Promoting green value chains: Supporting the Green Economy Transition and Trade in Environmental Goods

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5 February 2019, Geneva
1. EBRD investment strategies to support the green economy transition

2. Trade in environmental goods
Who we are

• **Supranational Institution** founded in 1991 owned by 65 countries, plus the European Union and the European Investment Bank

Our mission

• **To promote transition to open, market-based economies in our countries of operation** – we work in over 30 countries from central Europe to central Asia and the southern and eastern Mediterranean

What we do

• **Support projects, mainly carried out by private sector clients**, in areas that are of interest and within the scope of the Bank. Annual Business Volume of the EBRD in 2017 was EUR 9,670 million, 412 projects signed, 71 per cent with private clients.
Core values

To foster open, market-oriented economies and support private initiative in the EBRD’s countries of operations through investments based on:

- **Promoting transition**: Through projects that expand and improve markets, and help build the institutions that underpin the market economy
- **Sound banking principles**: Ensuring the project returns are commensurate with the risks
- **Additionality**: Financing projects which would not solely be funded by commercial banks
- **Sustainability**: Ensuring socially and environmentally sound development

As part of this approach, the EBRD has introduced a new transition concept based on **six key qualities of sustainable market economies** – competitive, well-governed, green, inclusive, resilient and integrated.

Projects and policy dialogue supported by the EBRD must make a significant contribution to one or more of the six qualities.
Green Financing is core to EBRD

The Green Economy Transition (GET) approach, approved in September 2015, supports the effective implementation of the green quality in EBRD projects.

This ambitious goal is in line with the EBRD mandate and aims to contribute towards international treaties such as the Paris Agreement and Sustainable Development Goals.

**GET OBJECTIVE**

- **40%**: 2020 target for the share of EBRD annual green investment, from a current average share of 38%
- **€4 billion**: Target annual EBRD green investment by 2020
- **€18 billion**: Target cumulative EBRD green investment 2016-2020
Track record of green investments

€26 billion
Cumulative EBRD green investment 2006 – 2017

1,460 projects
And credit lines, with over €148 billion total value

38% share
Of green investment*

*Average share between 2016 and 2017
2017 GET projects – Key highlights

- **Renewable energy.** Impactful series of solar and wind projects in Egypt, Greece, Jordan, Kazakhstan, Mongolia, Serbia and Ukraine.

- **Green Bonds.** Landmark EBRD investments in green capital market instruments through 10% stake in Lietuvos Energija’s green bond and a USD 100 million participation in the world’s largest emerging markets green bond fund.

- **Green Economy Finance Facilities targeting the Residential Sector** in Bulgaria, Romania and Western Balkans, accompanied by policy dialogue related to energy efficiency in buildings and appliances.

- **Climate change measures in Telecoms.** Project Echo in Greece. The Bank’s first project related to climate change mitigation and adaptation in an ICT company, including cooling units, efficient heating, ventilation and air conditioning and integrated photovoltaic units for off-grid base stations.
1. EBRD investment strategies to support the green economy transition

2. Trade in environmental goods
Key messages

1. Over the last decade, trade in green goods in EBRD countries has grown by 13% yearly to a total of ~$100bn, outperforming global green trade growth of 9%

2. EBRD countries could do much more to better benefit from opportunities in this growing market

3. Environmental trade liberalisation (of goods and services) can bring significant opportunities
   - cheaper imports ease attainment of NDCs and other Green Economy Transition goals
   - increased market access and improved global value chain integration increases competitiveness and exports

4. EBRD could scale-up its investments into companies that produce green goods

5. EBRD could support regulatory reforms with a view to improve standards and promote trade in green goods and services
Why Green Goods matter?

• The value of global trade in environmental goods is currently around USD 1 trillion and projected to grow to USD 2-3 trillion per year by 2020.

• Greener and innovative technologies boost domestic production and competitiveness through technological spill-overs.

• Better access to green goods also facilitates the achievement of climate change goals.

• In 2014 culminated in 46 WTO members starting negotiations towards an Environmental Goods Agreement (EGA), with the aim to eliminate all tariffs on environmental goods.
Figure - Trade in environmental goods (narrow definition, USD billions)

*EBRD countries not included because of missing data: Tajikistan, Uzbekistan, and Moldova
Figure - EBRD countries exhibit significant variation in terms of green export and import potential.

