduced bottlenecks constraining renewable development;
 - Ramped-up bio-methane production;
 - Accelerated deployment of large scale hydrogen projects to meet the EU's demand for low-carbon hydrogen, to 20 million tonnes by 2030;
 - Use of energy storage to ensure the flexibility and security of supply in the energy systems in the integration of renewable generation;
 - Accelerated industrial decarbonisation;
 - Secure industry access to critical raw materials;
 - Increase of energy efficiency.
- Implementation of the above measures is of particular importance especially in EBRD's EU-12 countries that had been highly dependent on energy import from Russia [REDACTED] . Acceleration of the energy transition may be therefore very challenging in this region, but at the same is very much needed as these countries in many cases are still [REDACTED] lagging behind other EU Member States and to date have not come up with similarly ambitious plans to transform their economies.

II. OVERVIEW OF CURRENT SITUATION

- Under the governance regulation Member States had to submit their final National Energy and Climate Plans for the period 2021-2030 to the Commission by the end of 2019. Next year the Commission published a detailed EU-wide assessment of the final NECPs.

- Based on the final NECPs assessments, it is clear that EBRD CoOs - EU Member States have been relatively behind the ambition level of non EBRD EU Member States:

EC assessment of 2030 ambition level of the targets indicated at final NCEPs

The European Commission published its assessment of the cumulative impact of the 27 NECPs on 17 September 2020, in parallel with the proposals for a new 2030 Climate Target Plan. The overall assessment shows that for renewable energy, the combined commitment by EU countries is estimated at 33.1%-33.7% - above the existing renewable energy target of at least 32%. It proves that renewables are becoming cost-effective and that more potential can be tapped through more equal efforts among countries. For energy efficiency, the cumulative impact of the different NECPs provides net savings of 29.4%-29.7%. Although this is better than what was estimated in the draft NECPs, this still falls short of the existing energy efficiency target of 32.5%.

| Category ^a | Country | Binding GHG emissions reduction target by 2030 as per 2005 levels (under ESR) | National target/contribution for RE by 2030 | National contribution for energy efficiency: Primary energy consumption by 2030 | National contribution for energy efficiency: Final energy consumption by 2030 | Level of electricity interconnectivity (% current) |
|-----------------------|-----------------|---|---|---|---|--|
| EBRD COOs | Bulgaria | As in ESR (0%) | Adequate (27%) | Low | Very low | 7 |
| EBRD COOs | Croatia | As in ESR (-7%) | Sufficiently ambitious (36.4%) | Low | Low | 30 |
| EBRD COOs | Czech Republic | As in ESR (-14%) | Unambitious (22%) | Low | Modest | 27 |
| EBRD COOs | Estonia | As in ESR (-13%) | Sufficiently ambitious (42%) | Modest | Very low | 63 |
| EBRD COOs | Greece | As in ESR (-16%) | Sufficiently ambitious (35%) | Modest | Low | 10 |
| EBRD COOs | Hungary | As in ESR (-7%) | Unambitious (21%) | Very low | Very low | 50 |
| EBRD COOs | Latvia | As in ESR (-6%) | Adequate (50%) | Modest | Modest | 50 |
| EBRD COOs | Lithuania | As in ESR (-9%) | Sufficiently ambitious (45%) | Modest | Modest | 62 |
| EBRD COOs | Poland | As in ESR (-7%) | Unambitious (23%) | Modest | Modest | 4 |
| EBRD COOs | Romania | As in ESR (-2%) | Unambitious (30.7%) | Low | Very low | 9 |
| EBRD COOs | Slovak Republic | More ambitious (-20%) | Unambitious (19.2%) | Low | Low | 43 |
| EBRD COOs | Slovenia | More ambitious (-20%) | Unambitious (27%) | Modest | Low | 84 |
| Non-EBRD | Austria | As in ESR (-36%) | Adequate (46%-50%) | Low | Low | 15 |
| Non-EBRD | Belgium | As in ESR (-35%) | Unambitious (17.5%) | Low | Low | 24 |
| Non-EBRD | Cyprus | As in ESR (-24%) | Slightly below (22.9%) | Low | Very low | 0 |
| Non-EBRD | Denmark | As in ESR (-39%) | Sufficiently ambitious (55%) | Very low | Very low | 51 |
| Non-EBRD | Finland | As in ESR (-39%) | Adequate (51%) | Low | Low | 29 |
| Non-EBRD | France | As in ESR (-37%) | Adequate (33%) | Modest | Sufficient | not included |
| Non-EBRD | Germany | As in ESR (-38%) | Adequate (30%) | Sufficient | Modest | 11 |
| Non-EBRD | Ireland | As in ESR (-30%) | Sufficiently ambitious (34.1%) | Low | Low | 7 |
| Non-EBRD | Italy | As in ESR (-33%) | Sufficiently ambitious (30%) | Sufficient | Sufficient | 9 |
| Non-EBRD | Luxembourg | More ambitious (55%) | Sufficiently ambitious (25%) | not included | Sufficient | not included |
| Non-EBRD | Malta | As in ESR (-19%) | Unambitious (11.5%) | Very low | Very low | 24 |
| Non-EBRD | Netherlands | As in ESR (-36%) | Sufficiently ambitious (27%) | Sufficient | Modest | 15 |
| Non-EBRD | Portugal | As in ESR (-17%) | Sufficiently ambitious (47%) | Modest | Modest | 8 |
| Non-EBRD | Spain | As in ESR (-39%) | Sufficiently ambitious (42%) | Sufficient | Sufficient | 7 |
| Non-EBRD | Sweden | More ambitious (-50%) | Sufficiently ambitious (65%) | Modest | Modest | 26 |

Source: European Commission and EBRD calculations

Figure 2. EC assessment of 2030 ambition level of the targets at final NECPs

- As the following section discusses EBRD's EU-12 have been behind the non-EBRD EU-15 also on many climate and sustainability indicators.

GREENHOUSE GAS EMISSIONS

- Focusing on the GHG profiles, Member States - EBRD CoOs' (or EU-12) mitigation challenge becomes particularly visible as carbon intensity of economy in these countries are much higher than the EU27 (or EU-15, which are non EBRD EU Member States), meaning they generate much larger GHG emissions in order to produce same amount of GDP. The figure below contrasts EU-12 vs EU-15, to show this particular green transition challenge across the region.

Greenhouse gas emissions in the EU27 region (per capita, per GDP and total)

The size of the circles is proportional to total GHG emissions (Max. 729 Mt CO₂eq - Min. 2 Mt CO₂eq) | total GHG emissions: Mt CO₂eq | per capita GHG emissions: t CO₂eq/person | per GDP GHG emissions: t CO₂eq/million EUR

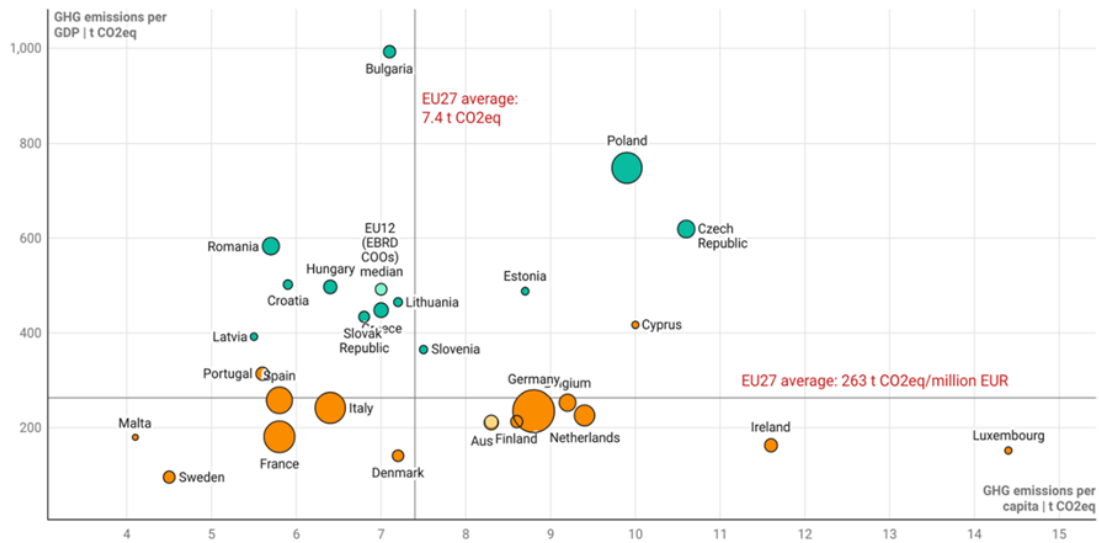


Figure 3. GHG emissions in the EU27 region (including carbon intensity of the economy)

- Despite the fact that many of the EU-12 CoOs emit significantly less GHGs when compared to 1990, this reduction has been mostly due to structural factors other than decarbonisation efforts (such as socio-political ones):

Change in net GHG Emissions (index 1990=100)

This indicator measures total national emissions (from both ESD and ETS sectors) excluding LULUCF and memo items, including international aviation.

