GET GREEN ECONOMY TRANSITION

European Bank
for Reconstruction and Development

IMPLEMENTING THE EBRD GREEN ECONOMY TRANSITION

Technical Guide for Consultants:
Reporting on projects performance against the Green Economy Transition Approach

A Summary of the EBRD GET manual prepared by

CLIMATE POLICY INITIATIVE

Version 2
May 2018

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1. INTRODUCTION

1.1 PURPOSE OF THE TECHNICAL GUIDE

In 2015, the EBRD adopted the Green Economy Transition (GET) approach. The objective is to increase the financing of projects that advance the transition to an environmentally sustainable, low-carbon economy, and help prevent economies from being locked into a carbon-intensive, polluting pathway that depletes natural assets.

Consultants play an important role in helping EBRD achieve its objectives. This is not only in terms of identifying and securing financing for transformational projects in economies in transition. But also, ensuring these projects follow best practice environmental and social procedures in their design, development and implementation.

As the GET approach supports a wider range of projects that promote the sustainable use of resources and protection of natural assets, consultants therefore need to be aware of the language, terms and procedures involved. These are described in the GET Handbook by EBRD and include the underlying principles, criteria and rules in accounting for green finance in preparation of an investment decision, as well as the procedures on measuring reporting and verification the green impacts achieved by the project.

This document is a reduced version of the GET Handbook providing a summary of the qualifying criteria for GET and is aimed to be a guidance for Consultants involved in EBRD projects. It explains how to assess GET finance and benefits, and details Monitoring, Reporting and Verification (MRV) aspects of the GET approach. The Handbook presents principles, criteria, and approaches to:

1. determine which projects or project components qualify for GET finance
2. undertake an ex-ante estimate of the impact for GET indicators
3. monitor, verify, and report on GET project implementation, after signing.

1.2 GREEN ECONOMY TRANSITION (GET) APPROACH

The EBRD launched the Green Economy Transition (GET) approach in 2015 to put investments that bring environmental benefits at the heart of its mandate. The GET approach aims to increase green financing to approximately 40 per cent of total EBRD financing by 2020. This is expected to correspond to GET financing of up to €18 billion over the 2016-20 period, with annual GET financing reaching over €4 billion by 2020.[1]

Increased GET financing is expected to be driven by the following factors:

- a ramp-up of existing activities, through the recognition of economies of scale effects on systemic impact
- enhanced innovation
- broadening of the environmental dimensions of investments, from projects in sustainable energy and resource (water and materials) efficiency, to all other types of projects that result in physical environmental benefits
- active use of private and public financing channels.

GET components may also include environmental activities, such as management measures, studies, and/or investments, in addition to the project.

Projects that align well with the GET approach are therefore more likely to receive positive investment decisions.

[1] For more information on the EBRD GET approach, please see www.ebrd.com/what-we-do/strategies-and-policies/green-economy.pdf

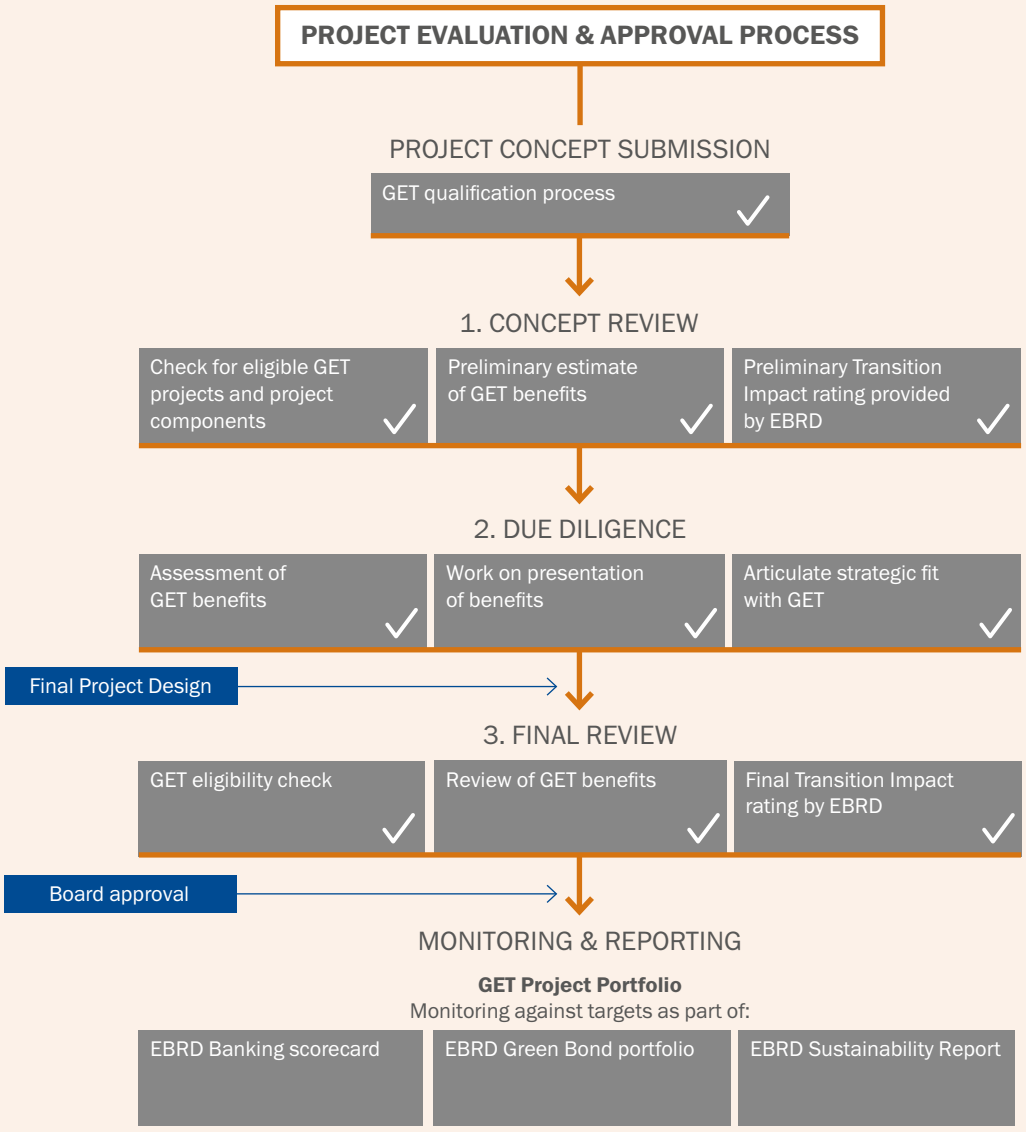
2. GET FINANCE QUALIFICATION PROCESS

The GET qualification process flow chart is shown in Figure 1, Illustrating that the qualification of projects in the GET portfolio follows a three-stage process:

1. identifying projects or project components that meet the GET principles and criteria, (Section 3) and are on the positive list of activities qualifying for GET (Annexes 2 and 3) or covered by the climate adaptation approach (Annex 4)
2. assessing the physical environmental benefits of the GET projects and project components
3. confirming the proportion of GET finance and benefits of a project, and explaining how this fits into the GET strategy, as well as examining other contributing factors and total GET benefits.

Project types that are listed in Annex 2 (Climate change mitigation[2]) and Annex 3 (Other environmental activities) are to be considered as GET eligible, subject to verification that each specific project is consistent with GET principles and criteria. The purpose of this positive-list approach is to establish practical, harmonised categories of classification for GET finance, without having to resort to long, complex analyses. Further guidance with regard to GET finance for adaptation is available in Annex 4, and guidance for specific sectors is available in Annex 5.

Figure 1: The process of GET project definition, qualification and assessment



[2] Based on the joint MDB Approach for Climate Finance Tracking, see Joint-MDB 2017

3. QUALIFYING PRINCIPLES AND CRITERIA

The EBRD has developed principles and criteria that must be met for projects to qualify for its GET approach. The Bank assesses all new projects in light of how their specific characteristics and circumstances fit with the strategic aims of GET, – specifically that they are consistent with its overarching objectives to advance the transition to a green economy, and to prevent economies from being locked into a carbon-intensive pathway.

Projects that qualify for GET meet the principles and criteria set out in Table 1, and explained below.

Table 1: Qualifying Principles and Criteria for projects through the GET approach

Principle	Criteria	
Granularity	Only clearly defined environmental project activities or components that can be disaggregated from non-environmental activities, as far as reasonably possible, qualify for GET.	✓
Environmental Benefits	Measurable net total environmental benefits against a baseline	✓
Minimum environmental performance and standards	Application of sector-specific best available techniques in EU environmental performance and social standards	✓
Multiple environmental benefits	No double counting of financing across multiple environmental benefits	✓

3.1 GRANULARITY

GET activities can consist of:

- a stand-alone project
- multiple stand-alone projects under a larger programme
- a component of a standalone project, or
- a programme financed through financial intermediaries.

Specific project components qualify for GET only when the underlying project (the non-GET part of the EBRD-financed project) does not contradict its objectives and criteria.

Where only certain project components qualify for GET, it is important to clearly identify these components in order to attribute GET finance and benefits only to them.

Only clearly defined environmental project activities, or components that can be disaggregated from non-environmental activities, as far as reasonably possible, qualify for GET.

In case such disaggregation is impossible, or component-level data is not (yet) available, GET finance may be estimated. This is done by taking a proportion of the project finance, using a more qualitative or experience-based assessment of the part of the project that results in the environmental benefits, consistent with a conservative approach[3].

3.2 ENVIRONMENTAL BENEFITS

Projects or project components that qualify for GET must result in measurable environmental benefits that are consistent with its overarching objectives. Specific components of projects can qualify for GET only when the activities (the GET and non-GET components) of the project financed by the Bank result in a net total environmental benefit, compared to the baseline scenario.

[3] Where data is unavailable, any uncertainty must be overcome taking a conservative approach, where under reported rather than over reported GET finance is preferable.

3.3 MINIMUM ENVIRONMENTAL PERFORMANCE AND STANDARDS

Projects must be structured to meet environmental and social performance standards as outlined in the Bank's Environmental and Social Policy (ESP) (EBRD 2017b) and Performance Requirements (PRs).[4]

The ESP and PRs include a requirement to structure projects to meet EU environmental standards, including EU Best Available Techniques (BAT), as defined in the EU Industrial Emissions Directive (IED). The applicable environmental performance criteria and standards are described in detail in the Best Available Techniques Reference documents (BREFs) for specific industrial sectors (EU JRC 2017).[5] Information about the BREF process that leads to the adoption of BAT conclusions and the implementation of the IED can be found on the European Integrated Pollution Prevention (EIPPC) Bureau's website.[6]

Determination of the appropriate environmental standards that can be achieved will also take into consideration the characteristics of the facilities and operations that are part of the project. In addition, it will consider the project's geographical location and local environmental conditions.

The techniques applied to the project will favour the prevention or avoidance of impacts, over minimisation and reduction. It should be taken into consideration that EU environmental requirements include specific time periods for transposition and implementation, which often are different for new and existing installations. Additional country-specific transition periods and derogations have been agreed upon as part of the EU Accession process, and these time periods must be applied to projects.

It is also important to note that when the environmental regulations or standards of the host country are more stringent than the EU BAT, the projects will be expected to meet the more stringent standards.

