Green Investments in Urban Infrastructure

Alex Hadzhiivanov, Associated Director - Green Building Investment
Energy Efficiency and Climate Change Team, EBRD

Lutetia. Maius. MMDCCLXXII A.V.C. (MMXIX A.D.)

European Bank
for Reconstruction and Development

Outline

European Bank
for Reconstruction and Development

1. Definition of urban infrastructure
2. What qualifies as “green” investments?
3. Specific types of projects
4. Impact indicators
5. Green investment qualification process at EBRD

Definition of urban infrastructure

European Bank
for Reconstruction and Development

1) Buildings (including public, residential and commercial)

2) Energy infrastructure: power and gas networks, district heating/cooling

3) Other utilities: water, sewage

4) Waste management

5) Urban transport

6) ICT infrastructure

What qualifies as “green” investment? (1)

European Bank
for Reconstruction and Development

“Green” investments are those, which :

1) Facilitate the transition to a green, environmentally sustainable and low-carbon urban infrastructure,
2) Prevents the infrastructure from being locked into a carbon-intensive, polluting and natural asset-depleting pathway, and
3) Net positive environmental benefits can be tracked, and reported

“Projects or project components that qualify for GET must result in measurable environmental benefits that are consistent with the overarching objectives of GET. 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 with the baseline scenario.”

Environmental impact stems from:

- Change of the architecture of existing infrastructure
- Use of new technologies/systems within the infrastructure or for its specific components
- Better operation and preventive maintenance; and
- Better use by users/occupants

What type of projects qualify as “green”? (2)

European Bank
for Reconstruction and Development

Investments, which explicitly recognises several categories of potential projects with net positive environmental impact:

- reduction of greenhouse gas emissions (climate mitigation)
- enhanced climate resilience (climate adaptation)
- improved resource (water and materials) efficiency
- reduction of pollution affecting local environmental quality (air, water and soil/groundwater) and public health
- increased resilience and reduced degradation of terrestrial and aquatic ecosystems, i.e. environmental remediation

Specific types of projects

European Bank
for Reconstruction and Development

The three main categories of environmental benefits consistent with the GET approach are:

- Climate Change Mitigation leading to reduction of greenhouse gas emissions (e.g. efficient MEI systems):
  - Energy efficiency (i.e. in buildings, energy/water distribution, better UT vehicles, street lighting ...)
  - Project integrated / on-site renewable energy (biomass DH plants, solar PV/thermal, wind, ...)
  - On-site distributed generation (small/micro CHP, CCHP,...)
- Climate Change Adaptation enhancing climate change resilience and taking into account local context (e.g. design of buildings, flood prevention, water savings, rain water use, grey water recycling, better drainage, ...)
- Other Environmental Benefits including:
  - Improved resource efficiency (e.g. solid waste reduction, use of low carbon/ recyclable/recycled materials)
  - Improved resilience (e.g. climate stress resilience through better design)
  - Environmental remediation (e.g. decontamination of polluted industrial brownfelds for further redevelopment)

Impact indicators

European Bank
for Reconstruction and Development

Environmental benefits assessed as a difference between **the Project** and **the Baseline**

Project Baseline : No-investment scenario and the corresponding environmental footprint. Take into account: *(1) Capacity extensions (2) Life time extensions (3) Performance benchmarks for green field developments*

Project Boundaries: Baseline scenarios and calculations can have boundaries that are installation or component-based, or system-based and component-based (such as the electricity grid or distribution system).Definition (Scope 1 and 2, Scope 3 may be included).

Take into account: *(1) Scope 3 impacts, e.g. green / sustainable buildings (2) level of disaggregation, e.g. green technology in larger project*

Representative year; Estimate the benefit that a project is expected to achieve on an annual basis for a representative year once it is completed at normal operational capacity. Take into account:

(1) Development in baseline and outputs, e.g. greenfield buildings; existing buildings

Project Impact: Impacts (such as CO2 emissions, water, materials and energy consumption, renewable energy production) are calculated on an annual basis for a representative year at the expected average output of the post-investment facility.

Practical example– approach for buildings/ greenfield

European Bank
for Reconstruction and Development

- **Certified buildings*:** The CAPEX (greenfield) is eligible for 100% GET if the building will be certified at a minimum level of LEED-Silver, BREEAM-Good or corresponding levels of other internationally recognised schemes (e.g. including DGNB, CASBEE, EU EPC at A-class). Acquisition costs for the land are not eligible for GET

- **Components:** eligible if exceeding prevailing standards up to 100% GET if compliant with the EU BAT or other component based internationally recognised performance benchmarks (e.g. CBI standards). The GET proportion is assessed by the extend of the main environmental indicator going beyond the baseline

- Component might address other aspects beyond energy efficiency and where material environmental impact can be achieved , e.g. use of highly efficient architectural designs, 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 schemes

Support for environmental products, technologies and services

European Bank
for Reconstruction and Development

Energy audits : Energy audits to energy end-users, including industries, buildings, and transport systems

Non-energy GHG reductions / Air conditioning and refrigeration:

- Retrofit of existing industrial, commercial and residential infrastructure to switch to cooling agent with lower global warming potential

Waste and wastewater / Waste and wastewater

- 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).