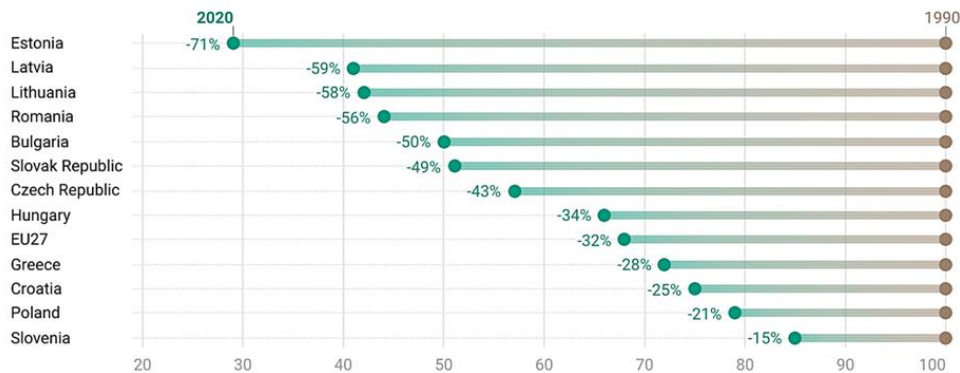


Figure 4. Change in net GHG emissions, EU-12 vs EU27

- Much stronger emissions reductions in EU-12 might be needed now for the sectors covered by the EU's Effort Sharing Regulation (ESR).** A provisional agreement reached on 9 Nov 2022 with the European Parliament and Council leads to increase the ambition of the (ESR). This agreement establishes binding annual greenhouse gas emission targets for EU Member States in sectors not currently included in the EU Emissions Trading System (EU ETS). **The agreement importantly maintains the Commission's proposal to boost the emission reduction target for these sectors from 29% to 40% by 2030,**

compared to 2005 levels. As per the annex to the proposal amending regulation, EU Member States' greenhouse gas emission reductions in 2030 in relation to their 2005 levels determined in accordance with Article 4(3) will be as follows:

Increased national GHG reduction 2030 targets under the Effort Sharing Regulation

Column 2 indicates updated targets based on the provisional agreement reached on 9 Nov 2022 with the European Parliament and Council. Kindly note that green arrows indicate EBRD COOs.

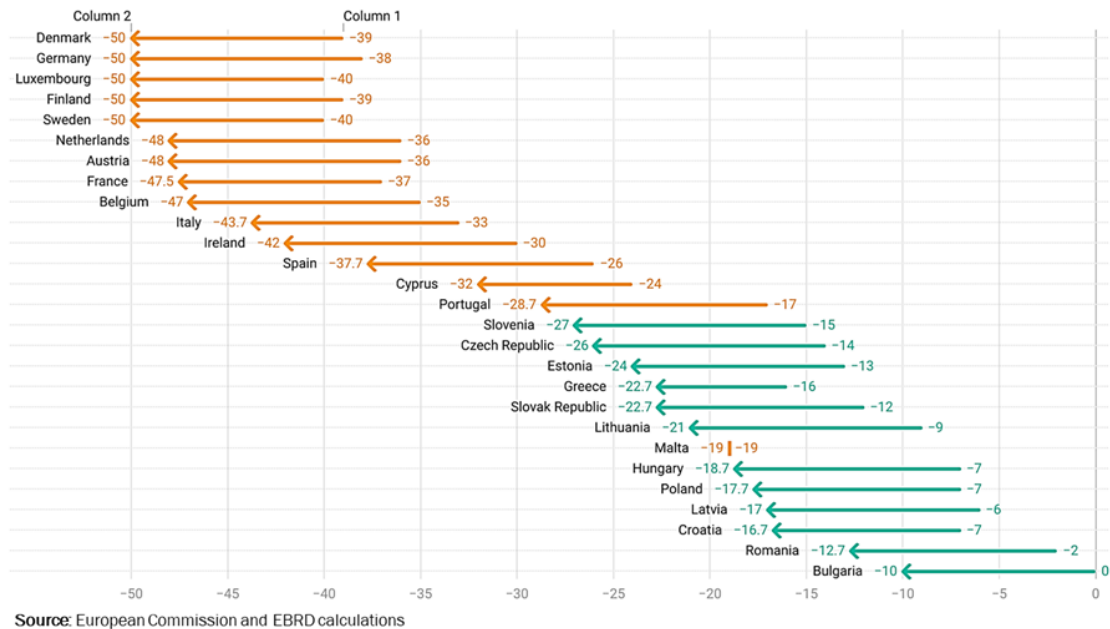


Figure 5. Increased national GHG reduction 2030 targets under ESR

RENEWABLE ENERGY

- [REDACTED] [I]n terms of share of renewable energy in gross final energy consumption, the EU-12 (EBRD CoOs) has been performing better when compared to the EU27 (and EU-15) since early 2000s:

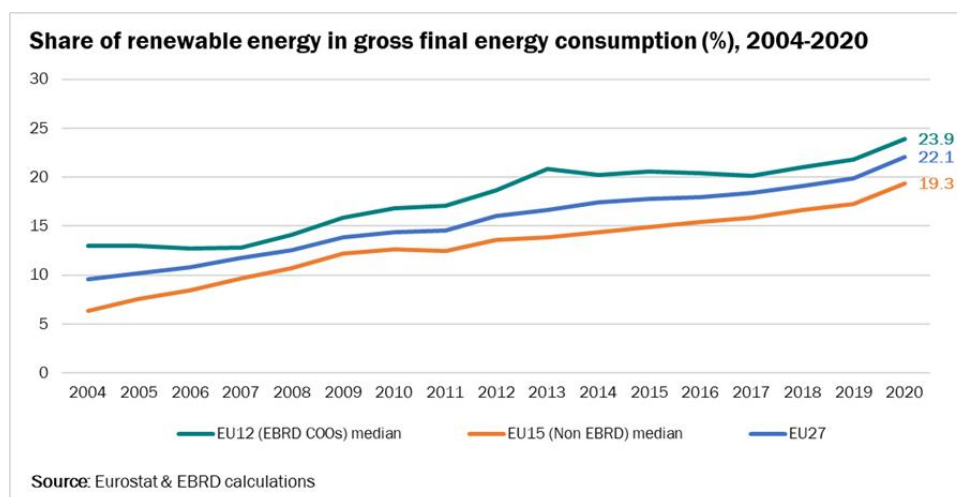
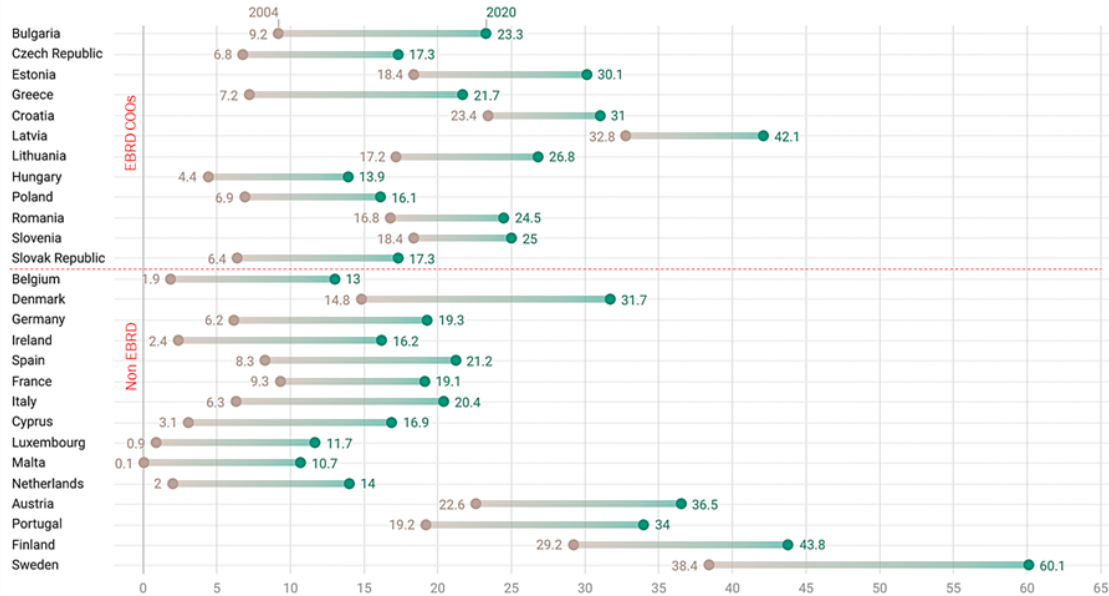