Some flexibility in terms of achieving EU standards may be allowed for public sector projects and for those implemented through financial intermediaries. Specifically, this may apply to Municipal Environmental Infrastructure (MEI) projects that result in material environmental benefits, but that cannot be structured to achieve full compliance with EU environmental standards due to limited financial resources and affordability constraints.

For projects in sectors for which no EU BAT, or other environmental standards, have been defined, other relevant, internationally recognised standards of environmental performance will be identified and used as the reference for good international industry practice. These standards include, among others, the environmental guidelines and standards of the World Bank Group and the World Business Council for Sustainable Development.

Projects in sectors for which no internationally recognised reference standards can be identified must result in an environmental improvement of at least 15 per cent,[7] compared with the baseline scenario.

[4] Please find EBRD Environmental and Social Policy at www.ebrd.com/environmental-and-social-policy.html
[5] Please find the BAT Reference documents under the Industrial Emissions Directive (IED) at eippcb.jrc.ec.europa.eu/reference/
[6] European Integrated Pollution Prevention Bureau: eippcb.jrc.ec.europa.eu/index.html
[7] Dependent on the type of project and subject to sector-specific benchmarking.

3.4 ADDRESSING MULTIPLE ENVIRONMENTAL BENEFITS

GET projects can have single or multiple types of environmental benefits. In case the same project, sub-project, or project element contributes to mitigation, adaptation, and/or other environmental benefits at the same time, care should be taken so that all environmental benefits are captured.

However, the GET finance elements must not be counted more than once and financing that is towards non-green components of the project must not be counted.

The GET assessment is based on the primary environmental benefit, while also recognising other types of environmental benefits as seen in the example below.

Example on how to account for multiple environmental benefits in the GET approach:

The EBRD is financing a €10 million water-supply rehabilitation project in a water-stressed region. The investment plan consists of four components, with three of these having GET impacts across climate mitigation, climate adaptation, and water efficiency (GET finance elements).

Table 2: Example on how to account for multiple environmental benefits in the GET approach

Investment components	EBRD investment (€ million)	GET finance elements (€ million)			Total GET finance (double-counted)	Total GET finance (non-double counted)
		Climate change mitigation	Climate change adaptation	Water efficiency		
1 Replacement of leaking water pipeline	5	0	5	5	10	5
2 Replacement of energy-inefficient pumps	2	2	0	0	2	2
3 New office building for water board administration	2	0	0	0	0	0
4 Public awareness campaign on water and energy consumption	1	1	1	1	3	1
Total Financing	**10**	**3**	**6**	**6**	✗ **15**	✓ **8**

In accordance with the table above, GET finance is calculated as €8 million after all GET finance elements are accounted for and double-counting removed.

4. ELIGIBLE PROJECT CATEGORIES

The Board-approved GET approach explicitly recognises several categories of potential projects. These categories address key global or local environmental concerns, and provide physical environmental benefits. The three main categories for environmental benefits of GET projects and project component activities are:

1. climate change mitigation (reduction of greenhouse gas emissions)
2. climate change adaptation (enhancement of climate change resilience)
3. other environmental benefits (including improved resource efficiency, reduced local pollution, improved resilience, and restoration of ecosystems).

4.1 CLIMATE CHANGE MITIGATION

An activity is considered to mitigate climate change if it contributes to 1) reducing GHG emissions into the atmosphere, or 2) sequesters GHG emissions from the atmosphere. The main categories are:

- renewable energy
- lower-carbon and efficient energy generation
- energy efficiency
- agriculture, forestry, and land use
- non-energy GHG reductions
- waste and wastewater
- transport
- low-carbon technologies
- cross-cutting issues
- miscellaneous.

Project activities are considered to qualify as climate change mitigation if they are consistent with the MDB-IDFC Common Principles for Climate Finance Tracking and the MDB approach for climate finance tracking, (Joint MDB 2017) and are included in the positive list of climate change mitigation activities (see Annex 2).[8]

4.2 CLIMATE CHANGE ADAPTATION

An activity is considered to qualify as climate change adaptation if its intention is to reduce the vulnerability of human or natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience.

Project activities that fulfil the following three design-process criteria, in line with the MDB approach for climate finance tracking, can be considered as climate change adaptation if they:

1. set out a context of climate vulnerability (climate data, exposure, and sensitivity), considering both the impacts of climate change as well as the risks related to climate variability
2. include a statement of purpose or intent to address or improve climate resilience, differentiating between adaptation to current and future climate change and normal good practice
3. are linked to the context of climate vulnerability (such as socio-economic conditions and location), and contribute directly to climate resilience.

Because climate change adaptation activities are context and location specific, in accordance with the Joint-MDB report (Joint MDB 2017), a process-based approach is applied. The specifics of this approach are presented in Annex 4.[9]

[8] The latest version of the MDB-IDFC Common Principles for Climate Finance Tracking is available in the 2016 Joint-MDB report on MDB Climate finance. Available at: www.ebrd.com/2016-joint-report-on-mdbs-climate-finance.pdf
[9] Ibid.

4.3 OTHER ENVIRONMENTAL BENEFITS

An activity is considered to have other environmental benefits if it results in a materially positive environmental outcome that is not primarily climate change mitigation or climate change adaptation. Project outcomes may include:

- sustainable and efficient water use and wastewater management
- sustainable and efficient use of materials and resources, including waste management, recovery, and recycling and re-use
- pollution prevention and control affecting air quality, surface water, soil, and groundwater
- projects that increase the resilience of, reduce the degradation of, or restore ecosystems
- development of new environmental technologies, environmental policy, and management
- sustainable transport that reduces impacts connected to the movement of goods and people, and reduces emissions of local air pollutants
- production of environmental goods, and provision of environmental services.

Annex 3 presents a positive list of project types that may qualify for GET under the category of 'other environmental benefits'. Annex 5 specifies some of these project types in more detail.

4.4 SPECIFIC EXCLUSIONS

Projects with significant adverse environmental and social impacts and risks are not eligible for GET. Therefore, the activities listed below are excluded from GET financing:

- project components of greenfield, or capacity-increasing projects consisting of:
  - environmental protection measures required under applicable national law and regulations
  - measures to mitigate or offset biodiversity impacts to achieve no net loss of biodiversity
- greenfield projects involving coal and oil extraction, although specific components may be considered as GET[10]
- greenfield construction, or lifetime extension of large-scale industrial installations (as per EU IED BREF documents), involving technologies that either increase the use of coal or fuel oil, or lock the installation into the use of coal or fuel oil.

Projects that are likely to be associated with these excluded activities will be discussed at the EBRD in order to evaluate them for their strategic fit with GET.

[10] Activities dedicated to reducing gas flaring reduction and APG utilisation activities qualify based on the MDB list, provided that gas flaring is not prohibited by national law.

5. ASSESSMENT OF PHYSICAL ENVIRONMENTAL BENEFITS

For each activity that qualifies for GET, the physical environmental benefits will be estimated. These are ex-ante estimates that are determined during the development phase of the project. In the ex-ante estimation of GET impacts, the following aspects are of particular relevance:

- establishing a project or activity boundary
- setting a baseline
- defining a representative year (or years) for the expected annualised impact from activity data
- defining the sources of project-related environmental benefits and adverse impacts.

For the estimation of GHG impacts in particular, the EBRD Protocol for Assessment of Greenhouse Gas Emissions should be applied (see Annex 6).

5.1 BOUNDARIES

Boundaries for impact calculations should be used according to the following principles:

- Project impacts are calculated on the basis of use of energy, water, and materials at the point of project intervention and investment. For example, the installation boundaries (such as a facility or a building), or component boundaries (such as process equipment, like a boiler). For facilities that comprise multiple, independent processes, the boundary can be defined at this sub-process level, if the sub-process does not affect other sub-processes and has measurable inputs and outputs.
- Where the project appraisal quantifies the impact of the investment outside the project boundary (such as the broader market or on the electricity grid or distribution system), those impacts must be factored into the calculation of project impacts.
- Baseline scenarios and calculations can have boundaries that are installation/component-based or system-based and component-based (such as the electricity grid or distribution system).

Boundaries of a project will be defined based on the EBRD's due diligence in line with the Environmental and Social Policy. For projects that fall under the IED, the EU definition of installation will be used to define the project boundaries.

5.2 BASELINE

The baseline should be both realistic and viable, and consider the expected lifetime of the project. For example, equipment that is evidently operationally unviable (for instance, it is at the end of equipment life, no longer permitted by national law, or otherwise expected to cease operating) does not constitute an acceptable baseline.

However, for some projects the realistic baseline would be a do-nothing scenario that would result in adverse environmental impacts, such as a reverse shift to higher-carbon alternatives.

For projects where the pre-investment and post-investment production levels are broadly equivalent, the performance of the pre-investment facility prior to the investment can represent the baseline, but only until the end of the expected lifetime of the pre-investment facility.

For projects where the investment is expected to increase production, for the additional output that is related to increased capacity and/or extended operation, the baseline is based on a benchmark for the environmental performance standards of existing production, regulatory requirements or, in some cases, for efficient new technologies or techniques (BAT).

5.3 REPRESENTATIVE YEAR AND ACTIVITY DATA

Impacts, such as CO_2 emissions, water, materials and energy consumption, and renewable energy production, are calculated on an annual basis for a representative year at the expected average output of the post-investment facility. In some cases, it is not possible to point out a single representative year, for example, when the baseline varies over the project lifetime. In that case, more representative years may be chosen, each with its own baseline, and a weighted average needs to be applied to ensure that comparable activity and production levels are taken into account.

For production processes, activity data are expressed as the volume or mass of fuels or products. Examples include tonnes of steel production, cubic metres (m^3) of clean water production, and MWh of electricity production.

For transport projects, activity data are expressed as the product tonnes of goods, or the number of passengers and distance (that is, tonne/km and passenger/km).

For services, project-specific activity data may be defined, such as the number of households.

5.4 PERFORMANCE INDICATORS

Performance indicators can be used to compare the GET performance of different projects. These are defined as the value of impact per unit of product or output. The indicators also enable the assessment of GET impacts against external benchmarks.

