THEMATIC EVALUATION

Review of the EBRD Energy Sector Strategy

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EBRD EVALUATION DEPARTMENT

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for Reconstruction and Development

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Thematic or sector-level evaluations such as this one seek to provide an objective assessment of performance, often over time and across multiple operations, and to extract insights from experience that can contribute to improved operational outcomes and institutional performance.

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Abbreviations

ADB	Asian Development Bank
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
ATC	Assessment of Transition Challenge
ATQ	Assessment of Transition Quality
CCGT	Combined cycle gas turbines
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Utilisation
CRR4	Capital Resource Review 4
CSRF	Country Strategy Results Framework
E2C2	Energy Efficiency and Climate Change (team)
EBG	Energy Business Group
EBRD	European Bank for Reconstruction and Development
ECSEE	Energy Community of South Eastern Europe
EIB	European Investment Bank
EITI	Extractive Industries Transparency Initiative
EOP	Energy Operations Policy
EPS	Emission Performance Standard
ESD	Environment and Sustainability Department
ESS	Energy Sector Strategy
FOPC	Financial and Operations Policies (Board) Committee
GET	Green Economy Transition
GHG	Greenhouse gas
GLCF	Georgian Low Carbon Framework
HPP	Hydropower power plants
IADB	InterAmerican Development Bank
IAPR	Integrated Approach to Polish Renewables
IBRD	International Bank for Reconstruction and Development
ICT	Information communication technology
IFI	International Financial Institution
LTT	Legal Transition Team
MEI	Municipal and Environmental Infrastructure
MIGA	Multilateral Investment Guarantee Agency
MSME	Micro, Small and Medium Enterprises
OPI	Operational Performance Indicator
PMF	Performance Monitoring Framework
RAB	Regulatory Asset Base
SEI	Sustainable Energy Initiative
SEMED	Southern and Eastern Mediterranean
SIP	Strategy Implementation Plan
SRI	Sustainable Resource Initiative
TC	Technical cooperation
TI	Transition Impact
TIMS	Transition Impact Monitoring System
WBG	World Bank Group

Executive summary

Operational work in the energy sector is a major component of the Bank's overall business and central to delivering core commitments to stakeholders and clients. Institutional directions on energy have widened further in scope and ambition since the Bank's current Sector Strategy (ESS) was agreed in late 2013, and major Bank-wide internal changes since then will directly affect business planning, delivery and assessment in future. EvD programmed this review of the ESS and resulting operations approved between December 2013 and April 2017 to inform Management development and Board consideration of a planned new sector strategic document in 2018.

The ESS flowed from new strategic directions set by the Bank's Capital Resources Review 4 and an existing Energy Operations Policy generally considered by Management to have been effective. It commits to "*promoting transition to the policies, assets, institutions, actors and regulations that comprise a market-oriented energy sector [to] deliver sustainable, secure and affordable energy services," and to a "holistic approach to energy systems."* For this the ESS would "*set parameters for operations and identify goals and how it will prioritise activities*"; and "*identify broader priorities that will shape country strategies and country-level operations and guide the direction and focus of Bank operations in the energy sector*".

EvD outlined the intended focus of its review in an Approach Paper discussed and agreed with Management. Three evaluation questions asked: whether the ESS set appropriate priorities; whether it has been an effective guide for and means to track operations; and what results are observable while the strategic period is not ended yet.

Between December 2013 and April 2017 EBRD approved €4.5 billion in 84 operations under the ESS across a wide spectrum, many with integrated policy dialogue supported by donors (€18 million), technical cooperation (€24 million) and conditions aimed at market opening, state ownership, pricing and measures to protect vulnerable consumers. Operations included €1.7 billion in natural resources (23 projects) and €2.8 billion in power and energy (61 projects), all but two as debt deals. Additionally more than €1.5 billion was committed to financial frameworks - to be fully used. The great majority of approved operations comply with EBRD Sustainable Energy Initiative requirements and received good or better ratings for expected transition impact.