Figure 6. Share of RE in gross final energy consumption since 2004

- Apart from a number of progressive EU-15 Member States, such as Portugal, Finland and Sweden, the EU-12 has outperformed or is at least on par with the rest of Non EBRD EU Member States:

Share of renewable energy in gross final energy consumption (%), 2004-2020

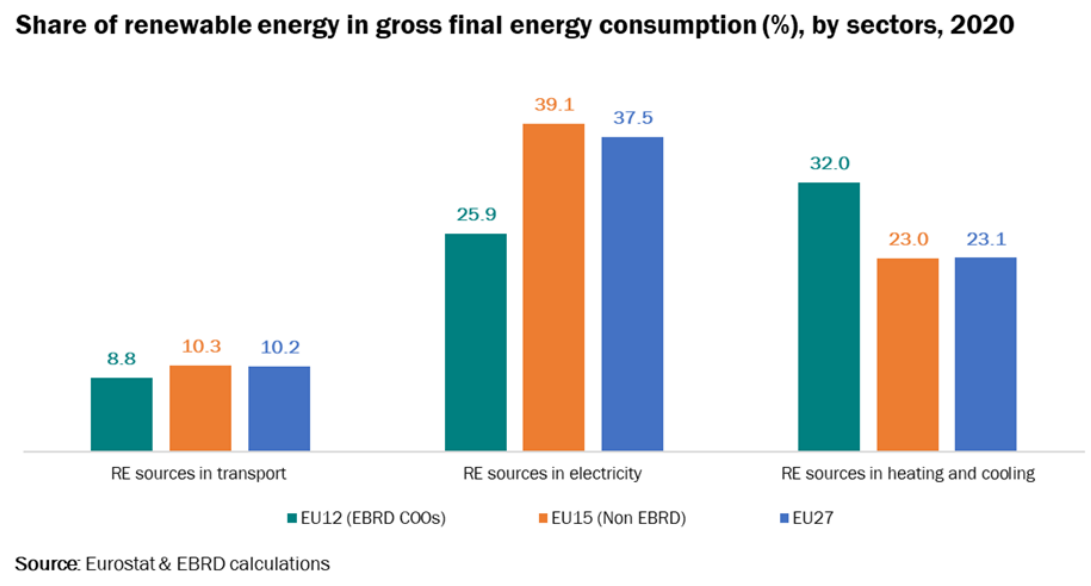
This indicator measures the share of renewable energy consumption in gross final energy consumption according to the Renewable Energy Directive.



Source: Eurostat & EBRD calculations

Figure 7. Share of RE in gross final energy consumption since 2004, by country

- However, sector level breakdown of RE share gross final energy consumption provides interesting aspects such as that **EU-12 is way behind EU-15 when it comes to RE share in electricity sector**, while ahead in heating and cooling sector⁹:



Source: Eurostat & EBRD calculations

Figure 8. Share of renewable energy in gross final energy consumption, by sector

⁹ [REDACTED]

- Country level granularity reveals country specific challenges, particularly in transport and electricity sectors. In these domains, EU-12 countries fall behind EU-15 peers:

Share of renewable energy in gross final energy consumption (%), by sectors, 2020

Kindly note that the chart is presented at log scales. The size of the circles is proportional to the share of RE in heating and cooling (Max. 67% - Min. 8%). This indicator measures the share of renewable energy consumption in gross final energy consumption according to the Renewable Energy Directive.

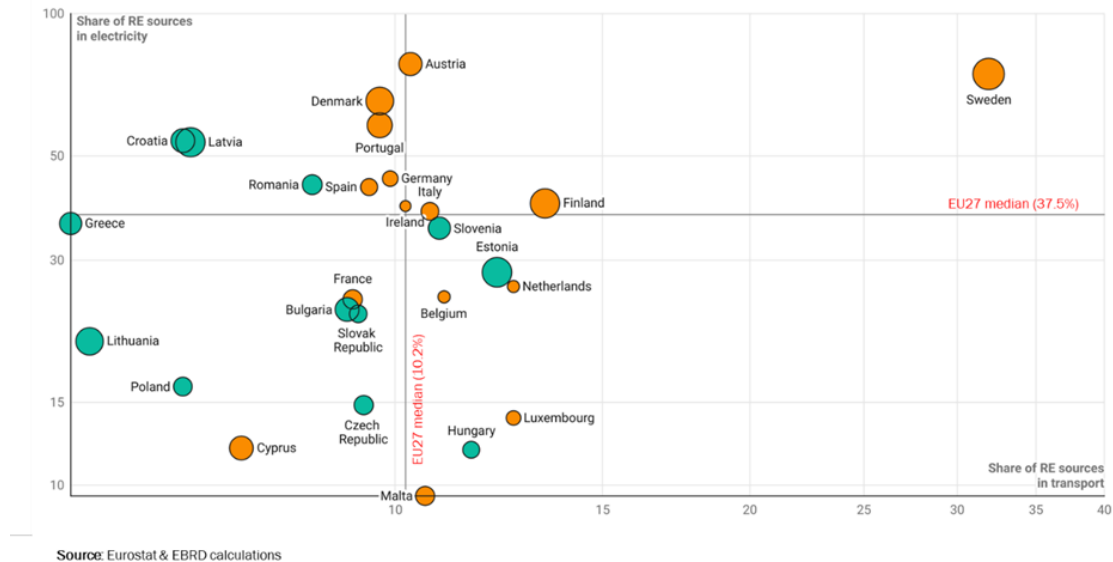
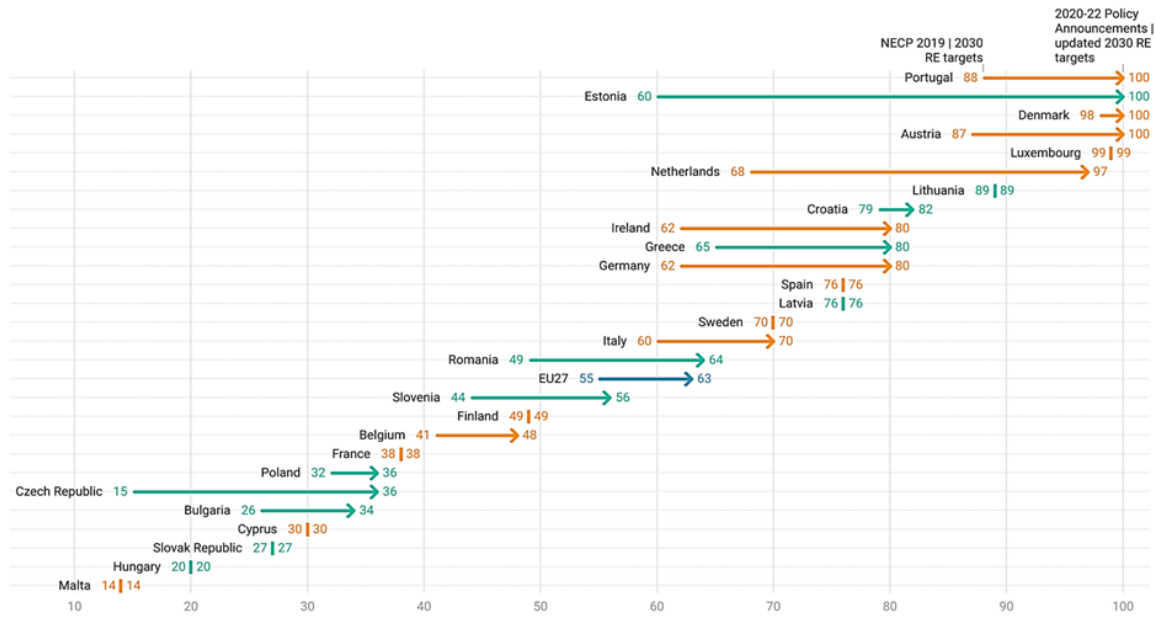


Figure 9. Share of renewable energy in gross final energy consumption, by sector and country

- It should be noted that as per recent analysis of pledged policies and announcements between January 2020 and June 2022, there has been a progress in renewable energy related 2030 targets, with respect to the Final NECPs. However, EU-12 targets are still relatively less ambitious when compared to EU-15, indicating a large room for opportunity for the EBRD CoOs (represented with green arrows below):

2030 RE targets (% share in power generation) in the EU27 region | Change since NECPs (in 2019)

EU27 member states are accelerating the shift from fossil fuels towards renewables -excluding nuclear power (kindly note that this analysis is conducted as of June 2022).