Table 3: GET impact indicators and baselines

GET topic	Impact indicator	Unit	Baseline	Performance indicator	Activity data
GHG reduction	Annual CO_2e reduction	tonnes/ year	Annual CO_2 emissions according to baseline scenario, see Annex 6	CO_2 emissions per activity data	Units of production (including tonnes, MWh, passenger/ km, tonne/km)
Water efficiency	Annual water savings	m^3/year	Annual water use according to baseline scenario	Water use per activity data	Units of production (including number of households, tonnes, MWh)
Energy efficiency	Annual primary energy savings	GJ/year or toe/year	Annual energy use according to baseline scenario	Primary energy use per activity data	Units of production (including tonnes, MWh, passenger/ km, tonne/km)
Materials efficiency	Annual materials savings or waste minimised	tonnes/ year, specified by type of material or waste	Annual materials used or waste produced according to baseline scenario	Materials used or waste produced	Units of production (including number of households tonnes, MWh)
Renewable energy capacity installed	Capacity (peak)	MW	Zero for new or additional capacity	Not applicable	Not applicable
Renewable energy produced	Annual renewable energy production	MWh/ year	Zero for new or additional capacity	Not applicable	Not applicable
Drinking water	Annual volume of clean and good-quality water (EU- or WHO-compliant) and/or number of people benefiting	m^3/year number of people connected			
Wastewater	Volume of wastewater treated (effluent quality EU-compliant) and/or wastewater avoided or reduced	m^3/year			

GET topic	Impact indicator	Unit	Baseline	Performance indicator	Activity data
Solid waste	Annual amount of waste recovered, utilised, recycled and/or disposed of appropriately (EU-compliant disposal facility)	tonnes/ year			
Air emissions/ pollution	Annual air emission reduction of particulate matter (PM), sulphur dioxide (SO_2), nitrogen oxides (NOx) and volatile organic compounds (VOC)	tonnes/ year	Annual air emissions according to baseline scenario (calculated or measured)	Annual air emissions (calculated or measured)	
Ecosystems	Size of the ecosystem area restored or having improved resilience or reduced degradation	hectare or m^2	Zero		

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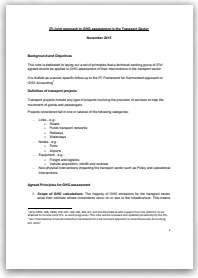

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ANNEX 1: ABBREVIATIONS, ACRONYMS AND DEFINITIONS

Item	Guidance
ABI	Annual Bank Investment. Volume of commitments made by the Bank during the year including (1) new commitments (less any amount cancelled or syndicated within the year) (2) restructured commitments and (3) amounts issued under the Trade Finance Programme (TFP) during the year and outstanding at year-end.
Activity	An activity is a project or project component. It can relate to technologies, processes, services, market-based financing instruments, capacity-building and policy dialogue. Sub-projects financed through financial intermediaries are also included.
BAT	BAT or 'best available techniques' means the most effective and advanced stage in the development of activities and their methods of operation. It indicates the practical suitability of particular techniques for providing the basis for emission-limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and their impact on the environment as a whole: 'techniques' includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned. 'available techniques' means those developed on a scale that allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the European Union Member State in question, as long as they are reasonably accessible to the operator 'best' means most effective in achieving a high general level of protection for the environment as a whole.
BREF	BAT reference document. Thirty-two BREFs are available as of April 2017, and cover specific sectors that fall under Annex I to the Industrial Emissions Directive (IED). The documents are available on the website of the IPPC Bureau: eippcb.jrc.ec.europa.eu/reference/
Brownfield project	Brownfield projects may refer to: modernisation, upgrading, improvement or rehabilitation of existing installations, plants, buildings and other facilities, or new installations and so on that directly replace existing installations.
Climate change adaptation activity	An activity with the purpose or intention of improving climate resilience, through adjusting a system in response to climatic stimuli.
Climate change mitigation activity	An activity that promotes the reduction or limitation of greenhouse gas (GHG) emissions, or promotes GHG sequestration.
Climate resilience	The ability of a system to cope and retain functionality in the face of increasing climatic variability and climate change.
Climate vulnerability	The degree to which a system is susceptible to, or unable to cope with, adverse effect of climate change, including changes in climatic variability and extremes.
Commitment	A legally binding obligation for the EBRD to invest a defined sum of money in a loan or equity investments, or to provide a guarantee, within a specified period of time and subject to agreed conditions, as approved by the Board and signed with the client.
Conservativeness principle	Where data is unavailable, uncertainty is to be overcome following a conservative approach where it is preferable that GET finance be underestimated rather than overestimated.
CRB	Climate Resilience Benefit, or an estimate of the value that is generated by making a project more resilient to the impacts of climate change
tCO_2e	Greenhouse gas expressed as tonnes of carbon dioxide equivalent. For the calculation of carbon dioxide equivalents for non-CO_2 gases the UNFCCC list of global warming potentials is used, using the 100-year time horizon. (UNFCCC 2017)
ESP	EBRD Environmental and Social Policy.
Ex-ante	Before signing (of the loan, guarantee, equity, and so on).
Ex-post	After project implementation.

Item	Guidance
FI	Financial Intermediaries
GEFF	Green Economy Financing Facility (formerly SEFF) – EBRD financing facility that targets investment opportunities in energy efficiency, small-scale renewable energy, technologies, and services.
GET	Green Economy Transition.
GET data	Ex-ante data for GET finance and the prognosis for annual impacts including GHG reductions, energy savings, water reduction, and so on.
GHG emissions	Greenhouse gas emissions.
Granularity	Green activities disaggregated from non-green activities through a reasonable level of data granularity, by dissecting projects into their main components. GET Finance includes only those project components (and/or sub components to the extent that data is available) which are included in the positive list of climate mitigation (Annex 2), other environmental activities (Annex 3) or covered by the climate adaptation approach (Annex 4).
Greenfield project	Greenfield projects refer to the development of new installations, plants, buildings and other facilities, not to directly replacing existing ones.
Gross GHG emissions	GHG emissions that a project is expected to produce for a representative year once it is complete and operating at full capacity.
ICOLD	International Commission on Large Dams (www.icold-cigb.net/)
IDFC	International Development Finance Club (www.idfc.org)
Installation	Stationary technical unit where one or more activities listed in Annex I to the Industrial Emissions Directive (IED) are carried out, and any other directly associated activities that have a technical connection with the activities carried out on that site and that could have an effect on emissions and pollution.
ISO 14001	International Organization for Standardization Environmental Management Standard.
ISO 50001	International Organization for Standardization Energy Management Standard.
Lock-in effect	Activities that prevent the rapid transition to a low carbon economy.
MDBs	Multilateral Development Banks, including the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank (IDB), the World Bank (WB), and the International Finance Corporation (IFC).
MRV	Monitoring, reporting, and verification. Refers to the MRV of GHG emissions, energy and water use, as well as the related reductions and savings.
Net GHG emissions	Estimated GHG emissions against a baseline, also referred to as 'GHG impact'.
Operation	A specific agreement to invest in a clearly defined project or an investee.
Other environmental activity	Activity that results in a materially positive environmental outcome that is primarily not climate change mitigation or climate change adaptation.
PEFC	Programme for Endorsement of Forest Certification. (www.pefc.org)
Primary energy	Energy that exists in a naturally occurring form, such as coal, natural gas, or hydropower potential, before being converted into an end-use form such as heat and electricity. Expressed in GJ or toe.
TPV	Total Project Value. The total amount of funding required to finance the project. This includes finance provided by the Bank, participants, external parties and the sponsor or client in relation to that specific project.
Transition Impact Rating	Transition impact is one of three key principles governing the EBRD's project activities, together with sound banking and additionality. The transition impact of every project is assessed as part of the process of choosing, preparing and appraising projects. (www.ebrd.com/what-we-do/economic-research-and-data/transition-impact.html)
Transport modal change	Shift from high to low carbon intensive modes of transport.

ANNEX 2: POSITIVE LIST OF CLIMATE CHANGE MITIGATION ACTIVITIES

Category	Sub-category	Mitigation activity
1. Renewable Energy	1.1 Electricity generation	Wind power
		Geothermal power (only if net emission reductions can be demonstrated)
		Solar power (concentrated solar power, photovoltaic power)
		Biomass or biogas power (only if result in net emission reductions, taking into account production, processing and transportation)
		Ocean power (wave, tidal, ocean currents, salt gradient, etc.)
		Hydropower plants (only if net emission reductions can be demonstrated[11])
		Renewable energy power plant retrofits
	1.2 Heat production or other renewable energy application	Solar water heating and other thermal applications of solar power in all sectors
		Thermal applications of geothermal power in all sectors
		Wind-driven pumping systems or similar applications
		Thermal applications of sustainably produced bioenergy in all sectors
	1.3 Measures to facilitate integration of renewable energy into grids	New, expanded, and improved transmission systems (lines, substations)
		Storage systems (battery, mechanical, pumped storage) that facilitate integration of renewables, or increase renewable energy
		New information and communication technology, smart-grid and mini-grid
2. Lower-Carbon and Efficient Energy Generation	2.1 Transmission and distribution systems	Retrofit of transmission lines or substations and/or distribution systems to reduce energy use and/or technical losses including improving grid stability/reliability (In case of capacity expansion, only the portion of the investment that is reducing existing losses is included)[12]
	2.2 Power plants	Thermal power plant retrofit to fuel switch from a more GHG-intensive fuel to a different and less GHG-intensive fuel type[13]
		Conversion of existing fossil-fuel based power plant to co-generation[14] technologies that generate electricity in addition to providing heating/cooling
		Energy efficiency improvement in existing thermal power plant
3. Energy Efficiency[15]	3.1 Energy efficiency in industry in existing facilities	Industrial energy efficiency improvements though the installation of more efficient equipment, changes in processes, reduction of heat losses and/or increased waste heat recovery and/or resource efficiency
		Installation of co-generation plants that generate electricity in addition to providing heating/cooling
		More efficient facility replacement of an older facility (old facility retired) with a more efficient one
	3.2 Energy efficiency improvements in existing commercial, public and residential buildings	Energy efficiency improvement in lighting, appliances, and equipment
		Substitution of existing heating/cooling systems for buildings by cogeneration plants that generate electricity in addition to providing heating/cooling[16]
		Retrofit of existing buildings: architectural or building changes that enable reduction of energy consumption

[11] See Annex 5.8 for further guidance.
[12] In case of capacity expansion, only the part that is reducing existing losses is included.
[13] Excluding replacement of coal by coal.
[14] In all cogeneration projects it is required that energy efficiency is substantially higher than separate production of electricity and heat.
[15] The general principle for brownfield energy efficiency activities involving the substitution of technologies or processes is that: (i) the old technologies are substituted well before the end of their lifetime and the new technologies are substantially more efficient; or (ii) new technologies or processes are substantially more efficient than those normally used in greenfield projects.
[16] ibid

Category	Sub-category	Mitigation activity
3. Energy Efficiency[15] *(continued)*	3.3 Energy efficiency improvements in the utility sector and public services	Energy efficiency improvements in utilities and public services through the installation of more efficient lighting or equipment
		Rehabilitation of district heating and cooling systems
		Utility heat loss reduction and/or increased waste heat recovery
		Improvement in utility scale energy efficiency through efficient energy use, and loss reduction, or resource efficiency improvements
	3.4 Vehicle fleet energy efficiency	Existing vehicles, rail or boat fleet retrofit or replacement (including the use of lower-carbon fuels, electric or hydrogen technologies, etc.)
	3.5 Energy efficiency in new commercial, public, and residential buildings	Use of highly efficient architectural designs, energy efficient appliances and equipment, and building techniques that reduce building energy consumption, exceeding available standards and complying with high energy efficiency certification or rating schemes
	3.6 Energy audits	Energy audits to energy end-users, including industries, buildings, and transport systems
4. Agriculture, Forestry and Land-use	4.1 Agriculture	Reduction in energy use in traction (e.g. efficient tillage), irrigation, and other agricultural processes
		Agricultural projects that improve existing carbon pools, such as rangeland management, collection and use of bagasse, rice husks, or other agricultural waste, reduced tillage techniques that increase carbon contents of soil, rehabilitation of degraded lands, peatland restoration, etc.
		Reduction of non-CO_2 GHG emissions from agricultural practices and technologies (e.g. paddy rice production, reduction in fertiliser use)
	4.2 Afforestation and reforestation, and biosphere conservation	Afforestation (plantations) and agroforestry on non-forested land
		Reforestation on previously forested land
		Sustainable forest management activities that increase carbon stocks or reduce the impact of forestry activities
		Biosphere conservation and restoration projects (including payments for ecosystem services) seeking to reduce emissions from the deforestation or degradation of ecosystems
	4.3 Livestock	Livestock projects that reduce methane or other GHG emissions (e.g. manure management with biodigesters, and improved feeding practices to reduce methane emissions)
	4.4 Biofuels	Production of biofuels, including biodiesel and bioethanol (only if net emission reductions can be demonstrated)[17]
5. Non-energy GHG Reductions	5.1 Fugitive emissions	Reduction of gas flaring or methane fugitive emissions in the oil and gas industry
		Coal mine methane capture
	5.2 Carbon capture and storage	Projects for carbon capture and storage technology that prevent release of large quantities of CO_2 into the atmosphere from fossil fuel use in power generation, and process emissions in other industries
	5.3 Air conditioning and refrigeration	Retrofit of existing industrial, commercial and residential infrastructure to switch to cooling agent with lower global warming potential
	5.4 Industrial processes	Reduction in GHG emissions resulting from industrial process improvements and cleaner production (e.g. cement, chemical), excluding carbon capture and storage

[17] Currently the EBRD only considers second-generation biofuels to have the potential to qualify for GET.