Main Findings - ESS Scope and Priorities

- The Strategy's organisation around a mixture of overlapping themes, country groupings and transition elements incorporated much effort and creative thinking and was an increase in the Bank's strategic ambition beyond the previous focus on sub-sectors. But while the seven themes/pillars capture the key theme of energy efficiency they do not reflect any needs assessment and are too broadly drawn to aid selectivity.
- The ESS was presented as a 'holistic' approach to energy systems but its focus was limited to the supply side activities of one specific EBRD Banking group only. This was a significant narrowing of scope relative to the 2006 sector Operations Policy it replaced. Substantial energy sector work done elsewhere in the Bank (such as through Financial Institutions or support to Municipalities) was outside its scope (and EvD's review).
- There are key disconnects in the linkages from challenges to themes to operations, and no clear means is provided to link assessed needs and opportunities. Sector-level priorities cannot be determined, so an overall assessment of performance relative to objectives is not possible.
- The ESS's broad and flexible framework permitted the EBRD to deliver a large volume and wide variety of operations across the Bank's countries of operations and broadly aligned with the intended focus on efficiency and lower carbon.

- Neither the ESS (nor the previous Operations Policy) sets out expected results or targets even at a very broad level. Board members had raised concerns about this and requested clearer articulation of overall objectives and more detail on success indicators.
- Valuable elements of a full and effective sector strategy are missing or only lightly treated. There is little review of the Bank's competitive advantages and expected value-added; a close survey of the lessons of experience (self-assessment) is lacking; there is no systematic discussion of the use of different instruments; and, there is limited discussion of collaboration with partner institutions and EBRD's added value.
- The ESS did not incorporate anything specific on resources (financial, human, technical assistance) so there is nothing against which to assess performance.
- The ESS made several advances such as a new method of project screening incorporating carbon shadow pricing for the first time on the specific case of greenfield coal-fired power plant – although the methodology was never used. This is the only major 'policy' element of the document. No methodology exists for other coal related operations (supply or demand side) or for oil and gas. On this aspect the EBRD appears less advanced than partner IFIs.
- Overall the Strategy has elements of strength. But its major omissions and limitations sharply reduce its value to Management as a framework for prioritisation and selectivity, and to the Board as a means of strategic focus and effective oversight.

Main Findings - ESS as a guide and monitoring framework

- ESS core themes of energy efficiency and low carbon have been reflected widely across new Country Strategies approved since 2013; operations have similarly been delivered widely across different countries and thematic areas. Aggregated across countries considerable alignment is evident between ex ante themes and ex post operations.
- But while positive, this follows closely from the broadness of the themes and multiplicity of country level priorities; 29 new Country Strategies presented a total of 99 thematic energy sector priorities while operations (up to April 2017) were in fact delivered to fewer than 40% of them.
- Overall it is difficult to find much linkage from the ESS to country priorities to operational choices. The new country results frameworks as developed thus far do not enable conclusions to be drawn at the sector level, which has been one of their intended functions.
- In response to Board pressure the ESS introduced five Operational Performance Indicators (OPIs) to measure high level transition progress. However, those OPIs are drawn up as 'context indicators' at country level and not connected effectively to the ESS itself. OPIs are not used in Country Strategy Results Frameworks.
- Reporting to the Board on implementation of the ESS has been minimal.

Main Findings - Results

- As signalled in the Approach Paper, assessment of results (effectiveness) is limited by a still immature portfolio; however there is sufficient material to support preliminary findings on progresses of operations approved under the strategic framework of the ESS up to April 2017.
- Activity was substantial across a wide spectrum of renewables and in multiple countries, with accompanying policy dialogue that is well appreciated by stakeholders. Major investments in oil/gas will likely contribute importantly to supply security.
- There was high continuity with pre-ESS patterns, as implicitly intended by the Strategy.

- Absent sector-level results reporting or monitorable targets, EvD assessed expected project-level results against five outcomes. Based on estimates some significant energy/resource savings and emissions reductions should emerge though at substantially lower amounts than previous years.
- All business volume growth was accounted for by state transactions; the private share of volume dropped substantially to 57%.
- EBRD's share of projects' total value has increased; syndication is stable but co-financing has declined.
- EBRD has done much work on compliance with EITI, as well as corporate governance and business standards; but with targets not specified, it will be difficult to tell a clear story.
- Greater evidence of results – overall and project-specific – should be available in the future as actual project performance data emerge. But close analysis of individual ESS projects confirms there will be significant limitations given the well-known insufficiencies in project monitoring.