Notes: Blue markers represent countries with environmental trade surpluses and orange dots reflect countries with environmental trade deficits. Green complexity index calculated using average trade values over 2012-2014.

Source: Vivid Economics based on MIT Media Lab (2014), EBRD’s Green Quality Index, and World Bank (2016b)
## Classification of countries based on potential benefits from Green Trade

<table>
<thead>
<tr>
<th>Country grouping</th>
<th>Countries identified</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally well performing</td>
<td>Estonia, Hungary, Croatia, and Romania</td>
<td>Good green complexity and green policy, have low trade barriers, and exhibit green trade surplus</td>
</tr>
<tr>
<td>Export potential</td>
<td>Moldova, Bosnia and Herzegovina, Tunisia, Turkey and Ukraine</td>
<td>Relatively high green complexity but still limited green trade due to barriers to trade</td>
</tr>
<tr>
<td>Import potential</td>
<td>Jordan, Belarus, Morocco, Tajikistan, Azerbaijan, Armenia, and Mongolia</td>
<td>Strong policy ambition combined with relatively high current trade barriers</td>
</tr>
<tr>
<td>Low potential</td>
<td>Kyrgyzstan, Kazakhstan, Turkmenistan, Albania, Georgia, Macedonia, FYR</td>
<td>Low green complexity, policy ambition, and/or already low trade barriers or high environmental export shares</td>
</tr>
</tbody>
</table>

Source: Vivid Economics for EBRD
Trade in environmental goods: Opportunities for EBRD countries of operation

**Case Study Brief - Jordan**

### Green goods and sectors

**Top 10 green exports of Jordan:**
- Parts for filter and purifying machines for liquid/gas
- Photosensitive, photovoltaic, and LED semiconductor devices
- Compression refrigeration equipment (heat exchange)
- Electrical control and distribution board
- Machines to mix, knead, crush, grind, etc.
- Filtering/purifying machinery for liquids
- Machines to crush or grind stone, ores, and minerals
- Equipment to measure or check liquid flow or level
- Towers and lattice masts, iron, or steel
- Water filtering, purifying machinery or apparatus

Based on Harmonised System Classification

### Green trade partners

**Top 10 green exports Destinations**
- Saudi Arabia: 16.7%
- Iraq: 15.4%
- Israel: 12.8%
- Egypt: 8.5%
- Turkey: 7.3%
- UK: 5.5%
- Other: 33.9%

**Top 10 green imports Origins**
- Saudi Arabia: 25.9%
- China: 13.4%
- Germany: 13.3%
- Italy: 6.8%
- Spain: 4.8%
- USA: 4.1%
- Romania: 31.7%

### Potential for investment and further growth

- Green exports are 0.35 per cent of total exports and green imports are 1.34 per cent of total imports.
- The share of green trade in total trade is below the average for the non-EU EBRD’s CoOs, the SEMED area, and Turkey.

Import tariffs are low, thanks to bilateral trade agreements (with USA, EU, and the Arab league). However, non-tariff and regulatory barriers to trade are substantial. High ambition to become “greener” and import more green goods (Green Policy Index).
Case Study Brief - Ukraine

Green goods and sectors

Top 10 green exports of Ukraine:
- Automatic regulating/controlling equipment
- Parts of steam and vapour turbines
- Electrical control and distribution boards, < 1kV
- Steam and vapour generating boiler auxiliary parts
- Machinery for treatment by temperature change
- Electric generating sets
- Parts of heating/cooling machinery
- Heat exchange units, non-domestic, non-electric
- Parts for electric motors and generators
- Parts of hydraulic turbines and water wheels

Based on Harmonised System Classification

Green trade partners

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  High ambition to become “greener” and import more green goods (Green Policy Index).
6 Transition Impact qualities

“A sustainable market economy is one that is Competitive, Well-governed, Green, Inclusive, Resilient and Integrated”
President’s Recommendation, Transition Concept Review, October 2016

• **Competitive:** emphasising the private sector, incentive-driven, ‘Schumpeterian’ view of economic activity;

• **Well-governed:** acknowledging the crucial roles of national economic and corporate governance, with a focus on the quality of institutions and the processes they support;

• **Green:** relating to the interconnection between the market economy and environmental sustainability;

• **Inclusive:** about efficient (human) resource allocation rather than social policy, and the political and social sustainability of market economies;

• **Resilient:** supporting growth while avoiding excessive volatility and destabilising economic reversals;

• **Integrated:** effective ‘openness’ – about integration internationally and within domestic markets.
## What are green goods?