Annex 2

POSITIVE LIST OF CLIMATE CHANGE MITIGATION ACTIVITIES

Category	Sub-category	Mitigation activity
6. Waste and Wastewater	6.1 Wastewater	Portion of treatment of wastewater that reduces methane emissions (only if net GHG emission reductions can be demonstrated and if not a compliance requirement to meet e.g. a performance standard or safeguard requirement)
	6.2 Solid waste management	Waste management projects that capture or combust methane emissions
		Waste to energy projects[18]
		Waste collection, recycling and management projects that recover or reuse materials and waste as inputs into new products or as a resource (only if net emission reductions can be demonstrated)
7. Transport	7.1 Urban transport modal change	Urban mass transit
		Non-motorised transport (bicycles and pedestrian mobility)
	7.2 Transport oriented urban development	Integration of transport and urban development planning (dense development, multiple land-use, walking communities, transit connectivity, etc.), leading to a reduction in the use of passenger cars
		Transport and travel demand management measures dedicated to reduce pollutant emissions including GHG emissions (e.g. high-occupancy vehicle lanes, congestion charging/road pricing, parking management, restriction or auctioning of license plates, car-free city areas, low-emission zones)[19]
	7.3 Inter-urban transport	Railway transport ensuring a modal shift of freight and/or passenger transport from road to rail (improvement of existing lines or construction of new lines)
		Waterways transport ensuring a modal shift of freight and/or passenger transport from road or air to waterways (improvement of existing infrastructure or construction of new infrastructure)
	7.4 Infrastructure for low carbon transport	Charging stations and other infrastructure for electric vehicles, hydrogen or dedicated biofuel fuelling
8. Low-carbon Technologies	8.1 Products or equipment	Projects producing components, equipment or infrastructure dedicated for the renewable and energy efficiency sectors, or low-carbon technologies
	8.2 Research and development	Research and development of renewable energy, energy efficiency technologies or low-carbon technologies
9. Cross-cutting Issues	9.1 Support to national, regional, or local policy, through technical assistance or policy lending	National, sectoral or territorial policies/planning/action plan/planning/ institutions dedicated to mitigation such as NDCs, NAMAs and plans for scaling up renewable energy
		Energy sector policies and regulations leading to climate change mitigation or mainstreaming of climate action such as energy efficiency standards or certification schemes; energy efficiency procurement schemes; renewable energy policies, power market reform to enable renewable energy
		Systems for monitoring the emissions of greenhouse gases
		Efficient pricing of fuels and electricity, such as subsidy rationalisation, efficient end-user tariffs, and efficient regulations on electricity generation, transmission, or distribution, and on carbon pricing
		Education, training, capacity-building and awareness-raising on climate change mitigation or sustainable energy or sustainable transport; mitigation research
		Other policy and regulatory activities, including those in non-energy sectors, leading to climate change mitigation or mainstreaming of climate action such as fiscal incentives for low carbon vehicles, sustainable afforestation standards

[18] Making sure that the project is in line with the EU waste hierarchy.
[19] General traffic management is not included. This category is for demand management to reduce GHG emissions, assessed on a case-by-case basis.

Category	Sub-category	Mitigation activity
9. Cross-cutting Issues *(continued)*	9.2 Carbon finance	Carbon markets and finance (purchase, sale, trading, financing and other technical assistance). Includes all activities related to compliance-grade carbon assets and mechanisms
	9.3 Supply chain	Measures in existing supply chains dedicated to improvements in energy efficiency or resource efficiency upstream or downstream, leading to an overall reduction in GHG emissions
10. Miscellaneous	10.1 Other activities with net greenhouse gas reduction	Any other activity, if agreed by MDBs, may be added to the Joint Typology of Mitigation Activities when the results of ex-ante GHG accounting (undertaken according to commonly agreed methodologies) show emission reductions that are higher than a commonly agreed threshold, and are consistent with a pathway towards low greenhouse gas emissions development.

ANNEX 3: POSITIVE LIST OF OTHER ENVIRONMENTAL ACTIVITIES

Category	Environmental activity	Criteria and comments
1. Sustainable and efficient water use and wastewater management	1.1 Improvement of water supply and demand efficiencies, including leak-prevention, water supply from alternative and sustainable water sources, and performance optimisation	To qualify as GET the project will be expected to demonstrate a quantifiable reduction in water use compared with the pre-project baseline
	1.2 Improvement of drinking-water quality	Projects should introduce EU standards in areas where they were not previously being met
	1.3 Increased access to piped water supply	Projects should lead to the creation or expansion of the water supply network and an increase in the number of people connected to it
	1.4 Improvement of wastewater quality, including wastewater treatment and the efficiency of the wastewater collection network	Projects should introduce EU standards in areas where they were not previously being met
	1.5 Optimisation of water use in the agricultural sector, including water-efficient irrigation	To qualify as GET the project will be expected to demonstrate a quantifiable reduction in water use compared with the pre-project baseline
2. Sustainable and efficient use of materials and resources	2.1 Sustainable waste management, including waste minimisation, recovery, recycling and re-use	Projects should introduce EU standards in areas where they were not previously being met
	2.2 Sustainable supply-chain management activities that reduce environmental footprint, including 'circular economy' concepts	To qualify as GET the project will be expected to demonstrate a quantifiable reduction in resource or energy use compared with the pre-project baseline
3. Pollution prevention and control	3.1 Clean transportation, including green/SMART systems	Project should result in a modal shift from a more polluting alternative compared with a viable baseline scenario. Projects that improve local air quality will qualify as GET, for example, bus projects that lower the use of diesel and reduce particulate emissions
	3.2 Air pollution management	For brownfield sites, introduction of additional air-pollution management will qualify as GET. The EU standard will normally be the benchmark. Greenfield projects will not normally qualify as GET under this category unless they go substantially beyond normal good practice standards for that industry.
	3.3 Industrial pollution prevention and control	As above – greenfield projects will not normally qualify as GET under this category unless they go substantially beyond good practice standards for that industry.
	3.4 Manufacturing of green products	To qualify as GET, products must be innovative or have clear environmental benefits over equivalent products readily available in that market
	3.5 Environmental remediation, including: • regeneration of contaminated sites, and disused brown field sites • rehabilitation and tailings management for abandoned mines • soil remediation	To qualify as GET, remediation must be associated with clear environmental benefits that result directly from the use of EBRD funds. Such benefits may include the removal or isolation of contaminants, or reduction in long-term risks to human health. Projects should normally be benchmarked to a recognised good-practice guideline or standard (such as the Dutch Target and Intervention Values, 2000)

Category	Environmental activity	Criteria and comments
4. Projects that increase the resilience of ecosystems or avoid or reduce the degradation of ecosystems	4.1 Sustainable land use (including sustainable forestry, agriculture and farming inputs)	To qualify as GET, the project will be expected to demonstrate a quantifiable reduction in fertiliser, energy, or other resource-use compared with the pre-project baseline. Greenfield projects will qualify as GET if they introduce innovative methods or go substantially beyond legal requirements and normal good practice standards for the sector in that country. Where possible, the project should be benchmarked to a recognised good practice guideline or standard (such as the FSC for forestry).
	4.2 Protection or improvement of ecosystems	To qualify as GET, projects need to demonstrate additionality. Offsets or mitigation measures that address negative impacts of a project will not qualify as GET unless they go substantially beyond legal requirements and normal good practice standards for the sector in that country.
	4.3 Projects aiming to reverse the ongoing: • depletion of natural assets • decline of natural capital and degradation of ecosystems to ensure that ecosystem goods and services can sustain future economic growth • worsening land degradation driven by soil erosion, salination and nutrient depletion • depleted fish stocks.	To qualify as GET, projects need to demonstrate additionality. Offsets or mitigation measures that address negative impacts of a project will not qualify as GET unless they go substantially beyond legal requirements and normal good practice standards for the sector in that country.
5. Environmental technology development, environmental policy and management	5.1 Sustainable action plans, including green cities and green infrastructure	Components or sub-projects will be subject to the same criteria as other categories in this table.
	5.2 Activities supporting environmental technology transfer to countries with low technology penetration	To qualify as GET, products must be innovative or have clear environmental benefits over equivalent products readily available in that market
	5.3 Local environmental technology development	To qualify as GET, products must be innovative or have clear environmental benefits over equivalent products readily available in that market
	5.4 Environmental services and environmental management systems	To qualify as GET, activities must be associated with clear environmental benefits that result directly from the use of EBRD funds.
	5.5 Project preparation studies and design activities	To qualify as GET, the activities must be related to GET eligible investments.

ANNEX 4: APPROACH TO CLIMATE CHANGE ADAPTATION ACTIVITIES

ANNEX 4.1 GET CLIMATE CHANGE ADAPTATION FINANCE TRACKING

BACKGROUND AND GUIDING PRINCIPLES

Adaptation finance is calculated using the joint MDB adaptation finance tracking approach. This applies a context-specific, location-specific and granular approach that is intended to identify specific adaptation activities within projects. This conservative approach reduces the scope for over-reporting of adaptation finance to establish the differentiating elements of development operations carried out in response to perceived or expected climate change impacts.

In line with the MDB-IDFC common principles and the overall MDB climate finance tracking methodology, this granular approach considers the 'sub-project' or 'project element' level as appropriate. It also establishes a clear process to draw the links between activities considered as adaptation and their explicit intent to address climate change vulnerability. In this way, adaptation finance captures the volume of project finance associated with specific project activities as described in the project document which contribute to overall project outcomes in the process to adapt to climate change. Project activities may not always be tracked in quantitative terms if they do not have associated incremental costs, for example some operational procedures to ensure business continuity or the practice to site assets outside of a future storm surge range.

APPLICATION OF THE ADAPTATION FINANCE TRACKING METHODOLOGY

This methodology is applied through the following key steps:

1. Set out the climate vulnerability context of the project
2. Make an explicit statement of intent to address climate vulnerability
3. Articulate a clear and direct link between the climate vulnerability context and the specific project activities
4. Estimate GET adaptation finance in line with the above analysis

STEP 1: SET OUT THE CONTEXT OF VULNERABILITY TO CLIMATE CHANGE

Adaptation finance may be identified in projects that clearly set out the context of climate vulnerability using a robust evidence base. Project documents may refer to existing analysis and reports or to original, bespoke climate vulnerability assessments such as those carried out as part of project preparation.