Recommendations

1. The Bank should clearly establish the purpose and standing of sector strategic documents of this kind in its wider strategic, operational and results architecture, including linkages to Country Strategies, other strategic documents, and new transition elements. Documents should provide the basis for mutual Board and Management understanding as to the nature of the commitments and undertakings they represent.
2. The new energy sector strategic document should encompass all energy related activities and instruments irrespective of their organisational implementing units. It should present strategic-level objectives for operations providing the basis for selectivity and sufficient to report on and assess sector level delivery performance. Such objectives could include, e.g. relative end-of period shares for private and public operations; GET-relevant metrics; specific sub-sector trends; use of specific instruments; commercialisation/privatisation accomplishments; and/or, policy dialogue priorities.
3. The scope of the new energy sector strategic document should include critical elements now omitted.
    - Commit to sector-level diagnostics/analysis from which sector-level challenges and objectives will be derived;
    - Review operational experience under the current ESS identifying lessons and how they will be incorporated in the new sector strategic document;
    - Present institutional resources required to implement the energy sector strategic document - human, financial, donor resources as well as how actual performance data will be collected to corroborate estimates at approval;
    - Identify targeted areas for engagement with other public institutions, including analysis of EBRD's added value;
    - Produce a time-bound reporting plan to provide the Board with an adequate overview of ESS implementation at the sector level across relevant business groups.
4. The Bank should clarify its approach to hydrocarbons (coal**,** oil, gas – on both demand and supply sides), including methodology for screening criteria; this would improve transparency with respect to complementary institutional priorities (such as under the Green Economy Transition Approach) as well as with practices in comparator institutions.

1. Introduction

In 2018 the EBRD is renewing a number of sector strategies, among which the current Energy Sector Strategy (ESS).[1] Ahead of that and in line with best practices, the EBRD's Board of Directors has requested the Evaluation Department (EvD) to review the ESS as contribution to be able to make an informed decision about the new Strategy.

This report is the main output of the Evaluation Department's Review. The approach and methodology used for this Review are specified in the Approach Paper[2] approved in September 2017 and summarised in Annex 1.

Three evaluation questions were formulated to guide the Review:

- 'Did the ESS set appropriate priorities for the EBRD?' – aimed at assessing the adequacy of the intentions spelled out in the ESS
- 'Has the ESS been an effective guide for and means to track operations?' – aimed at understanding how the ESS intentions have been used for operationalisation and which accountability mechanisms are in place.
- 'What results are observable thus far?' – aimed at understanding how EBRD's activities (investments, technical cooperation, and policy dialogue) have taken shape, in line with the ESS.

The findings derived from each evaluation question have been used to derive conclusions and recommendations to the EBRD (Board and Management) for the next energy sector strategic document.

The report is structured as follows:

- Section 2 gives an **overview of the key elements of the 2013 ESS** as approved by the EBRD Board of Directors.
- Section 3 touches upon the Bank's wider considerations regarding **sector strategies**.
- Section 4 consolidates the **findings** for each of the three evaluation questions, and derived **conclusions**.
- Section 5 summarises the **recommendations** for the future.

2. ESS – Overview of Development and Content

The Energy Sector Strategy of 2013[3] was developed against: the background of new strategic directions set by Capital Resources Review 4 – CRR4 (2010-2015); an existing Energy Operations Policy - EOP (2006) generally considered by Management to be effective; and Bank-wide changes underway in important policies and procedures. The call in CRR4 for a "*shift towards an energy efficient low carbon economy supporting energy security and economic competitiveness,*"[4] drove the Strategy's main themes; at the same time ESS largely extended without major change the existing framework within which operations were identified and delivered; and, it reflected important ambiguities in the evolving roles of sector and country strategies.

These three elements – thematic change around stated sector-level priorities; an operational framework designed largely for operational continuity; and, unresolved ambiguity around the lens through which to assess performance – are all important to understand the content and objectives of the ESS and the issues that have arisen in its implementation, and to form a view about the nature and priorities of a new Energy Sector Strategy.

2.1 Scope

The ESS is built around energy efficiency, with the stated intent to take a "holistic approach to energy systems"; it is also intended to "complement the Sustainable Energy Initiative (SEI) defining the Bank's approach to wider energy systems"[5] The desire to move to a holistic approach was presented as an argument in favour of moving from a defined sector 'operational policy' to a sector 'strategy'. A 'strategy' was likely to be a better means to present expected sector level results and how to best accomplish them.