Source: Ember, CREA, and EBRD calculations

Figure 10. Increased ambition in 2030 RE targets since 2019

CIRCULAR ECONOMY

The Circular economy action plan is one of the building blocks of the European Green Deal. The Plan provides a future-oriented agenda for achieving a cleaner and more competitive Europe in co-creation with economic actors, consumers, citizens and civil society organisations. The development of Circular economy will lead to more sustainable economic growth and job creation, as well as reduce pressure on natural resources. Priority is given to product groups such as electronics, ICT and textiles but also furniture and high impact intermediary products including steel, cement and chemicals.

A recent study estimates that applying circular economy principles across the EU economy has the potential to increase EU GDP by an additional 0.5% by 2030 creating around 700 000 new jobs.

Meeting the target of doubling the circular material rate (CMUR) use would mean an increase from 12.8% in 2020 to 25.6% by 2030. This is likely to be challenging, especially in the EU12 countries, which are largely below EU average. Considerable differences in CMURs are observed among EU countries, ranging from 30.9% (in the Netherlands) to 1.3% (in Romania) in 2020. This reflects significant structural difference in countries' recycling capacities and in their levels of material consumption.

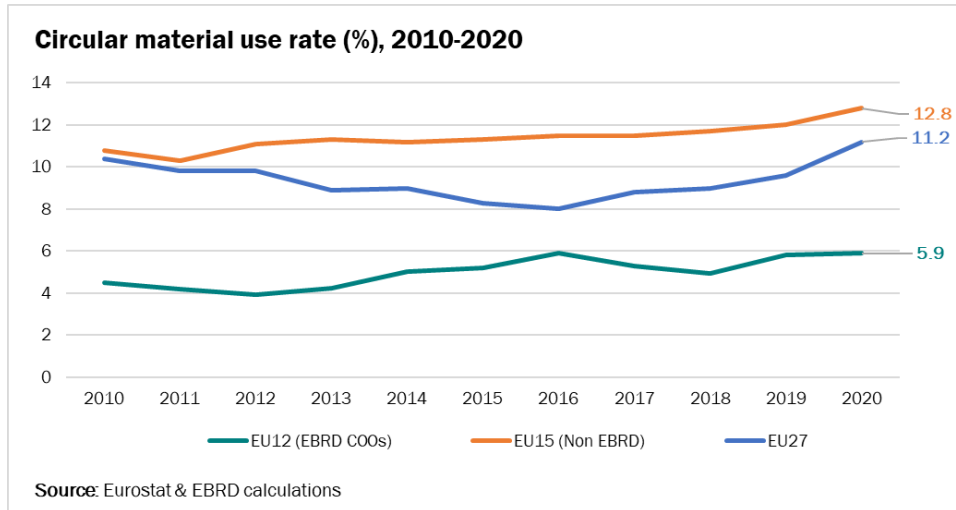


Figure 11. Circular material use rate, 2010-2020

- Apart from few exceptions such as Estonia, Czech Republic and Slovenia, the rest of the EU-12 fall short of EU27 average (need to double the rate to catch up).

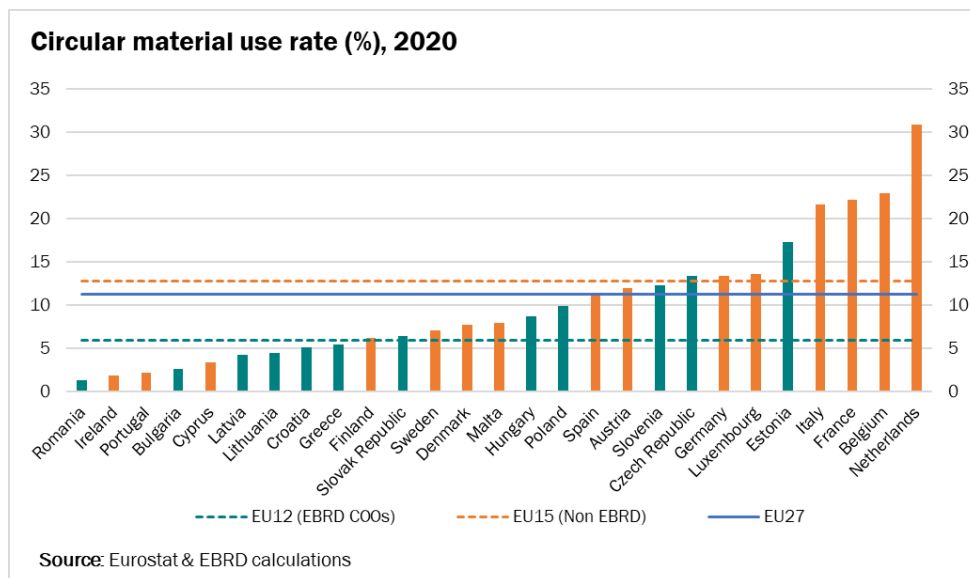
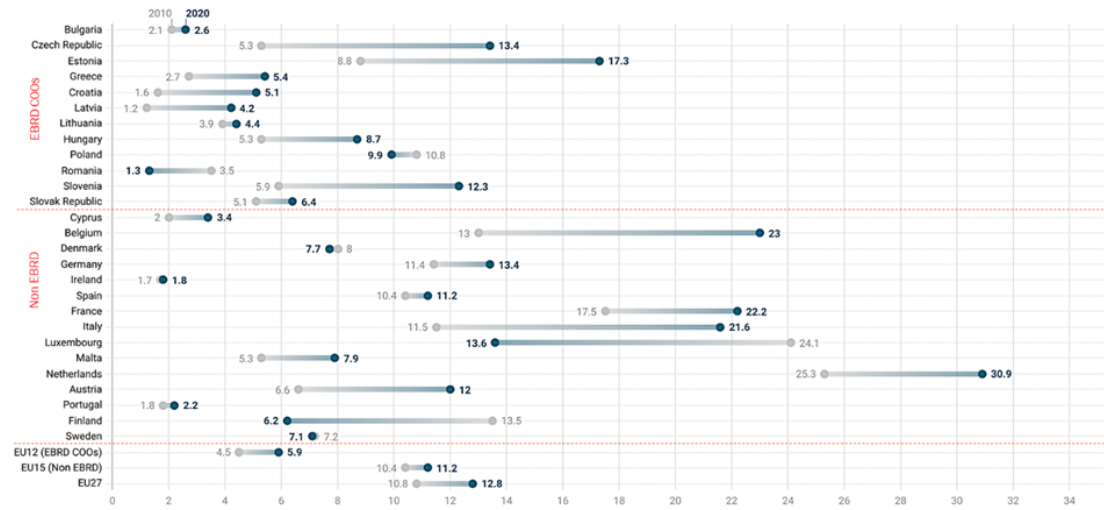


Figure 12. Circular material use rate, 2020, by country

- Although progress at the national levels in certain countries has been notable much remains to be done:

Circular material use rate (%), 2010-2020

The circular material use rate (CMR) measures the share of material recovered and fed back into the economy in overall material use.