Cross-cutting issues / Support to national, regional or local policy, through technical assistance or policy lending ,

- Energy sector policies and regulations leading to climate change mitigation or mainstreaming of climate action (energy efficiency standards or certification schemes; energy efficiency procurement schemes; renewable energy policies)
- Education, training, capacity building and awareness raising on climate change mitigation/sustainable energy/sustainable buildings; mitigation research

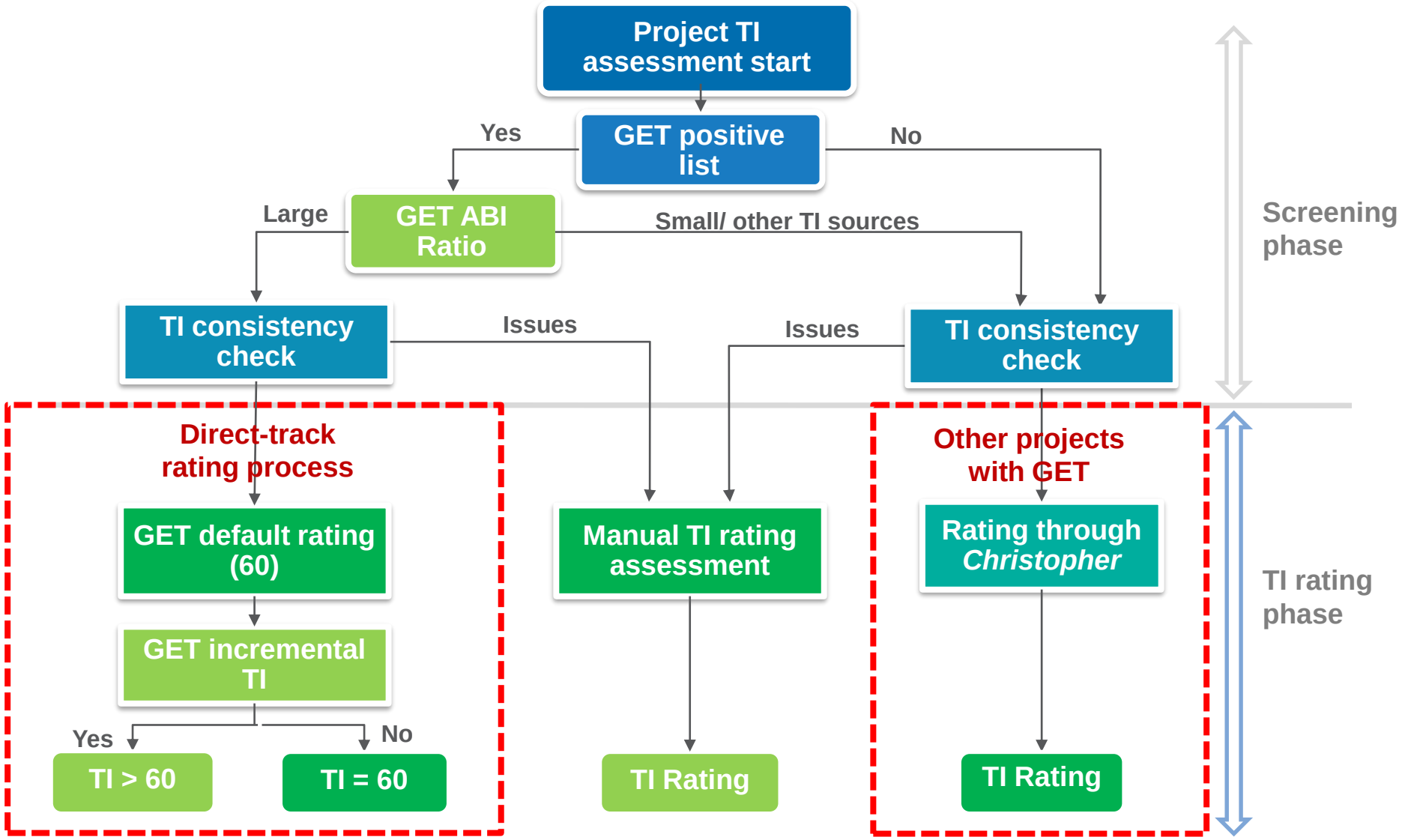
Green investment qualification process at EBRD

European Bank
for Reconstruction and Development

1) Identify investment opportunities
2) Discuss the concept and pass concept clearance at EBRD
3) Conduct detail analyses during due diligence and assess the amount of green investments and associated benefits
4) Review and approve these at an EBRD Green Investment Committee (Green Investment Clearing House)
5) Proceed with Final approvals internally: by the Management (Final Review, and the Board). Set up monitoring benchmarks
6) Sign the Project with the Client
7) Implementation and monitoring

Green Investment TI rating – methodology overview

European Bank
for Reconstruction and Development



Green Investment TI rating – sectoral thresholds & sources of additional TI uplifts

European Bank
for Reconstruction and Development

- **Sectoral thresholds:**

≥ 60% GET Threshold	• Power & Energy • Municipal & Environmental Infrastructure • Transport • Financial Institutions
≥ 50% GET Threshold	• Manufacturing & Services
≥ 35% GET Threshold	• Natural Resources • Agribusiness • Property & Tourism • Information & Communications Technology

- **Possible sources of additional TI:**

Complementary Policy Dialogue	Innovation	Scale of Physical Impact
Potential to achieve lasting changes beyond the project	Creates awareness and demonstrates viability of new technologies and solutions	Large GET projects achieve outcomes that make an economy significantly "greener"