However the Strategy's actual scope is limited to activities on the supply-side of the energy equation: "activities in support of electricity generation, transmission, distribution and supply and hydrocarbon extraction, processing, transportation, distribution and supply. Hydrocarbons for this purpose include oil, gas and thermal coal."[6] This represents a significant narrowing of scope relative to the EOP, which also included: natural resources, other than hydrocarbons and coal mining;[7] district heating;[8] and, significantly, energy operations through financial institutions.

In effect, the scope of the ESS was narrowed to encompass activities run out of the Energy Business Group, which drafted it and has institutional 'ownership'. While this has some organisational advantages it is well short of the holistic approach set out in the SEI and leaves out key operational activity on the demand side.

This was flagged by the Board's Financial and Operations Policies Committee (FOPC) during discussion of a draft.[9] But while the final ESS document cross references a number of related documents[10] its scope remained as originally proposed, namely limited to the **supply-side** and to the activities of a single business group.

2.2 Key elements

The ESS defines the Bank's core objective in the energy sector as "promoting transition to the policies, assets, institutions, actors and regulations that comprise a market oriented energy sector, which will in turn deliver sustainable, secure and affordable energy services".[11]

The ESS emphasises that a core purpose is to prioritise activities in the sector; it:

- "sets the parameters for Bank operations in the energy sector and identifies its goals and priorities"[12]
- "sets EBRD's general direction and identifies how it will prioritise its activities in the sector"[13]
- "describes how the Bank will prioritise and focus those approaches"[14]
- "identifies certain broader priorities that will shape their (country strategies and country-level operations) preparation and guide the direction and focus of the Bank's operations in the energy sector".[15]

The ESS states that "*the Bank will not finance any greenfield coal-fired power plant except in rare circumstances;*" - which is a specific commitment of the kind normally found in a Bank 'Policy'.

While the EOP identified specific sub-sectors, the ESS instead sets out seven very general **themes/pillars** under the broader theme of 'energy efficiency':

- Energy efficiency and demand side measures;
- Building deep and liquid energy markets;
- Rethinking energy systems;

- Low carbon transition;
- Cleaner energy production and supply; fossil-fuelled generation;
- Setting standards and best practice;
- The wider role of the energy sector.

Neither the ESS nor the EOP sets out specific results or targets**.** Board members raised concerns about this omission during FOPC discussion of the draft ESS, and requested *"a clearer articulation of the overall objectives of the Bank in the sector and more detail – to the extent possible – on success indicators."*[16]

In response the ESS introduced five outcome level Operational Performance Indicators (OPIs) *"to measure the progress of its countries of operations towards the transition end goal of a market-oriented energy sector"*:[17]

- OPI1: Private participation;
- OPI2: Cost reflective pricing;
- OPI3: Energy efficiency;
- OPI4: Carbon intensity;
- OPI5: Interconnections/energy trade.

Baseline data at country level for each was collected in 2014 and is to be updated by Management when preparing the new sector strategy.

The Board's Financial and Operations Policies Committee also sought to clarify the nature of the Bank's sectoral documents and their relationship to country strategies; the minutes record *"that this remained an area where practice was evolving. There was a degree of commonality of view that whilst high level objectives and indicators could and should be defined in sector strategies, country strategies would provide more precise operational objectives. Management noted that work had already been done in this area and that it was challenging to find appropriate measures. However, it was agreed to be more forward in suggesting possible areas where indicators could be defined."*[18]

3. The EBRD's sector strategies

Questions about the scope, content, standing and even core purpose of EBRD sector strategies have been raised since they began to replace Operational Policies in 2010. These include how policies and strategies differ, the nature of the commitments they set out, the question of Board approval, and whether there are means by which success may be objectively determined. The question of how sector-level and country-level strategies relate to one another is more recent, but also unresolved. Together with major changes in the Bank's broader transition and results architecture, still evolving, all these issues are highly consequential for institutional performance and accountability.

EvD sector-level evaluations regularly identify that unresolved issues of this kind represent significant obstacles to drawing evidence-based conclusions. They thus limit institutional accountability and the ability of Board and Management to draw full value from the lessons of experience. Initial scoping for this review confirmed the presence of all of these issues with respect to the ESS. Several additional sector strategy reviews are also underway and it is clear that many of the same issues will emerge. In that context it may be useful to provide a short discussion of the main issues from EvD's perspective and as a contribution to an internal discussion that remains ongoing.

3.1 From sector 'operations policies' to sector 'strategies'

Since 2010 all sector operations policies have been replaced with sector strategies.