Source: Eurostat & EBRD calculations

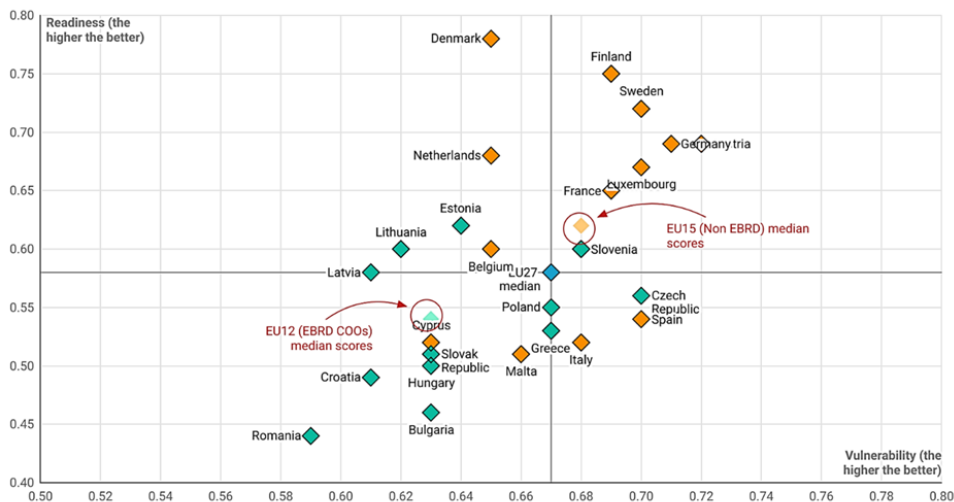
Figure 13. Circular material use rate, change during 2010-2020, by country

VULNERABILITY TO CLIMATE CHANGE

- While large investments in EU-12 are needed in climate mitigation, climate adaptation is another area of great importance.
- **Many of the EU countries in which the EBRD operates are particularly vulnerable to climate change.** This is in part because of their geographical location and characteristics, but also a consequence of historic under-investment, which has resulted in aging infrastructure and facilities that are less able to withstand changes in climatic conditions.
- When EU-12 and EU-15 are contrasted in climate change risks context, it can be clearly seen that **the EBRD CoOs are more vulnerable and less ready for dealing with the adverse impacts.**

Vulnerability and readiness to climate change in the EU27 region

Based on ND-GAIN scores (2020). The higher readiness score indicates the country is better prepared to respond to impacts; the higher vulnerability score indicates the country is less vulnerable.



Source: Eurostat & EBRD calculations

Figure 14. ND-GAIN scores of EU27 region

- 30-year average climate related economic losses (adjusted with GDP) are much higher in EBRD CoOs:

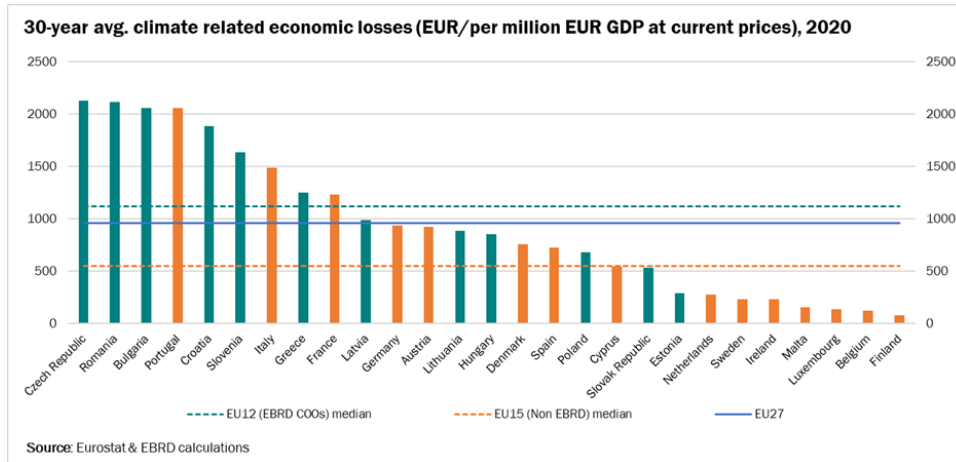


Figure 15. 30-year avg. climate related economic losses in EU27, 2020

- Longer time-series confirm that this has been the case in the last decade, too. Therefore, adaptation and resilience related challenges are relatively more significant in the EU-12 region:

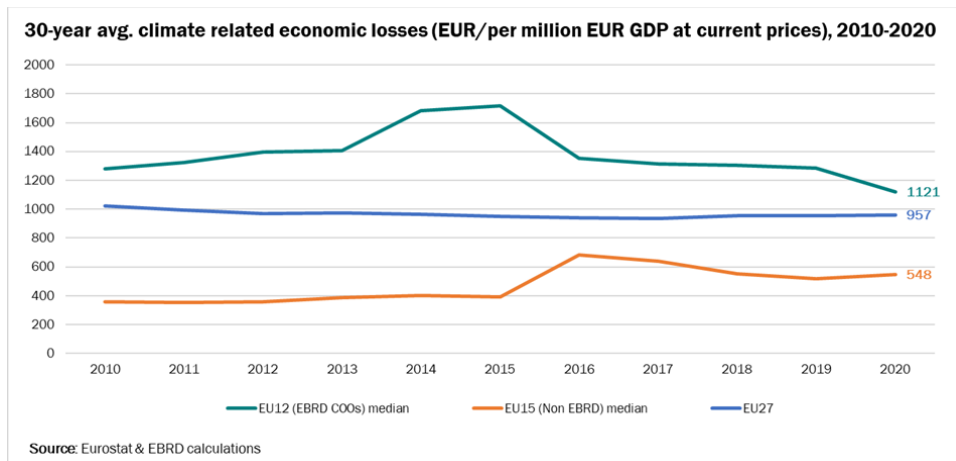


Figure 16. 30-year avg. climate related economic losses in EU27, 2010-2020

III. INVESTMENT NEEDS IN SPECIFIC SECTORS

- Reaching net-zero in the EU would require investing an estimated EUR 28 trillion in clean technologies and techniques over the next 30 years. About EUR 23 trillion of this investment—an average of EUR 800 billion a year—would come from redirecting investments that would otherwise have funded carbon-intensive technologies. Five sectors emit the bulk of the EU's GHG: 28% comes from transportation, 26% from industry, 23% from power, 13% from buildings, and 13% from agriculture.
- In order to close the gap between EU-12 and EU-15 and to ensure that EBRD's EU CoOs deliver on REPowerEU objectives, existing market and regulatory failures must be tackled and financing gaps addressed, which would facilitate stronger mobilisation of investments across the sectors. Summary of investment needs in specific sectors is provided below.

INDUSTRY

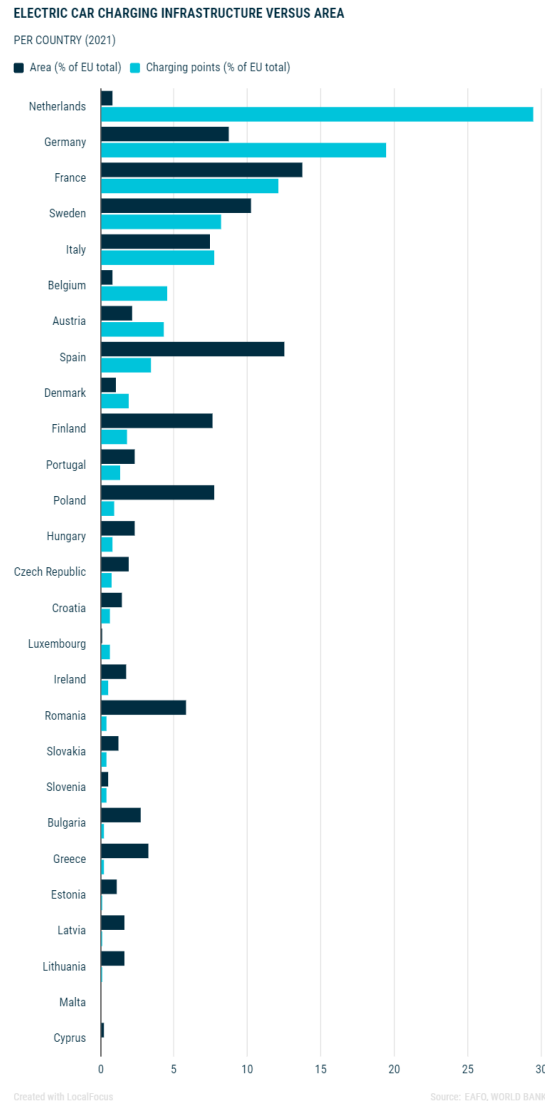
- Industry is potentially the most expensive sector to decarbonize, needing new technologies and some that are still under development. Even after reaching net-zero by 2050, the sector would continue to generate some residual emissions from activities such as waste management and heavy manufacturing, which would have to be captured or offset. Industry decarbonisation capex needs will reach EUREUR 410 billion.
- The EU is developing a Carbon Border Adjustment Mechanism (CBAM) in order to protect its economy against so called “carbon leakage”, which would mean that industrial and energy sector production would move to countries with lesser carbon conditions and constraints. The EU plans to start implementing it in 2023 with an objective to become fully effective by 2026. The CBAM will put a carbon price on selected imports to ensure that emissions reductions in Europe contribute to a global emissions decline. The CBAM will impose increased costs on companies that import products with high carbon emissions, such as steel, chemicals, iron, cement and many manufactured goods. As it penalises carbon-intensive imports, it will influence supply chain choices. The greening of the EU economy will bring about fundamental changes in the operating environment for business.
- Industry has a leading role to play in what is the challenge and opportunity brought forward by the green economy transition. All industrial value chains, including energy-intensive sectors, will have a key role to play. They will all have to work on reducing their own carbon footprints but also accelerate the transition by providing affordable, clean technology solutions and by developing new business models. To become more competitive as it becomes greener and more circular, industry will need a secure supply of clean and affordable energy and raw materials. As Europe transitions to climate-neutrality, certain sectors will have to make a bigger and more transformative change than most. Energy-intensive industries are indispensable to Europe's economy and are relied on by other sectors. Modernising and decarbonising energy-intensive industries must therefore be a top priority.