Good practice in the use of existing analyses or reports includes citing authoritative, preferably peer-reviewed sources such as academic journals, national communications to the UNFCCC, Nationally-Determined Contributions (NDCs), reports of the Intergovernmental Panel on Climate Change (IPCC), or Strategic Programmes for Climate Resilience (SPCRs).

Good practice in conducting original, bespoke analysis entails use of records from trusted sources which documents vulnerability of communities or ecosystems to climate change, as well as use of recent climate trends including any departures from historic means. These may be combined with climate change projections drawn from a wide range of climate change models, with high and low greenhouse gas (GHG) emissions scenarios, to explore the full array of projected outcomes and uncertainties. Climate projection uncertainties should be presented and interpreted in a transparent way. The timescale of the projected climate change impacts should match the intended lifespan of the assets, systems or institutions being financed through the project (for example, time horizon of 2030, 2050, 2080, and so on). Detailed guidance on these points can be found in the EUFIWACC Guidance Note[20].

[20] Integrating Climate Change Information and Adaptation in Project Development: European Financing Institutions Working Group on Adaptation to Climate Change (EUFIWACC), 2016. Available at: http://www.ebrd.com/cs/Satellite?c=Content&cid=1395250899650&d=&pagename=EBRD%2FContent%2FDownloadDocument

STEP 2: MAKE AN EXPLICIT STATEMENT OF PURPOSE OR INTENT

The project should set out the explicit intention to address the context- and location-specific climate change vulnerabilities in response to the project's climate vulnerability assessment. An explicit objective to reduce climate vulnerability is important to distinguish between a development project contributing to climate change adaptation and a standard development project.

The methodology is flexible on the location and form of this statement of intent in the document, as long as the rationale for each adaptation element linked to the described climate vulnerability context can be recorded and tracked. Climate change adaptation projects customarily state the intention to reduce vulnerability in the final technical document, documents for Board approval, internal memos or other associated project document.

STEP 3: ARTICULATE A CLEAR LINK BETWEEN STATED CLIMATE VULNERABILITY AND PROJECT FINANCE

In line with the principles of the overall MDB climate finance tracking methodology, the estimation of GET adaptation finance is based on finance allocated for specific project activities that are clearly linked to the project's climate vulnerability context. GET adaptation finance tracking reflects project elements that address climate risks and vulnerabilities.

STEP 4: ESTIMATE GET ADAPTATION FINANCE

If the previous three steps have been properly applied, GET adaptation finance may then be estimated, taking into account the climate resilience outcomes of the project (see Annex 4.2). If the project's climate resilience outcomes are substantial[21], then GET adaptation finance may be estimated based on a proportional basis as follows:

- One climate resilience physical outcome: 20% GET adaptation finance
- Two climate resilience physical outcomes: 40% GET adaptation finance
- Three or more climate resilience physical outcomes: 50% GET adaptation finance

If a project's climate resilience benefits are not substantial, then GET adaptation finance may only be calculated based on the incremental CAPEX allocated for specific project components that address the project's context of climate vulnerability.

Stand-alone climate resilience projects, in which the sole purpose of the project is to address a specific climate risk or risks, or water sector investments that deliver significant water savings of at least 15% against baseline, may be counted as up to 100% GET adaptation finance as long as the above four steps have been fully applied.

[21] For a project's climate resilience outcome to be deemed to be substantial, the Climate Resilience Benefit Ratio (see Annex 4.2) must be no less than 1%

ANNEX 4.2 GET CLIMATE RESILIENCE RESULTS REPORTING

PRINCIPLES

In addition to reporting GET adaptation finance (see Annex 4.1), the GET approach also includes reporting the climate resilience results of GET projects. This is based on the joint approach of the MDB Climate Finance Group on climate resilience metrics, as shown in Figure 2.

METHODOLOGY

As with the adaptation finance tracking approach (see Annex 4.1), the starting point for assessing climate resilience results is to determine the context of climate vulnerability for the project in question. This enables the identification of the key climate risks that are relevant to the project. It is entirely possible that there may be more than one climate risk that is relevant to a given project. It is very important for this step to be based on a robust climate risk and climate resilience assessment, for example as set out in the EUFIWACC Guidance Note.

Once the relevant climate risks have been established, they are used to determine the non-financial or physical climate resilience outcomes that the project is intended to deliver in response to each climate risk. These physical climate resilience outcomes express in measurable units the system adjustment that the project delivers in response to the identified climate risk. It is possible to have more than one intended physical climate resilience outcome for each climate risk.

Physical climate resilience outcomes are then valorised (and summed if there is more than one intended physical climate resilience outcome) to give a total financial climate resilience outcome or Climate Resilience Benefit (CRB) for each project. This gives a measure of the value that is generated by the system adjustment in response to climatic stimuli that is delivered by the project. This process is summarised in Figure 3.

Figure 2: Project-level monitoring and evaluation indicators as defined by the OECD (2002)

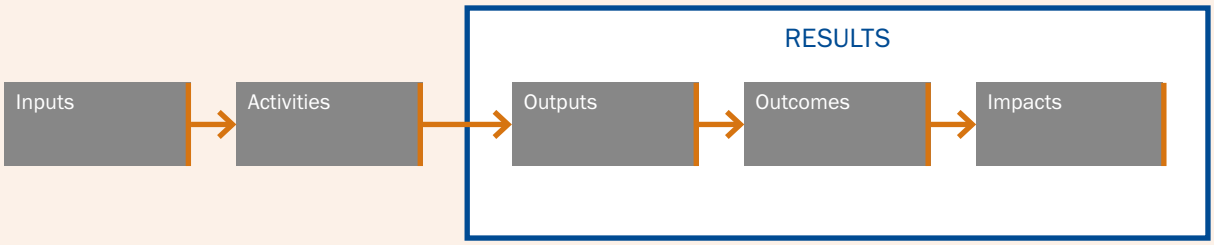
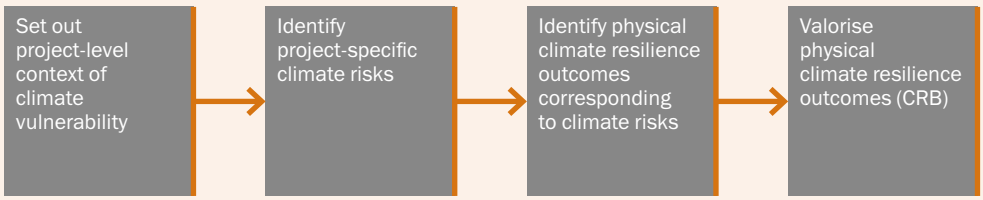


Figure 3: Process for identifying appropriate climate resilience outcome indicators



CLIMATE RISKS

Climate risks are categorised as either acute or chronic[22]. Acute climate risks are associated with extreme and often unpredictable weather events. Chronic climate risks are associated with longer-term, progressive shifts in climate or weather patterns.

EBRD considers five types of climate risk for its investment operations:

i) Increasing extreme weather events (acute);
ii) Increasing water stress (chronic);
iii) Increasing heat stress (chronic);
iv) Increasing hydrological variability (chronic); and
v) Increasing soil degradation (chronic).

NON-FINANCIAL (PHYSICAL) CLIMATE RESILIENCE OUTCOMES

Climate change is fundamentally a physical process, driven by processes in the global climate system that results in physical phenomena such as changes in temperature and precipitation patterns. EBRD therefore considers that it is appropriate to define climate resilience responses in physical terms[23].

EBRD considers that there are six types of intended physical climate resilience outcomes that matter for its investment operations:

i) Increased water availability in the face of increasing climatic variability;
ii) Increased energy availability in the face of increasing climatic variability;
iii) Increased agricultural potential in the face of increasing climatic variability;
iv) Increased human health & productivity in the face of increasing climatic variability;
v) Reduced weather-related disruption; and
vi) Reduced weather-related damage.

A project must be able to demonstrate at least one of these outcomes in order to be considered as a GET climate resilience project and for GET adaptation finance to be reported. These measurable outcomes are measured, within project boundaries, as the change (delta or Δ) that the project delivers against the pre-project baseline, using physical units on an annual basis as described in Table 2.

Table 2: Units used to measure physical climate resilience outcomes

Physical climate resilience outcome family	Description	Units (physical)
Increased water availability	Additional water made available as a result of the project, either through water savings or through the provision of additional useable water	Δ m^3/year
Increased energy availability	Additional energy made available as a result of the project, either through energy savings or through increased energy generation	Δ MWh/year
Increased agricultural potential	Additional capacity for agricultural potential achieved through improvements in soil quality as a result of the project, e.g. reduced soil erosion, increased soil carbon content or reduced soil salinity	Δ tonnes/hectare/year (soil erosion)
Increased human health and/or productivity	Improvements in human productivity due to improved health and well-being as a result of the project	Δ Quality Adjusted Life Years (QALYs)
Reduced weather-related disruption	Reduction in the amount of time that a system or elements of a system are rendered inoperable (i.e. lost OPEX) due to acute climate risks such as increasing extreme weather events, or chronic climate risks such as increasing hydrological variability or increasing heat stress	Δ days/year
Reduced weather-related damage	Reduction in the damage to assets (i.e. lost CAPEX) acute climate risks such as increasing extreme weather events, or chronic climate risks such as increasing hydrological variability or increasing heat stress	Δ risk frequency (of a damaging weather/climate event – acute risks only) Δ service life (chronic risks only)

[22] As determined by the FSB Task Force on Climate-Related Financial Disclosures (TCFD)
[23] While institutional and policy responses may also play an important role in building climate resilience, these are second or third order responses with the aim of creating or strengthening an enabling environment for responding to the physical impacts of climate change.

Clear project boundaries must be established for the reporting of GET climate resilience results. These should reflect the intended use of proceeds for EBRD financing, but in some cases, may also need to reflect any supporting or interconnected systems on which the project or system being financed may depend, e.g. electricity supply for a port.

Establishing a realistic and viable pre-project baseline is an important initial step in assessing the physical climate resilience outcomes of a project.

- In the case of a rehabilitation or brownfield project, the baseline will usually be based on the pre-project situation of an un-rehabilitated system.
- In the case of a new build or greenfield project, the baseline will usually be based on a hypothetical scenario of project development that does not take into account climate change projections, i.e. a no adaptation scenario.
- In the case of a project that delivers an expansion of operations or capacity, the baseline will be based on a scenario of the resources that would be required to produce the same level of production using the unimproved pre-project system or technologies (e.g. specific water efficiency). For the additional output that is related to increased capacity and/or extended operation, the system should be treated as a greenfield project. The baseline is based on a benchmark for the adaptation performance or non-performance of existing production.

It may be possible for a given project to be exposed to more than one climate risk, and to have more than one climate resilience outcome. However, in projects with multiple climate resilience outcomes each outcome should normally belong to a different outcome family (e.g. water, energy, agricultural potential, health/productivity, disruption, damage). Having more than one outcome from the same outcome family may lead to double-counting and may only be permitted in exceptional cases.

FINANCIAL CLIMATE RESILIENCE OUTCOMES (CLIMATE RESILIENCE BENEFIT)

The final step in the process entails valorising each physical climate resilience outcome in monetary terms in order to estimate the Climate Resilience Benefit (CRB). The valorisation step is carried out differently for each physical climate resilience outcome family, as set out in Table 3.