Table 1: Snapshot of the EBRD's Sector Operations Policies (OP) and Sector Strategies (S)

Sector	before	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Agribusiness	OP					S								S
Energy	OP	OP							S					S
Financial	OP					S						S		
ICT	OP									S				
MSME	S	S												
Mining	-	-	-	-	-	-	-	OP					S	
MEI	OP							S						S
Property	OP					S								S
Transport	OP								S					S

The change of nomenclature did not inevitably mean substantive change, and EvD's work to date generally bears this out. There was no clear indication of what the change was intended to accomplish, and there is no EBRD definition of either 'policy' or 'strategy' although the differences are generally regarded as considerable.[19]

In July 2013 (while drafting the Energy and Transport Strategies) Management sought "*clarification regarding the terminology used in Bank documentation including the definition of the terms strategy, policy, initiative and framework.*"[20] It reviewed the history and practice at the EBRD, and implications for governance, consultation and disclosure requirements. It argued that more consistent classification criteria and a common understanding of different terms would lead to greater clarity regarding expectations. The paper proposed the following internal definitions:

Box 1: Proposed definitions in 2013[21]

Policies

"A policy is a principle or rule to guide decisions in specified circumstances ("if X then Y"), and is implemented as a procedure."

Strategies

"A strategy translates the Bank's mandate into action. It identifies particular transition challenges, specifies the Bank's objectives in addressing these challenges, and develops plans (in terms of projects, policy dialogue and TC), designed to achieve these objectives."

Initiatives

"An "initiative" denotes a focused and energetic approach to a specific strategic objective related to the medium term priorities of the Bank. Initiatives may cover a combination of projects, TC and policy dialogue."

While the paper was discussed in a Board Information Session in July 2013 there is no record of the proceedings. There was no official or unofficial internal follow-up to the discussion of which EvD is aware, as confirmed by several interviewees.[22]

Specifically with respect to the energy sector, the change from the 2006 EOP to the 2013 ESS implied:

- an explicit move from an operations approach to an 'holistic approach'; and,
- an implicit move from a set of principles ('policy') to specific sector results and priorities to be accomplished through a 'strategy'.

The two documents are very similar in terms of goals, approaches and content (Annex 3); differences are:

- The ESS excludes some sub-sectors covered by the EOP
  - natural resources, other than hydrocarbons and coal mining;[23]
  - district heating;[24]
  - energy operations through financial institutions.
- The ESS is based on themes rather than sub-sectors.
- The ESS introduced five outcome level Operational Performance Indicators

Neither document sets specific results, targets and resources. Both are **hybrids**, containing elements of both of the proposed definitions above.

With respect to results the shift from sector 'operations policies' to 'strategies' has occurred in the context of a significantly stronger institutional commitment to tracking results. Substantial progress has been made in recent years, with sector strategies though not having a specific place in the emerging results architecture and related strategic planning process.

In summary, as specified clearly in September 2014, the EBRD results framework architecture functions at three levels:

- institutional (corporate scorecard to align annual objectives with medium term goals);
- country (Country Strategy Results Framework - CSRF to link institutional, country and, activity objectives); and,
- activity (projects and technical assistance results frameworks).[25]

It was specified that sector strategies and initiatives would not have separate results frameworks. They would have Performance Monitoring Frameworks (PMF) that set clear objectives and track performance through key **output level indicators**. Outcome and impact level results, on the other hand, are to be monitored and reported at country level as part of CSRF. Country-level date can be used to illustrate and discuss performance of sector strategies and initiatives".[26] Thus results at outcome level would be harvested exclusively by country, while sector results would be available only at output level.[27] That is, sector level performance is to derive from aggregate project level outputs.

A July 2016 Strategic Planning document expanded further. At country level "***sector-level outcome*** *(or transition impact) indicators are used* ***only in a few cases*** *particularly when activities in a relevant sector have a* ***strong policy dialogue or legal reform content****, or when the Bank's project* ***volume*** *(or presence, including the past portfolio) is* ***large*** *relative to the size of a sector or economy*" [28] Essentially this states that even at country level any contribution of activities to higher sector-level effects will only be case by case.