- The European Green Deal sets the objective of creating new markets for climate neutral and circular products, such as steel, cement and basic chemicals. To lead this change, Europe needs novel industrial processes and more clean technologies to reduce costs and improve market readiness. There should also be a special focus on sustainable and smart mobility industries. This is notably the case for the automotive, aerospace, rail and ship building industries, as well as for alternative fuels and smart and connected mobility.

TRANSPORT

- Decarbonisation of transport is critical for achieving global net zero ambitions ([IEA 2021](#)). Despite previous technological improvements, the transport sector contributes around one quarter of Europe's GHG emissions, thereby contributing to climate change. At the moment it seems like the most efficient way to tackle this challenge leads through the electrification of transport.
- E-mobility is integral to delivering clean air, energy security and climate change mitigation benefits. Empirical analysis (IPCC, IEA) points to the urgent and large scale need to deploy e-mobility technologies to meet climate targets, as part of a sector decarbonisation approach including modal shift (notably use of public, shared transport) and increased energy efficiency.
- The sector is at a crucial tipping point where the technology is proven and increasingly competitive with higher carbon alternatives. To scale the sector at the speed required by the low carbon transition (the IEA Roadmap shows 60% of new global car sales being electric by 2030) requires an aggressive combination of regulatory interventions, public procurement and private investment. Business as usual will not be sufficient. The emergence of EVs will require new business models, policy reform, donor support, and investment, responsive to technology advancement and cost efficiencies along the entire value chain encompassing: minerals extraction, manufacturing, recycling, charging infrastructure, electric grid readiness, etc.
- Network-based e-mobility (electric rail, metro, trolleybus) are mature technologies and will provide a major component of future e-mobility.
- A key development anticipated to contribute significantly to sustainable and climate-compatible connectivity systems is the replacement of internal combustion engine vehicles with electric vehicles (EVs). The newly emerging growth area is 2/3/4 wheel battery electric vehicles (EVs) that can be deployed on existing road networks. With many leading automobile markets and associated manufacturers promoting EVs in the near term and the global nature of the automotive sector, the transition is already well underway, and it is increasingly a question of the pace of transition rather than whether it will happen in our region.
- EBRD CoOs still lack clear national EV strategies, fleet transformation targets and supporting policies, inhibiting EV deployment (any improvements should accelerate central assumption forecasts above). CoOs have taken some steps in the area of tax benefits, mainly focusing on custom duties and road tax exemption, but they all lag behind the EU average in the share of battery and plug-in electric cars in passenger cars registered in 2021

Another substantial bottleneck, especially in case of road transport, is the absence of adequate recharging infrastructure. At the moment it is to large extent missing in EU-12. While half of all charging points for electric cars in the European Union are concentrated in only two countries – the Netherlands (90,000 chargers) and Germany (60,000) - the overall number of charging points in EU-12 is disproportionately low. Estimates show that the investment into needed charging infrastructure in the EU by 2030 could cost up to EUR 240 billion.



Source: ACEA (European Automobile Manufacturers' Association)

Figure 17. Electric car charging infrastructure versus area

MUNICIPAL INFRASTRUCTURE

- From the health aspect, emissions from road vehicles also contribute to high concentrations of air pollutants in many European cities, especially in the EU-12 countries, which concentration often does not meet air quality standards set by the EU. The map below, based on the levels of particulate matter measured

in the air cities in 2020 and 2021, shows that ambient air pollution is a significant problem in many of EBRD's EU CoOs.

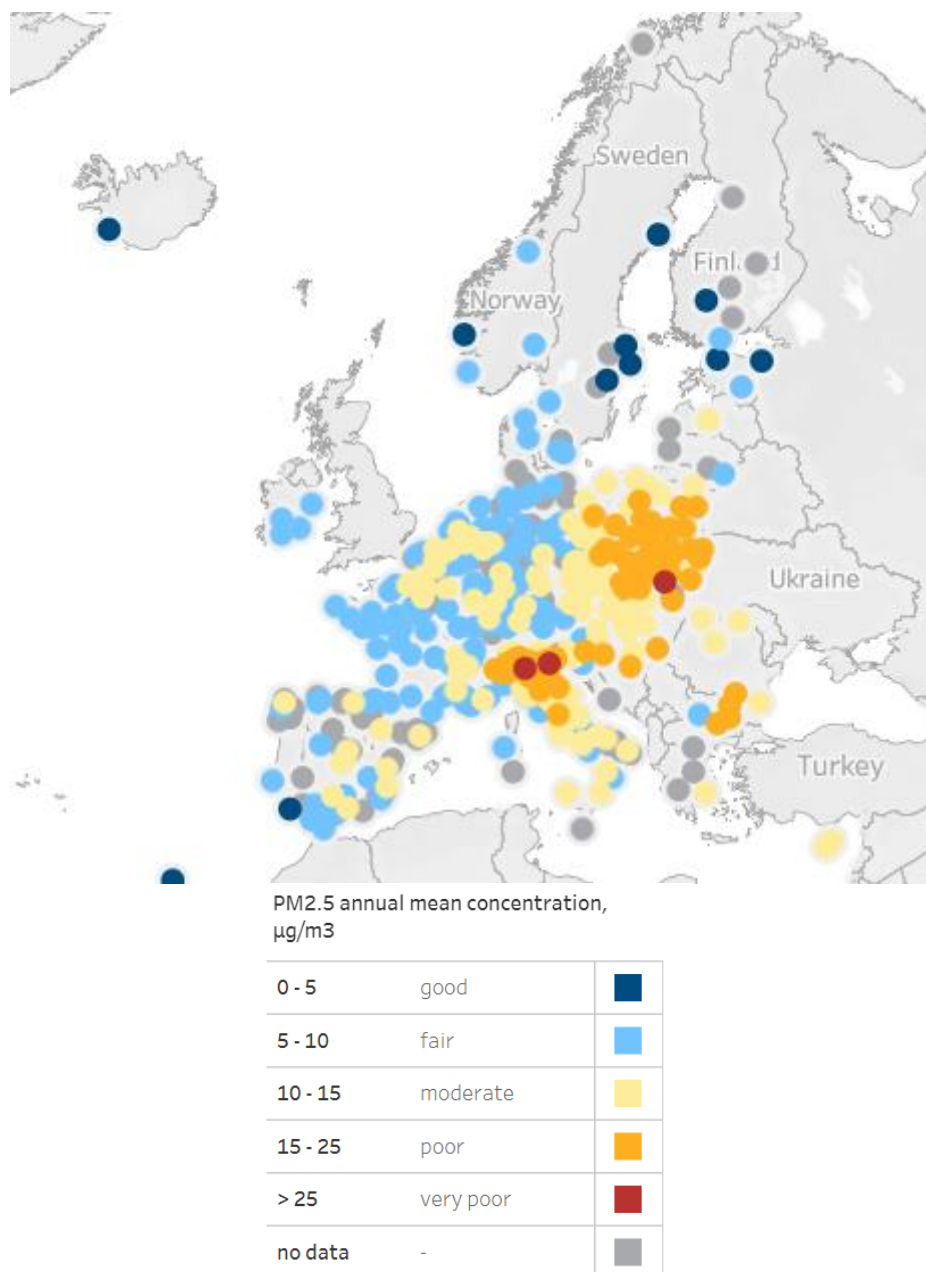


Figure 17. PM annual mean concentration in cities

- In order to tackle this challenge investments in district heating systems and public transit must be undertaken.
- Moreover, cities also host most of the infrastructure vulnerable to the impacts of climate change. This is particularly true for EBRD cities, where deteriorating or obsolete urban infrastructure is degrading the quality of life of citizens, increasing greenhouse gas emissions, and preventing communities from adapting to climate change.
- In many regions in the EU, especially in the EU-12 CoOs, municipal public investment was slow in growth. Moreover, municipalities in cohesion regions

lag on the green and digital transition and report infrastructure investment gaps on both digital infrastructure and for climate change mitigation and adaptation.