<table>
<thead>
<tr>
<th>Research question</th>
<th>Method and data</th>
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<tbody>
<tr>
<td>What are environmental goods (EG)?</td>
<td>based on HS6 nomenclature, existing lists from intl organisations, and validity of ex outs</td>
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<tr>
<td>What is the composition of EG trade for CoO?</td>
<td>analysis of HS6 level trade flows (in $) based on COMTRADE data</td>
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<tr>
<td>What are the barriers to EG trade in CoO?</td>
<td>analysis of CoO tariffs and NTBs based on WITTS data and Kee at al (2009) method</td>
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<tr>
<td>What environmental goods export opportunities are there in EBRD CoO?</td>
<td>analysis based on COMTRADE data and Mealy and Teytelboym's (2017) green complexity index methodology</td>
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<tr>
<td>Which CoO stand to gain from cheaper imports?</td>
<td>analysis of policy ambition based on index compiling WB, OECD, WHO and other public data sourced</td>
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### Key limitations

1. environmental good definitions are challenging
2. not a full (equilibrium) modelling assessment of impacts of trade liberalisation
3. data availability limits the assessment of services

Source: Vivid Economics for EBRD
The narrow list has 56 environmental products and the broad list has 177 products.

**Universe of unique products from APEC, WTO and OECD lists**

**Filter 1 preselection based on existing lists**

**Filter 2 based on sense check**

**Preselection based on combining all the unique products on the high consensus WTO core and APEC lists**

**Preselection based on adding combining WTO core, APEC and OECD lists. This filters out 200+ of the 545 products that are on the WTO reference universe list**

**Environmental Benefit Rationale**
- exclude if product is focused on noise pollution
- if product is not endorsed by > 5 countries, apply Vivid sense check and exclude if rationale is weak

**Ex-out**
- exclude if estimated proportion of HS code deemed green is likely to small (less than 5%)

**16 products excluded**
- 13 because of poor ex-out
- 2 because focussed on noise
- 1 because of poor environmental rationale and poor ex-out

**133 products excluded**
- 85 because of poor ex out (or environmental rationale)
- 20 because of poor environmental rationale only
- 8 because focussed on noise

Source: Vivid Economics for EBRD
The green complexity index captures the sophistication of a country’s environmental goods production

- **The Green Complexity Index (GCI)** builds on the ‘Economic Complexity Index’ (Hausmann 2014): Countries tend to develop new products in areas where they already have a competitive advantage.

- The economic complexity index captures the sophistication of economies’ productive capabilities, based on an analysis of what countries export.

- **GCI ranks countries by the diversity and complexity of their green exports.** High GCI countries produce and export a wide range of different green goods – many of which have high complexity. This identify which countries are competitive in green goods and well placed to diversify into new green goods in the future. It can determine **which environmental goods** (in which a country does not have a comparative advantage at present) are proximate to a country’s existing production structure.

- E.g., Estonia’s GCI is much higher than its ECI score, owing to capacity to export a complex green products (e.g. spectrometers, transformers and boilers). Similarly Tunisia has a comparative advantage in several green products (e.g. thermostats, electrical boards and water heaters).

Source: Vivid Economics for EBRD
The green policy index relies on 13 indicators of policy makers’ green economy transition ambitions

- The green policy index is has 12 policy indicators from the EBRD’s Green Quality Index and one additional indicator on Intended Nationally Determined Contribution (INDC) quality. The 13 indicators span across three sub-categories: climate change mitigation, climate change adaptation, and other environmental purposes.

- The mitigation sub-category covers market support for renewable energy, INDC quality, carbon pricing policies, and fossil fuel subsidies.

- The adaptation sub-category covers water pricing, agricultural capacity, institutional quality, and the adaptation ambition of the INDC.

- The environmental sub-category covers vehicle emission standards, municipal waste collection coverage, proportion of terrestrial area and seas protected. The cross-cutting sub-category covers the number of environmental patents per dollar of GDP.