The position of sector strategies in the Bank's results architecture will also be directly affected by the major revision to its core transition concept – moving to six key qualities of a modern, sustainable market economy: Competitive, Well-Governed, Inclusive, Green, Resilient and Integrated.[29] Embedding the new approach in EBRD's systems will significantly affect how priorities and eventually project results are conceptualised and reported, whether at the country or the sector level. While internal discussions and related documentation are available on how priorities are set at country level, there is no formalisation on how sector

priorities will be derived (as the Assessment of Transition Qualities - ATQs will be only at country level) and therefore how sector strategies will be expected to contribute to the overall results architecture.

The most relevant recent reference is the new Extractive Mining Industries Strategies.[30] However, despite some welcome improvements the new template still provides little clarity on sector-level objectives or much basis for Board or Management to assess whether operations are on track. It also conflates sub-sector challenges with those specific to selected countries; lacks targeted objectives needed for monitoring and eventual ex-post assessment; and mixes inputs with outputs and outputs with outcomes. The FOPC signalled its desire for "*more ambition on aggregate results in the performance monitoring framework*"[31]

3.2 Practice in Comparator IFIs

The strategy/policy issue has (not surprisingly) been discussed closely in comparator organisations and in many cases resolved with some clarity.

Box 2: Policy/Strategy definitions in other IFIs

Policy	Strategy
African Development Bank (AfDB)[32]	
Policies present the **highest level of mandatory principles** approved by the AfDB Bank Group Boards and deriving from the Bank's and Fund's Charters. A policy is **a statement of objectives or goals or requirements** of the AfDB Group in a particular area of activity over a **medium- to long-term period** and helps define the universe of acceptable areas or modalities for Bank and Fund interventions through its delineation of **acceptable and unacceptable areas**.	A strategy is **a set of options or means** articulated by Management and usually covers a **medium-term horizon** and is related to a specific sectoral or thematic area. Strategy can thus be adjusted more frequently and applied more flexibly than policy. While the strategic directions are not expected to change in the short or medium term, **their progress is monitored** and they may be fine-tuned or updated periodically to adjust to changing conditions.
Asian Development Bank (ADB)[33]	
A policy is a statement of objectives or goals of ADB in a particular area of activity over a medium- to long-term period. Policy may also **establish boundaries** within which the management must choose its strategy and activities in pursuit of these objectives. **Policy is a higher level of direction than strategy** and other directional documents in the particular area of activity. Policy is more stable and interpreted more rigidly.	A strategy is **a set of options or means** to achieve the objectives or goals established by a policy and/or the Charter.
InterAmerican Development Bank (IADB)[34]	
Policies are directives that define the **general lines of action** of the Bank with regard to operations, administration, and personnel.	Sector Strategies are broad expressions of Bank operational and knowledge priorities on cross-cutting themes (…). Strategies define **clear priorities** for Bank action and **establish goals**.
World Bank Group[35]	
A statement of **broad substantive policy principles** that require, permit or constrain Bank activities to achieve institutional goals.	*No official definition*[36]

Broadly, 'policies' state principles delineating acceptable and unacceptable areas while 'strategies' set out a plan of action with clear results, targets, priorities, indicators in a specific time-frame. Experience in these organisations is generally that the **definitions assist implementation and contribute to common understandings and expectations**.

With respect to IFI treatment of the energy sector, approaches differ as indicated in Table 2.

Table 2: IFIs' strategic energy sector documents

IFI	Year	Title	Type	Results Framework	Timeframe
ADB	2009	Energy Policy	Policy	Yes	when needed
AfDB	2012	Energy Sector Policy of the AfDB Group	Policy	Yes	10 years
AIIB	2017	Energy Sector Strategy: Sustainable Energy for Asia	Strategy	Yes	not specified
EBRD	*2013*	*Energy Sector Strategy*	*Strategy*	*No*	*5 years*
EIB	2013	Energy Lending Criteria	Other	No	when needed
IADB	2015	Energy Sector Framework Document	Other	No	not specified
WBG	2013	Toward a Sustainable Energy Future: Directions for the WBG Energy Sector	Other	No	n/a

3.3 Key findings on Sector Strategies

In 2018 the EBRD will renew five sector strategies, namely: Agribusiness, Energy, Municipal and Environmental Infrastructure, Property, and Transport. While undertaking the analysis of the 2013 ESS, a number of Bank-wide findings related to sector strategies have been harvested:

- The change from sector 'operational policies' to sector 'strategies' does not appear to have produced much change in overall content. Both are hybrids, including elements of what is traditionally understood to be 'policy' and 'strategy'.
- Long standing ambiguities about the role and standing of policies/strategies persist. These include: ownership as between Management and Board; what function they are expected to serve institutionally (accountability, business management); whether they are in any sense binding; whether and how to establish success metrics and how to assess them.
- Evaluations confirm that uncertainty as to the role and purpose of strategies is widespread. This erodes the desirable internal accountability function of strategies/policies. It also reduces the important value of these documents as internal and external communication tools, including in shaping the expectations of stakeholders.
- While the Bank has identified the need for clarification and made some useful proposals the matter remains open.
- EBRD has done valuable work to clarify its approach to results and introduce improved instruments and methods, including strengthened Country Strategies. However, the current intention to identify outcome level results only at the country level sharply limits the potential important contribution that could be made by sector strategies – and the institutional benefits of doing so.
- There is no indication (yet) on how sector level priorities will be derived in the future and how they will relate with priorities at country level; and in any event the intention at this point seems to be to limit sector level results to outputs – basically activities – rather than outcomes.

4. Main findings

4.1 Did the ESS set appropriate priorities for the EBRD?

Box 3: Summary findings for Evaluation Question 1

The ESS was intended to embed a 'holistic' approach to energy systems and operationalise CRR4's energy efficient low carbon approach, however its focus was narrowed to the supply side activities specific to the Energy Business Group.

Organisation around a mixture of themes, country groupings and transition elements incorporated much effort and creative thinking, and raised the strategic ambition of the ESS beyond the previous focus on sub-sectors.

But there are key disconnects across the challenges-to-themes-to-operations framework. There is no clear means to link assessed needs and opportunities. Sector-level priorities cannot be determined, and an overall assessment of performance relative to objectives is not possible.

The ESS's broad and flexible framework permitted the EBRD to deliver a wide variety of operations across the Bank's countries of operations without any substantial evident guidance – which came from other sources (e.g. SEI/SRI; Country Strategies; pipeline operations).

Valuable elements of a full and effective sector strategy are missing or only lightly treated. There is little review of the Bank's competitive advantages and expected value-added; a close survey of the lessons of experience is lacking; there is no systematic discussion of the use of different instruments; and, there is no discussion of collaboration with partner institutions.

The ESS made several advances such as a new method of project screening incorporating carbon shadow pricing for the first time. Its overall approach to hydrocarbons differs in some respects from comparator institutions.

This section examines more closely whether the scope and content of the ESS was adequate, relevant and appropriate to accomplish its stated purposes. The principal objective here is to draw out findings relevant to and likely to be helpful with preparation of a follow-on strategy for a sector whose importance has only grown since the ESS was agreed. Key issues include: what were the stated intentions and expectations of the ESS; how did it reflect and integrate transition challenges and develop operational priorities; were goals established clearly and capable of measurement; and, were critical execution issues such as resources and cross-institutional collaboration addressed effectively.

4.1.1 Stated Sector-level Intentions

As summarised in Section 2 the ESS gives prominence to several elements as capturing its intended scope and objectives. These include: taking broadest direction from the CRR4 to shift towards an energy efficient low carbon economy supporting energy security and competitiveness; and, committing to a 'holistic' approach to energy systems, identifying goals and priorities to guide the direction and focus of the Bank's operations sector-wide.

But at the same time the ESS narrows its scope relative to the preceding EOP, namely to only electricity and hydrocarbon supply-side matters including oil, gas and thermal coal.[37] The EOP had encompassed other natural resources, district heating, and energy operations through financial institutions. Essentially the ESS restricts its focus to activities within the business

scope of the Energy Business Group while the EOP encompassed important energy sector activities that crossed institutional lines. While this may have internal management elements to recommend it, it cannot be said to be institutionally holistic. Questions inevitably follow about the effectiveness of collaboration and degree of 'shared ownership' between Banking teams whose activities the Board would expect to be effectively coordinate.

4.1.2 Transition Challenges and Priorities

Sector strategies are ultimately expected to connect high level institutional priorities and transition challenges to operational choices in a way that is transparent, systematic, coherent and capable of assessment. The ESS was developed in a wider institutional context of substantial and ongoing change, encompassing instruments, business planning, resourcing, and mandate-level issues such as the evolving understanding of transition. Very substantial Management-side efforts went into its development and to confronting difficult topics, especially on this latter issue, and the Board was closely consulted at several points (see Annex 2 for a complete description of the ESS approval process).