- Differences in the access to municipal infrastructure between EBRD's EU-12 and EU-15 are particularly big in case of wastewater infrastructure. While in recent years the share of the population connected to at least secondary wastewater treatment plant has risen to 95% and above in 6 Member States from EU-15, as of 2020 in 5 of EBRD's EU-12 CoOs it was below 70%.

Share of the population connected to at least secondary urban wastewater treatment, 2002-2020

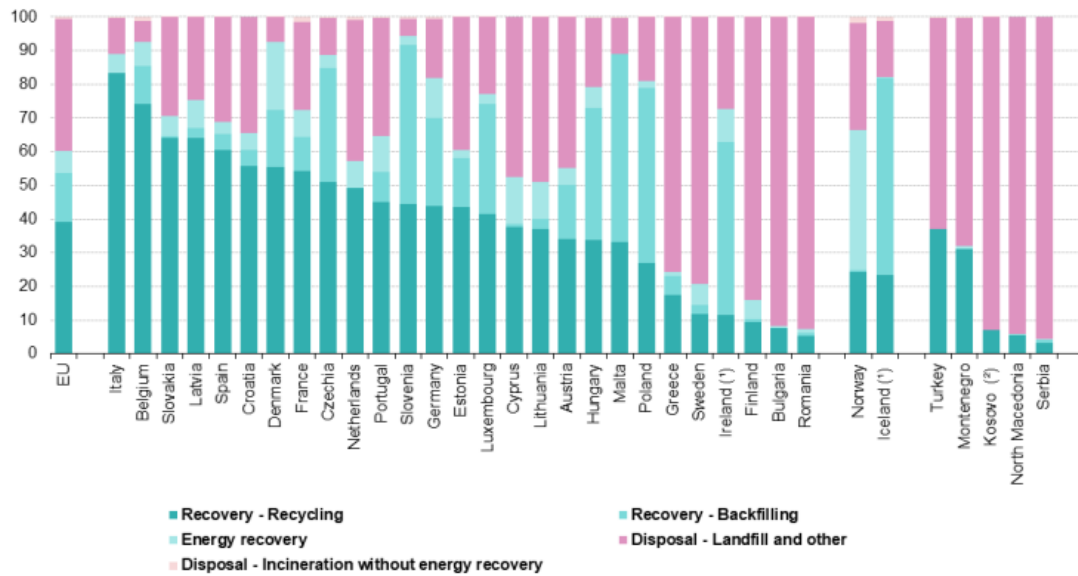
(%)

| | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 |
|-------------------------|------|------|------|------|------|------|------|------|------|------|
| Belgium | 47.7 | 53.2 | 57.4 | 71.0 | 75.0 | 76.8 | 80.5 | 82.8 | 84.3 | 83.6 |
| Bulgaria | 37.8 | 38.0 | 38.8 | 41.4 | 45.1 | 53.9 | 54.8 | 61.8 | 63.7 | 65.1 |
| Czechia | 69.7 | 70.8 | 71.9 | 75.4 | 76.9 | 78.0 | 79.8 | 81.2 | 82.3 | 83.4 |
| Denmark | 88.0 | : | : | : | 93.4 | 94.2 | 96.3 | 96.8 | 97.1 | 97.7 |
| Germany (*) (*) (*) | 92.6 | 93.8 | 97.3 | 91.9 | 95.6 | 95.4 | 95.6 | 96.0 | : | : |
| Estonia | 71.0 | 72.0 | 78.0 | 84.0 | 79.0 | 81.0 | 83.0 | 83.0 | 83.0 | 83.0 |
| Ireland (*) (*) (*) (*) | 29.0 | : | : | 59.0 | 71.0 | 58.8 | 60.0 | 61.2 | 61.8 | 61.9 |
| Greece (*) (*) | : | : | : | 85.0 | 87.4 | 92.0 | 92.8 | 93.4 | 94.8 | 94.2 |
| Spain | 88.0 | : | 88.0 | 88.0 | 93.0 | 88.7 | 84.7 | 86.6 | 86.6 | : |
| France (*) | 77.3 | 79.5 | : | : | 77.7 | 80.2 | 80.4 | 80.5 | 80.2 | 79.9 |
| Croatia | : | : | : | : | : | 36.9 | 36.9 | 36.9 | 36.9 | 36.9 |
| Italy (*) (*) | : | : | 54.2 | 57.5 | : | 57.6 | : | 59.6 | : | : |
| Cyprus (*) | 18.3 | 28.4 | 29.8 | : | : | : | : | : | 82.7 | : |
| Latvia | 51.1 | 62.7 | 62.5 | 55.1 | 58.9 | 67.6 | 71.2 | 74.1 | 75.4 | 80.4 |
| Lithuania (*) | : | : | 47.5 | : | 63.7 | 63.1 | 69.4 | 73.5 | 75.8 | 77.0 |
| Luxembourg (*) (*) | : | 88.1 | : | : | : | : | 96.6 | 96.9 | 97.0 | 98.3 |
| Hungary | 32.4 | 40.2 | 45.3 | 50.0 | 69.5 | 72.8 | 73.5 | 78.1 | 80.4 | 80.9 |
| Malta | 12.9 | 10.9 | 9.3 | 14.6 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 6.5 |
| Netherlands | 98.5 | 98.9 | 99.1 | 99.3 | 99.3 | 99.5 | 99.4 | 99.5 | 99.5 | 99.5 |
| Austria (*) | 86.0 | 88.9 | 91.8 | 92.7 | 93.9 | 94.5 | 95.0 | 99.8 | 99.8 | 99.1 |
| Poland | 54.0 | 56.8 | 60.7 | 62.9 | 64.5 | 68.5 | 71.4 | 73.4 | 74.0 | 74.8 |
| Portugal (*) (*) (*) | 27.0 | 32.0 | 37.0 | 52.0 | 55.8 | : | : | : | 84.6 | : |
| Romania (*) | : | 16.9 | 16.9 | : | 22.7 | 35.3 | 38.2 | 43.8 | 48.1 | 51.8 |
| Slovenia | 18.4 | 29.3 | 47.6 | 51.1 | 51.6 | 53.7 | 55.6 | 63.2 | 69.0 | 69.3 |
| Slovakia | : | : | : | : | : | : | : | 63.6 | 65.7 | 68.8 |
| Finland | 81.0 | 81.0 | 82.0 | 82.0 | 83.0 | 83.0 | 85.0 | 84.0 | 85.0 | 85.0 |
| Sweden (*) | 93.0 | 94.0 | 94.0 | 94.0 | 94.0 | 95.0 | 95.0 | 95.0 | 96.0 | 96.0 |

Figure 18. Share of population connected to at least secondary urban wastewater treatment, 2002-2020. Source: Eurostat

- Another area where a strong gap between EBRD's EU-12 and EU-15 exists is waste treatment. While in the EU as a whole in 2020, more than a half (60.2%) of the waste was treated in recovery operations, in countries like Romania, Bulgaria and Greece landfill remained the prevailing treatment category.

Waste treatment by type of recovery and disposal, 2020
(% of total treatment)



(*) 2018 data

(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.