In projects with more than one physical climate resilience outcome, the valorised outcomes should be summed to give a single CRB for the project. The CRB may then be used to calculate a Climate Resilience Benefit Ratio, expressed as a percentage (%), which expresses the Climate Resilience Benefit per euro or dollar invested. This ratio should be calculated using the Total Project Value (TPV) of the project concerned. The Climate Resilience Benefit Ratio enables the climate resilience outcomes of a project to be assessed without being distorted by overall project size.

Table 3: Application of the valorisation step for different physical outcome families

Physical outcome family	Application of valorisation step	Valorised outcome
Increased water availability	Annual additional water, measured on a volumetric basis (e.g. m^3) is valorised using a shadow water price (EUR/m3) that takes into account the full cost of production plus resource use and environmental externalities. The use of a shadow water price is important, as actual water prices in the EBRD region are often highly distorted and not cost-reflective. In cases where increased water availability is estimated based on reduced effluent emissions, a suitable dilution factor should be used to estimate the expected increased availability of useable raw water.	Value of additional water (EUR)
Increased energy availability	Annual additional energy, measured in MWh, is valorised using an appropriate energy price (EUR/kWh) that takes into account any distortions resulting from energy subsidies.	Value of additional energy (EUR)
Increased agricultural potential	Increased agricultural potential as a result of improved soil quality is estimated based on the expected annual crop yield increases that can be expected as a result of soil quality improvements. These estimations should be calculated on a project-by-project basis that takes into account the specific soil quality improvement and the crop or crops being produced.	Value of additional potential agricultural production (EUR)
Increased human health/ productivity	Increased annual human health/productivity outcomes are measured using Quality Adjusted Life Years (QALYs) which may be valorised using the guidance of the World Health Organisation (WHO) that a QALY may be worth up to three times the per capita GDP of a given country.	Value of additional QALYs (EUR)
Reduced weather-related disruption	Reduced disruption (measured using units of time such as days per year) may be valorised using estimated unit costs of an hour or day of downtime (e.g. EUR/hour or EUR/day). This will be highly industry- or business-specific and should be estimated on a project-by-project basis taking into account project-specific circumstances.	Value of avoided down-time (EUR)
Reduced weather-related damage	Reduced damage in the context of acute climate risks (measured as the change in risk frequency of a damaging extreme weather event) may be valorised by firstly determining what constitutes an extreme weather event in the project-specific context, and then multiplying the difference in risk frequency by the total value of the asset in question. Reduced damage in the context of chronic climate risks (measured as the change in service life of an asset) may be valorised by comparing the decrease in annual depreciation of the asset using pre-project and post-project estimated service lives and the value of the asset.	Value of avoided damage (EUR) Value of extended asset lifespan (EUR)

Climate resilience outcomes, both physical and valorised, are calculated on an annual basis against a pre-project baseline. This is in line with GET climate change mitigation results reporting, in which project-level GHG emission reductions are also calculated on an annual basis against a pre-project baseline. In the context of climate resilience, it should be emphasised that this means that the outcome reporting is done based on current climate conditions and does not attempt to predict future climate conditions – although robust information about climate change projection must be an integral part of project design and the setting out of the context of climate vulnerability. Therefore, the climate resilience outcomes should be viewed as a conservative measure or 'snap shot' of the system adjustment to climatic stimuli that is being delivered by the project.

ANNEX 5: GUIDANCE ON SPECIFIC PROJECT CATEGORIES

The aim of this Annex is to provide some guidance and clarifications on how to attribute GET finance to projects or project components falling under certain categories:

1. energy efficiency projects
2. building developments
3. transport projects
4. desalination projects
5. flaring projects
6. environmental products, technologies, practices and services
7. hydropower projects.

ANNEX 5.1 GET FINANCE FOR ENERGY EFFICIENCY PROJECTS

GENERAL

In energy efficiency projects, drawing the boundary between increasing production and reducing energy consumption and associated emissions is critical. In order to qualify brownfield energy efficiency projects for GET, old technologies must be replaced with substantially more efficient new technologies. Capacity increase of an existing facility may have a combination of brownfield and greenfield project activities.

BROWNFIELD ENERGY EFFICIENCY PROJECTS

For brownfield energy efficiency projects to qualify for GET, the following is required:

- **Old technologies are replaced well before the end of their expected actual lifetime.** The baseline scenario for the project must demonstrate that the existing installation would continue to operate for at least another 3-7 years[24]. Only if technically and economically feasible, the baseline scenario may include maintenance programmes and the replacement of worn-out equipment parts.
- **The replaced technology is taken out of use and is not being used elsewhere.**
- **New technologies are consistent with best practice in industry** (EU BAT or other internationally recognised standards).

For exceptional cases, where no representative best practice data are available, new technologies are considered substantially more energy efficient than the replaced technologies, if the lifetime economic benefit for the energy efficiency improvements is substantial compared to the size of the investment. As guidance, projects where representative best practice data is not available are considered to be 100 per cent GET if the payback time of the investment (CAPEX), based on the expected fuel, electricity and/or resource savings, is less than five years.[25] If this indicative threshold is not met, the project should be further broken down into its energy efficiency and non-energy efficiency components, and GET finance should be attributed accordingly.

GREENFIELD ENERGY EFFICIENCY PROJECTS

In accordance with the MDB-IDFC Common Principles for Climate Mitigation Finance Tracking, for climate change projects, greenfield energy-efficiency projects qualifying for GET include:

- installation of new co-generation plants, accommodating existing heat demand
- energy efficiency activities in urban transport projects
- production of components, equipment and infrastructure dedicated to energy efficiency and/or GHG reduction.

In addition, specific (investment) components of greenfield energy-efficiency projects may be considered GET if they include specific energy efficient technologies with low market penetration, consistent with best practice.

Furthermore, greenfield energy-efficiency projects can qualify for GET if the activities are on the EBRD positive-list for Other Environmental Activities (see Annex 3), for example, if the project aims to reduce air pollution or wastewater discharges.

CAPACITY EXTENSIONS AND ENERGY EFFICIENCY

In cases where energy efficiency investments result in an extension of the capacity of the existing installation, the existing capacity is treated as brownfield and the additional capacity as greenfield. The GET finance will be attributed pro-rata.

RESOURCE EFFICIENCY AND ENERGY EFFICIENCY

Projects that reduce the use of resources other than energy, for example, activities in water and materials efficiency, can also have significant climate mitigation impacts. This is particularly the case for activities aimed at waste minimisation and loss prevention in production chains. For GET qualification, it should be taken into account that the major GET benefits, including energy efficiency improvements, might not be within the physical boundaries of the project, and might also occur elsewhere in the product life cycle.

[24] Typically, 3 years for industrial equipment; 5 years for power sector and 7 years for infrastructure sector investments.
[25] For the purpose of payback time calculations, use as a proxy the current EU averages according to Eurostat. Industrial end-users: electricity €0.12 per KWh; gas €0.034 per kWh. Households: electricity €0.21 per KWh; gas €0.071 per kWh.

ANNEX 5.2 GET FINANCE FOR BUILDING DEVELOPMENTS

BROWNFIELD BUILDING DEVELOPMENTS

The baseline for brownfield building projects is defined by the current condition of the building fabric, as well as the engineering systems.

Portfolio of building assets:[26] Activities are eligible for GET if improvement of the building's resource efficiency is an integral part of the business model, and leads to the improvement of the environmental performance of a portfolio of building assets in compliance with the trajectory calibrated according to the local market, towards a relevant climate commitment (e.g., the 2 degrees centigrade climate scenario). Portfolio type activities should comply with a set of well-defined criteria[27] addressing all aspects having environmental impact in the build environment: physical up-grade of building infrastructure, operation and management, engagement with occupants, monitoring and verification, reporting under-recognised international schemes, and the certification of a representative sample of assets.

Individual buildings

The following are eligible for 100% GET:

- Financing for projects that improve the environmental performance of existing buildings to the level of applicable EU standards for the upgrade or refurbishment of existing buildings.[28]
- Financing for projects that commit to certification of the existing building at a minimum level of LEED-Silver, BREEAM-Good, or corresponding levels of other internationally recognised benchmarking schemes. The costs of land and existing building acquisition are not eligible for GET.
- Financing for projects that improve the performance of the existing building by at least two energy-performance classes (such as from E to C), in case that international certification is not conducted, and performance requirements do not exist for specific components or techniques. In countries where no energy classes are set up by the legislation, an equivalent performance improvement should be achieved.

Components

Where the project does not fall under one of the categories listed above for individual buildings, GET investments are assessed on the basis of individual components of the project.

Technologies, equipment, services, and activities that improve the environmental performance of existing buildings are eligible for GET. Such components are 100 per cent eligible for GET if the level of applicable EU standards for up-grade/refurbishment of existing buildings is achieved[29] and pro-rata if the EU standards are not achieved but the project exceeds the baseline.

GREENFIELD BUILDING DEVELOPMENTS

The baseline for greenfield building developments is the national building standards.

Individual Buildings/Portfolio of building assets:

The CAPEX for building developments (excluding the cost of land acquisition) is eligible for 100% GET if the building(s) will be certified at a minimum level of LEED-Silver, BREEAM-Good, or corresponding levels of other internationally recognised benchmarking schemes.

For cases where international sustainability certification is not available, national certification schemes can be used as proxies if they reach comparable levels of resulting environmental performance.

An independent accredited body should document and issue the certification.

Components

As an alternative to certification, a component-based approach can be applied.

For greenfield building developments, the investments in specific components (energy efficiency technologies, equipment and services, activities) qualify for 100% GET if they comply with EU standards, or other component-based, internationally recognised performance benchmarks. For performance below the benchmarks, but above the national standards, a pro-rata approach may be applied.

Components qualifying for GET may address aspects other than energy performance, including materials efficiency, water efficiency, waste management, pollution control, site management and land use, transport and transport access to site, monitoring, and control of environmental performance.

[26] Refers to projects such as Sustainable Property Funds, Green Real Estate Investment Trusts and so on.
[27] Climate Strategy and Partners, Guidelines for Sustainable Property Funds, 2016.
[28] Including the national standards of EU countries implementing the EU Building Directive 2010/31/EU and for similar climatic conditions as where the project in a non-EU country is implemented.
[29] Including the national standards of EU Member States implementing the EU Buildings Directive 2010/31/EU. If the project is implemented in a non-EU country, the assessment will be based on EU requirements for countries with similar climatic conditions.

ANNEX 5.3 GET FINANCE FOR TRANSPORT PROJECTS

AVOIDANCE OF EMISSIONS IN THE TRANSPORT SECTOR

Transport projects are GET eligible if they advance the transition to low-emission transport. These are projects that lead to a reduction in the use of cars and trucks (in terms of passenger kilometres per year or tonne kilometres per year). Project examples include the integration of transport and development planning (urban and logistics), traffic management measures, or Intelligent Transport Systems.

Road-based projects that aim to eliminate bottlenecks are eligible for GET only if at least 15 per cent of the emissions reduction (either CO_2 or local air pollutants) is achieved based on an assessment that includes long-term traffic forecasts, taking into account the induced traffic. A leakage analysis might also be required in order to ensure that the projects actually lead to emission reductions and are not shifting congestion and emissions to secondary or side roads.