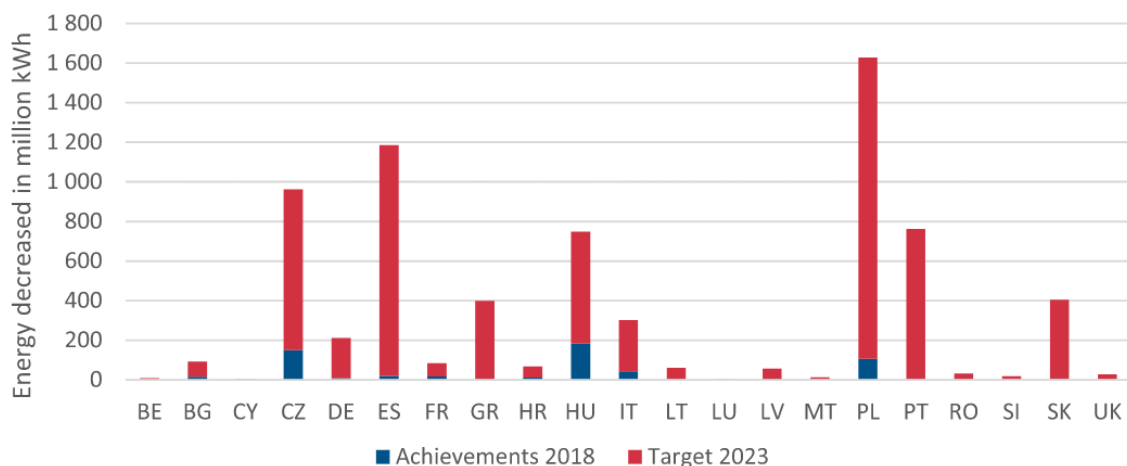
Source: Eurostat (online data code: env_wastrt)

eurostat

Figure 19. Waste treatment by type of recovery and disposal, 2020. Source: Eurostat

- Significant investments in the upcoming years will be also needed to increase energy efficiency of public buildings in EBRD's EU-12. Poland, Hungary, Czech Republic, Slovakia and Greece are among countries with most ambitious plans for decrease of annual primary energy consumption of public buildings.

Common Output Indicator 32 "Decrease of annual primary energy consumption of public buildings"



Source: ECA, based on European Commission data.

Figure 20. Decrease of annual primary energy consumption of public buildings. Source: ECA Special Report 11/20202: Energy efficiency in buildings: greater focus on cost-effectiveness still needed

POWER & ENERGY

The power and energy sector in the EU-12 is facing a dual challenge.

- First, fossil fuels, notably coal, still dominate the energy and electricity generation mix, and heating. At the same time all EU Member States face multiple binding commitments regarding climate targets, and more specifically in relation to the share of renewables in the domestic energy mix (a target of at least 32% renewable energy in final energy consumption by 2030, which been enhanced by the 'Fit-for-55' package target to commit to a 40% share by 2030 in the EU as a whole). Concrete steps need to be taken to further diversify energy sources by significantly increasing renewables, extending international links with the electricity grid, and encouraging the development of less energy demanding alternative economic sectors. Bulgaria, Czech Republic, Estonia, Greece, Lithuania, Hungary, Poland, Slovak Republic fall in this category, whereby most CO₂ emissions are due to electricity and heat generation. Accordingly, green economy transition will require rapid coal and fossil fuel phase out, and substantial investment in clean energy, including for industrial energy use. Reforms in the energy sector, including the closure of coal mines and other carbon intensive assets, should be pursued vigorously, taking into account the social implications of the resulting changes, and ensuring a just transition for those most affected. Progress along this path to decarbonise the energy sector is already visible in some countries, particularly in Estonia and Greece.
- Second, in countries that have achieved relatively high share of renewable in domestic power generation, it is vital to invest in transmission and distribution and strengthened 'renewables-ready' grids in order to enable the further integration of renewables. The lack of sufficient grid capacity can substantially hinder the roll-out of renewable generation capacity. Necessary system investments include smart grids, energy storage and other solutions necessary for ensuring a base load to meet energy demand. Croatia, Latvia, Romania, Slovenia falls under this category, where the renewables share of electricity generation is high, mostly due to legacy hydro power assets and/or rapid initial momentum in renewables deployment. It is important that momentum behind early progress in renewables does not dry up before energy generation is sufficiently decarbonised and committed targets are achieved.

AGRICULTURE

In the EU, agriculture accounts for approximately 30% of energy use and nearly 13% of GHG emissions. A significant expansion of the sector (and consequently its impact on the environment) is yet to come, in line with the projected increase of 70% in the global demand for food in the next 30 years.

At the same time, agriculture is one of the sectors that will be most affected by climate risks. Sustainable agriculture can play a significant role regarding climate change, especially via its capacity to act as a carbon sink and regenerate the resilience of

ecosystems. Agriculture is therefore a major contributor, victim and, also, a solution to climate change.

Massive investments are needed to mitigate the sector's impact on the environment and, in parallel, to increase its own resilience to future climatic events.

The main EU initiatives that shall contribute to more sustainability and resilience in agriculture are:

- The EU Carbon neutrality ambition by 2050 – highlights the significant role of agriculture as a carbon sink
- EU Bio-economy strategy – promotes the development of new markets for bio-materials
- EU Farm to fork strategy – sets global standard for healthier and more sustainable food

Thanks to such initiatives on a global and European scale, sustainable agriculture is already becoming a priority for the private sector. By 2020, 8 out of 10 largest agribusiness groups by market cap had already set voluntary Paris-aligned science-based targets – including on their value chain emissions (~ 80-90% of their total GHG emissions) and nearly half of listed agribusiness companies had disclosed on at least one TCFD category.

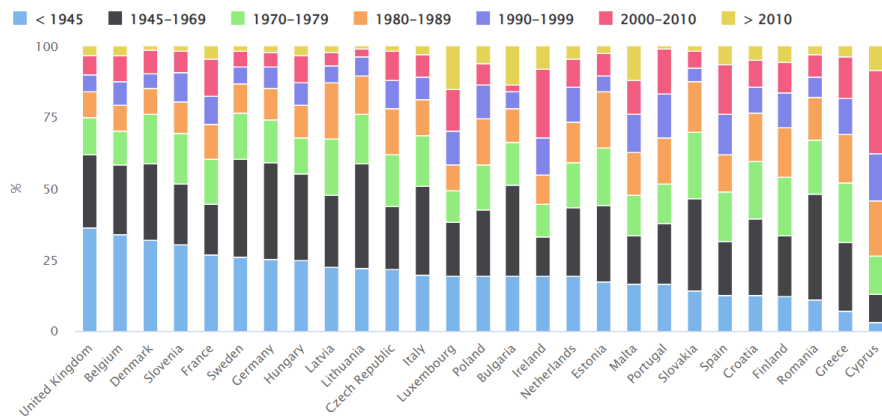
It should be noted that while agriculture and food sectors are not yet covered by main mandatory carbon markets and taxation schemes, their cost structures will be largely impacted by increasing carbon prices in fertilizer, transportation and energy sectors. This issue should also be addressed to ensure the stability of access to food, especially among the low-income population.

The EBRD's 12 European CoOs are especially vulnerable to shocks in the agricultural sector, as the households' expenditure on food consumption in those is significantly higher (more than 30% of total expenditure for some CoOs) than for the EU27 (slightly above 20%).

BUILDINGS

The building sector accounts for nearly 40% of energy use and 36% of energy-related GHG emissions in the EU.

At present, about 35% of the EU's buildings are over 50 years old and almost 75% of the building stock is energy inefficient. At the same time, only about 1% of the building stock is renovated each year.

2: Breakdown of residential building by construction year (2014)

The buildings sector is therefore crucial for achieving the EU's energy and climate goals. Multiple initiatives have been launched to both build "greener" and to improve energy efficiency and resilience of the existing buildings, in line with the European Green deal and more specifically the Energy Performance of Buildings Directive (EPBD). Achieving the targets set by these initiatives requires massive financial support from governments, MDBs (including the EBRD), IFIs and the private sector through green loans, equity, grants, green mortgages, etc. Only renovation needs to meet the EU's 2030 climate target amount to EUR 3.5 trillion for this decade.

To date, the most complex category to address is the renovation and energy upgrade of existing multi-owner residential buildings. This kind of building stock is highly prevalent in post-Soviet economies including the EBRD EU CoOs, which saw a massive amount of this construction between the 1950s and 1980s. This building stock tends to be amongst the most energy inefficient, with low insulation characteristics and high heat leakage.

Significant challenges remain in other categories too. For example single-family homes, especially in rural areas are amongst the hardest to influence due to low density and higher unit costs for energy efficiency works. EU and national policy incentives and concessional finance are required to achieve progress towards energy efficiency and sustainability in these and other categories.