MODAL SHIFT TO LOWER CARBON MODES

Transport projects that result in the reduction of emissions through modal shift from higher to lower carbon modes are eligible for GET. Eligible projects include infrastructure or fleet investments on urban mass transit, inter-urban rail, and inland waterways, as well as intermodal and facilities for short sea shipping. Further details on the determination of modal shift GHG impacts can be found in the IFI Joint approach to GHG assessment in the Transport Sector (IFI 2015).

Example

A large municipality is improving its metro network by extending one of its lines. The EBRD is financing new rolling stock, one of the project components. According to traffic forecasts, demand for travel will grow significantly in the near future, and without investments in public transport, increased demand will be met mainly by high-carbon modes, such as cars and minibuses that use fossil fuels. The metro project will help reverse this modal shift. Other environmental benefits of the project, in particular the control of air pollution, may be more significant than the climate mitigation benefits. The project is considered to be 100 per cent GET.

For fleet renewal projects, the project assessment may consider modal shift avoidance, where the 'without project' situation would result in significant loss of existing public transport users to higher-carbon modes (notably cars). This is particularly relevant in cities with rapidly increasing car ownership and significant existing public transport systems and ridership.

REDUCTION OF EMISSIONS BY EFFICIENCY IMPROVEMENTS

The retrofit or replacement of vehicles, rolling stock, and ships to achieve better energy efficiency, or better environmental performance, is eligible for GET finance.

In the case of a road fleet, the following boundary conditions apply:

- Old vehicles are replaced before the end of their actual lifetime. It should be likely that the existing vehicles would remain operational for at least another three years. If technically and economically feasible, the remainder of the lifetime may include the maintenance and replacement of worn-out parts.
- Projects involving replaced stock should include scrappage measures to prevent leakage impacts (in other words, causing emissions to occur elsewhere by the re-use of the replaced stock).
- The minimum emission standards for vehicles should reflect the best available technology, as defined by EU standards (currently EURO 6), unless this is not possible due to local circumstances, such as unavailability of the required fuel quality.
- Some flexibility in terms of achieving EU standards may be allowed for public transport projects that result in material environmental benefits, but which cannot be structured to achieve full compliance with EU environmental standards due to limited financial resources and constraints on affordability.

For rail (locomotives) and shipping, the energy efficiency performance should be consistent with the best available technologies and involve replacing and scrapping the old stock at least five years before the end of its technical lifetime.

ANNEX 5.4 GET FINANCE FOR DESALINATION PROJECTS

In water-stressed areas vulnerable to climate change, desalination technologies may be eligible for GET under climate change adaptation activities. In addition to the guiding principle for adaptation finance tracking (see Annex 4), further eligibility criteria apply for desalination projects.

The energy used for the desalination must fall within one of the following categories:

1. renewable energy
2. energy from the valorisation of waste heat (cogeneration)
3. other forms of energy (such as grid electricity, fossil fuels[30]), as long as the following criteria are fulfilled

Table 5: GET eligibility criteria for "Other forms of energy" used in desalination projects

Criterion	Proposed benchmark	Notes
1	Energy demand per unit of fresh water generated must not exceed **5 kWh/m³**	Based on the review of desalination technologies and their respective typical energy efficiency performance.
2	CO_2 intensity per unit of fresh water generated must not exceed **1.9 Kg CO_2/m³**	Based on a CO_2 emission factor of 380g CO_2/kWh [31] and an energy consumption of 5 kWh per m³ of fresh water produced.

Furthermore, the following three eligibility criteria apply for desalination projects in order to qualify for GET finance:

Table 6: Additional GET eligibility criteria for desalination projects

Criterion	Proposed benchmark	Notes
1	Will the additional water be delivered to a water-stressed area where water stress is expected to increase as a consequence of climate change? For example, is annual water availability per capita **<1,700 m³/cap/year**?	Based on the Falkenmark index of water stress. This step could be adjusted for specific project circumstances, for example in cases where the additional water is for purely industrial or agricultural use.
2	Does the amount of additional water make a significant contribution towards alleviating local water stress? For example, providing at least **25 per cent** of the local water deficit (m³/year).	Verification if the project is making a sufficiently significant contribution towards alleviating water stress to justify the energy use and emissions identified in step 1.
3	Is the water produced used in an efficient manner? Does it not fuel additional, non-essential water demand, for example, due to inadequate water pricing?	Verification to ensure efficient water use, avoid incentivising excessive water use, and avoid maladaptation.

[30] Excluding coal
[31] Reference emission factor of 380 g CO_2/kWh is based on typical emissions from the use of natural gas in air-cooled CCGT in hot climate.

ANNEX 5.5 GET FINANCE FOR PROJECTS TO PREVENT GAS FLARING

Investments aimed at reducing gas flaring in the oil and gas industry are considered to be 100 per cent eligible for GET in countries where gas flaring and venting is common practice, and provided that it is not effectively prohibited by national law. These countries, presented in Table 7, typically have high flaring intensities (m^3 gas flared per barrel of oil produced – m^3/bbl) compared to the reference benchmark (USA, 2.6 m^3/bbl).

Table 7: Gas flaring intensity in EBRD countries of operation and reference countries (2015 data)[32]

Country	Gas flaring (million m^3/year)	Gas flaring intensity (m^3/bbl)	High
Russia	21,244	5.3	Yes
Kazakhstan	3,694	6.1	Yes
Egypt	2,826	10.7	Yes
Turkmenistan	1,843	19.3	Yes
Uzbekistan	1,115	47.7	Yes
Tunisia	496	21.6	Yes
Azerbaijan	193	0.6	
Ukraine	235	16.1	Yes
Romania	34	1.1	
Poland	19	2.7	
Serbia	15	2	
Mongolia	19	2.5	
Hungary	4	0.4	
Belarus	9	0.8	
Turkey	17	0.8	
Reference benchmark (United States of America)	11,852	2.6	
Best international practice (Saudi Arabia)	2,153	0.5	

[32] Gas flaring intensity is expressed as m^3 of gas flared per barrel of oil produced. Source: Global Gas Flaring Reduction Partnership (GGFR), 2016.

ANNEX 5.6 GET FINANCE FOR ENVIRONMENTAL PRODUCTS, TECHNOLOGIES AND SERVICES

ENVIRONMENTAL PRODUCTS

To be eligible for GET, environmental products will need to meet the criteria of internationally recognised eco-labels of energy, eco-efficiency, or other relevant environmental certifications (Nordic Eco-label, EU eco-label, FSC, labelled/certified green bonds and PEFC) that are awarded to products that have a smaller environmental footprint over their life-cycle than other products serving the same use.

ENVIRONMENTAL TECHNOLOGIES AND PRACTICES

In industry sectors for which EU BAT has been defined under the Industrial Emissions Directive, the eligible technologies and techniques should be consistent with EU BAT, and the relevant associated performance levels (BAT-APLs). Other technologies or techniques not included in the EU BAT could be eligible for GET as long as they provide, at least, the same level of environmental protection as the ones included in the EU BAT. When the environmental regulations or standards of the host country are more stringent than those of the EU BAT, the projects will be expected to meet the more stringent requirements.

In industry sectors for which EU BAT has not been defined, internationally recognised environmental technologies, practices, and standards will be identified in accordance with good international practice (e.g. World Bank Group or World Business Council for Sustainable Development). This identification of eligible technologies and practices could include reference to market penetration of technologies (e.g. based on the joint work that the EBRD is conducting with IEA or FAO) and benchmarking methodologies, such as EU ETS.

In other sectors, green technologies and practices will be defined on a case-by-case basis, taking into consideration the principle that the pollution prevention and control techniques minimise potential adverse impacts on human health and the environment, while remaining technically and financially feasible, and cost effective. This applies to the release of pollutants due to routine, non-routine, or accidental circumstances. The eligibility assessment of the proposed technology will consider technically and financially feasible, and cost-effective options to avoid or minimise environmental impacts. In sectors for which no internationally recognised reference standards can be identified, the eligible technologies and practices are expected to result in an environmental improvement of at least 15 per cent compared with the baseline scenario.

Eligible technologies and practices may also consist of technically and financially feasible, and cost-effective measures, that integrate resource efficiency measures and the principles of cleaner production into product design and production processes, with the objective of conserving raw materials, energy, and water. At the same time, they should reduce the release of pollutants into the environment.

ENVIRONMENTAL SERVICES

Projects where the material environmental benefits arise mainly from the provision of services, such as energy services and waste management, companies are eligible for GET if the services provide incremental environmental benefits, and are consistent with the GET principles and criteria. In this case, the GET finance will be the total amount of finance that is instrumental for the provision of the environmental services, and not necessarily used for CAPEX.

ANNEX 5.7 GET FINANCE FOR HYDROPOWER PROJECTS

GREENFIELD PROJECTS

The net environmental benefit of greenfield hydropower projects will be estimated taking into consideration the environmental impacts of the project as well as a baseline scenario for achieving the same economic output. For example, a new hydropower plant project will help avoid GHG emissions compared with a conventional power plant, but it may also result in potentially significant GHG emissions. Therefore, a hydropower scheme qualifies for GET if it emits significantly less than a thermal power plant with the same capacity over the first ten years of operation.

ANNEX 6: EBRD PROTOCOL FOR ASSESSMENT OF GREENHOUSE GAS EMISSIONS

BACKGROUND

The EBRD first published an assessment of the impact of its investments on greenhouse gas emissions in 2003. The purpose was to see climate change impacts in the wider context of the transition impacts of EBRD projects. The assessment also aimed to answer the simple question: "What impact is the Bank having, through its investments, on the build-up of greenhouse gases in the atmosphere?"

The EBRD GHG Assessment Methodology developed for this purpose provided a framework for the integration of GHG assessments into project due diligence, and for the annual reporting of the forecast impact of the new direct investment projects added to the portfolio.

The Bank's focus on climate change mitigation, through promoting investments in energy efficiency, renewable energy, and emission reduction projects, has grown substantially via the Sustainable Energy Initiative (SEI), and later through the Sustainable Resource Initiative (SRI). SEI was launched in 2006 with the aim of scaling up sustainable energy investments, improving the business environment for sustainable investments, and removing key barriers to market development. In 2015, the EBRD's Board approved the Green Economy Transition (GET) approach, which supersedes the SEI and aims to increase EBRD investments in the green economy to 40 per cent of Annual Bank Investment (ABI) by 2020.

Over the same period, in response to policy-makers' calls for greater harmonisation, the multinational development banks (MDBs) have agreed common principles for GHG accounting and are continuing to work towards more harmonised, sector-specific approaches. These developments required an update of the EBRD's approach to GHG assessment and reporting. This revision continues to serve its original objectives, but now also encompasses the GHG benefit assessment of GET projects, which has a wider scope. The harmonisation process has led to the IFI Framework for a Harmonised Approach to GHG Accounting and the sector approaches for Renewable Energy, Energy Efficiency, and Transport. Additional sector approaches will be agreed upon between the IFIs.

OBJECTIVES AND BASIC PRINCIPLES

The EBRD is committed to estimating the future GHG impact of the projects that it finances on an ex-ante basis where these are likely to result in significant increases or reductions in emissions. Consistent with the Bank's transition mandate, the principal objectives are:

- to provide a fit-for-purpose estimate of the change in GHG impact that each year's newly signed projects will have, once fully implemented
- to demonstrate the broader climate change mitigation benefits that an increasing number of EBRD projects are designed to achieve.

Where possible, the assessment is undertaken during project appraisal.

In developing a GHG assessment methodology aimed at meeting these objectives, a wide range of choices in approach is available. Several basic principles, identified below, exist to narrow such choices, and have been applied in shaping the EBRD approach:

Transparency and clarity of definition: In any project, some choices may remain subjective. A project may be assessed in different ways for different purposes. It is thus essential that choices and assumptions are clearly stated to preserve the usefulness of the assessment. Most important in this context is a clear understanding of what a project comprises, in terms of geographical and operational boundaries.

Conservatism: To minimise the risk of understatement of emissions, or overstatement of savings, a conservative approach to assumptions should be made wherever significant uncertainty exists.

Fitness for purpose: Where a GHG assessment is required to form the basis of financial transactions – for example, carbon trading – greater resources will generally be required in order to apply the more complex approaches demanded. Where the assessment is carried out for information purposes only, simpler, less resource-intensive approaches may be acceptable.

Project specificity versus general applicability: It may be necessary to strike a balance between the desire to achieve as much project-specific accuracy as possible, and the benefit of comparability that the use of common, consistent approaches provides across many projects of a given type.

METHODOLOGY

Selection of projects and thresholds

All direct investment projects are screened at the Concept Review stage of project appraisal and categorised according to the type of assessment needed.

Some direct investment projects involving corporate loans are excluded from assessment when a lack of information to identify precisely how funds are used makes GHG assessment impossible.

Most projects funded via Financial Intermediaries (FI) are excluded from assessment on the grounds that they involve transfer of control to a third party. GHG assessment is undertaken, however, for certain FI framework projects in which substantial funds are ring-fenced for investment by the FI in relatively large numbers of small energy efficiency and renewable energy sub-projects. Although individually small, the combined impact of many subprojects may be highly significant. The aggregate savings of a number of such FI funds which have been established have made a major contribution to total GHG savings in recent years.

From November 2014, the Bank's Environmental and Social Policy (ESP) mandated clients to procure and report the data necessary for the GHG assessment of projects whose emissions are expected to exceed 25 kt CO_2e per year.

Projects that are expected to result in a change in emissions, either positive or negative, of more than 25 kt CO_2e per year are subject to an ex-ante GHG assessment in line with this protocol. Projects that are expected to reduce GHG emission by less than 25 kt CO_2e per year may also be subject to a GHG assessment.

Project boundaries

The project boundary separates the entities (facilities and operations) whose emissions are included in the assessment, from those that are not. The project boundary is generally defined as the geographical boundary of the facility but may need to include associated facilities and activities where these exist solely to serve the project. Where, for example, a project involves a change from in-house production to external sourcing of a feedstock, it may be necessary to draw project boundaries to include external operations, thus ensuring no fundamental difference in the scope of service provision between the baseline and the post-investment scenario.

Where a project is a direct replacement for some, or all, of another, separate, existing facility (such as one owned by the same entity) this latter facility may be brought within the project boundary, provided the closure is certain to take place as a direct consequence of the project's implementation.

The project boundary for those in Renewable Energy (RE) power generation is always regarded as encompassing the electricity grid in which they serve. By nature of their role, they are assumed to displace the emissions associated with other electricity generation on the grid. Specific grid studies may be undertaken to derive appropriate carbon factors.

If high-quality project or regional grid emission studies are available, these should be applied. As a fallback, it is possible to use national grid-average factors, as long this will not lead to an underestimation of the project impact or an overestimation of the GHG reductions.

In some cases, a project may have impacts on GHG emission upstream or downstream in supply chain or in the market that it serves. These would typically be considered as Scope 3[33] and excluded from EBRD's project boundary. However, if these impacts have significant mitigation benefits that underpin the rationale for EBRD's investment in the project, the Bank may choose to extend the boundary of the assessment to include these benefits. These benefits may be included in reporting for the GET approach, or as a separate line in the Sustainability Report, but are excluded from the reporting of overall GHG impact of the portfolio, which includes only Scope 1 and 2.

Different aspects of projects can have impacts over different areas. The boundaries used to assess, for example, a project's transition impact or social impact may therefore differ from those used for the GHG assessment.

The with- and without-project principle to determine baseline and project scenario

In keeping with the Bank's transition mandate, the EBRD methodology has focused primarily on estimating the change in GHG emissions (ΔGHG) that is to be brought about by investments. We may define this logically as the difference between the emissions following the implementation of the project investment ('project emissions') and the emissions that would have occurred in its absence. This 'without-project' scenario is referred to as the 'baseline' or 'reference scenario'.

[33] Using the definitions adopted by the GHG Protocol of the WBCSD/WRI, direct emissions are called 'Scope 1', emissions from grid electricity used are 'Scope 2' while other upstream and downstream emissions are 'Scope 3'.

While the project emissions are relatively predictable (and amenable to routine monitoring during the project lifetime), the emissions that would have occurred in the absence of the investment – the baseline or reference scenario – will remain hypothetical and therefore should be based on conservative assumptions.

Dynamic baseline
Depending on the extent of information available and the extent to which future developments can be predicted, a time-dependent, or dynamic, baseline, or reference scenario, may be constructed. An example of an instance where sufficient information might be available to develop a robust dynamic baseline is a power generation project that is part of a national power generation capacity modernisation plan, backed by adequate technical assessments. Dynamic baseline approaches may be relatively complex and resource-intensive to develop, yet are necessary, in particular, when they are to underpin carbon trading transactions.

For the relatively small, but increasing, number of EBRD projects seeking to benefit from carbon mechanisms (those qualifying under the UNFCCC's JI or CDM), project and baseline emission assessments are based on methodologies approved by the UNFCCC or other internationally recognised bodies for this purpose.

Fixed baseline
Where the development of a dynamic baseline is not justified, a fixed (not time-dependent) baseline may be adopted. The simplest approach, and the one preferred for most EBRD projects, is the use of the pre-investment emissions within the project boundary as the baseline. In the case of greenfield projects, this is taken as zero, unless there are existing facilities included within the project boundary.

Alternatives to using pre-investment emissions as the fixed baseline are benchmark technologies or benchmark levels of operational performance. It is important to note that the forecast of a project's GHG impact depends critically on the choice of baseline. Thus, clarity of definition and consistency in the choice of baseline type are fundamental for the sake of comparability.

Project scenario
The with-project emissions are taken as those expected to occur in a representative (usually the first) year, following full implementation of the project.

Capacity expansion and increased output
Whenever the production output of a project is forecast to change as a result of the investment, the GHG emissions or savings associated with that change must be accounted for. In such cases, if efficiency improvements have been introduced, the resulting efficiency savings are only applicable to the pre-investment output level, and must not be applied to the expansion increment, unless it is certain that the same increase in output would have occurred in the absence of the project – in other words, unless the expanded output is entirely independent of the project implementation.

Scope of emissions assessed
Included in the assessment of project emission:

- direct operational GHGs, as recognised by the IPPC (see for example IPCC Fourth Assessment Report, 2007),[34] occurring within the project boundary, together with
- the estimated GHG emissions associated with the generation of grid electricity used by the project[35]
- where a project is designed specifically to generate downstream system and end-user benefits – for example, one involved in the manufacture of carbon-saving or energy-saving materials or technologies and covered by the scope of the joint-MDB Report on Climate Finance – these benefits are reported as a separate line item as they fall outside the scope of emissions routinely assessed.

Construction phase emissions are normally not included in the assessment as they are typically not considered to be significant compared with operational emissions. Construction related emissions will be included in the assessment where they are likely to be significant (> 5 per cent) relative to the anticipated emission increases or savings associated with the operation of the project.

Leakage
Leakage is the phenomenon through which efforts to reduce emissions in one place simply shift emissions to another location, or sector, where they remain uncontrolled or uncounted. This happens, for example, when additional public transport capacity frees up capacity on roads which is then filled by the previously suppressed demand. It is important to recognise and take account of any significant leakage that may arise in a project.

[34] Emissions of non-CO_2 GHGs are expressed as CO_2 -equivalent based on their 100-year global warming potentials, as provided by the IPCC 2007 (op cit).
[35] Using the definitions adopted by the GHG Protocol of the WBCSD/WRI, direct emissions are termed 'Scope 1', and emissions from grid electricity used are 'Scope 2'.

Guidance on calculation methods

The accuracy required for the calculations of the greenhouse gases arising from the processes involved in the baseline and project operations will depend on the significance and size of the project. The selected methods should be fit for purpose, recognising the information and manpower resources available. Comprehensive recognised methodologies, such as those described in the GHG Protocol, the UNFCCC Clean Development Mechanism methodology, Verified Carbon Standard, Gold Standard, and the EU Emissions Trading Scheme, ISO 14064 (Part 1 and 2), or other international standards, can be used where feasible. Where the scope of the project, or the scale of its emissions, do not justify in-depth assessments of this type, conservative simplifications of these approaches will be adequate. Calculation methods must nevertheless be transparent and based on reasonable assumptions.

Sources of data

GHG data may be obtained from a number of sources depending on the project's size, sector, and the nature of the EBRD's investment. Project-specific sources of data may include:

- environmental impact assessments
- environmental audits
- energy audits
- feasibility studies
- investment plans.

Data may be compared against industry databases, or benchmarks that are published by appropriate authorities and regulators.

GHG performance metrics

Absolute project annual GHG emissions (gross GHG emissions) and the change in emissions brought about by a project (net GHG emissions) are generally calculated and reported in aggregate, although in some cases where a project involves only a part of a larger complex facility the concept of gross emissions is not readily quantifiable or necessarily relevant. In the latter case, only the net emissions of the proposed project are calculated.

GHG emissions are calculated for the whole project, not pro rata for the Bank's financial involvement. EBRD investments invariably improve efficiency of production even where increased emissions arising from increased production offset the savings made, leading to an increase in overall emissions. To demonstrate efficiency benefits, GHG emissions per unit of product output may be calculated for the project and baseline cases, in addition to the gross and net GHG emissions.

The EBRD will report the aggregated GHG assessment results for each year in its Sustainability Report. This report will typically include details of the number of projects assessed with GHG data presented for greenfield and GET projects.

Annual reporting by projects

In line with the EBRD's Environmental and Social Policy, projects with annual emissions of 25 kt CO_2e per year are required to report such emissions annually to the Bank. The scope of this report will typically be limited to the boundaries of the EBRD-financed project and will align with the scope of the GHG assessment carried out during project appraisal. Annual reporting of GHG emissions should form part of the project's normal environmental and social reporting to EBRD

ALIGNMENT OF THE EBRD APPROACHES TO GHG ACCOUNTING WITH THE AGREED IFI FRAMEWORK FOR A HARMONISED APPROACH TO GHG ACCOUNTING

The IFI Framework for a Harmonised Approach to GHG Accounting (November 2012) has been approved by the following IFIs: Agence Française de Développement (AfD), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the UK Green Investment Bank, the Inter-American Development Bank (IDB), the International Finance Corporation (IFC), KFW Development Bank, the Nordic Environment Finance Corporation (NEFCO), and the World Bank (WB). In December 2015, these IFIs agreed sector approaches for the Renewable Energy, Energy Efficiency, and Transport sectors.

A number of common principles have, thereby, been agreed, but, for justifiable reasons, important differences in detail remain to be resolved. As a result, a variety of alternative methodological options are included in the framework text.

Notes

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