Despite these efforts however there appear to be important disconnects and unresolved tensions in linkages that are necessary to meet the standard noted just above. Identifying these can contribute to a stronger process and outcome for the pending update of the new energy strategic document.

From ATCs to goal to transition challenges

The ESS refers to transition impact challenges in two separate sections, which reduces clarity and coherence. An initial assessment of transition challenges (ATCs) drew upon country level transition challenges aggregated by country classification (advanced, early and intermediate, SEMED).[38] A sector-level assessment that might have provided useful additional perspectives for a sector strategy was not carried out.

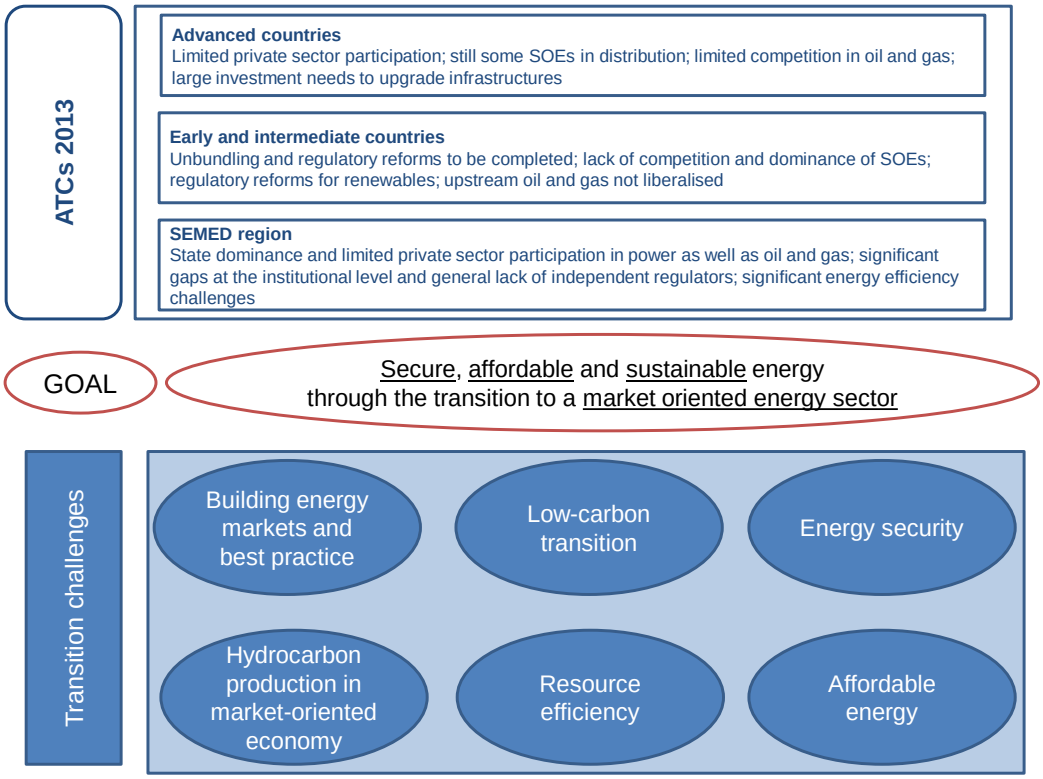
Following this ESS summarises intended institutional-level goal:

- "***promoting the transition to the policies, assets, institutions, actors and regulations that comprise a market-oriented energy sector,*** *which will in turn deliver* ***sustainable, secure and affordable energy services***";[39]
- a **market-based approach** as a mean to solving coordination and resource allocation issues when **balancing security, sustainability and affordability** (defined as the '**trilemma**');
- with key characteristics of the '**market-oriented sector**' that the EBRD seeks to achieve, and states that they are all interlinked: (i) competition; (ii) effective markets; (iii) diversification of participants; and, (iv) infrastructure (physical and soft).

Later the ESS discusses "*particular transition challenges in the Bank's region*",[40] namely: (i) building energy markets and best practice; (ii) the role of hydrocarbon production in a market-oriented economy; (iii) low-carbon transition; (iv) resource efficiency; (v) energy security; (vi) affordable energy.

While all of these elements may be valid the strategy provides no link between the ATCs and the subsequent 'particular transition challenges', although both are presumably rooted in country-level observations.

Figure 1: ESS narrative (1) – from ATCs to goal to transition challenges



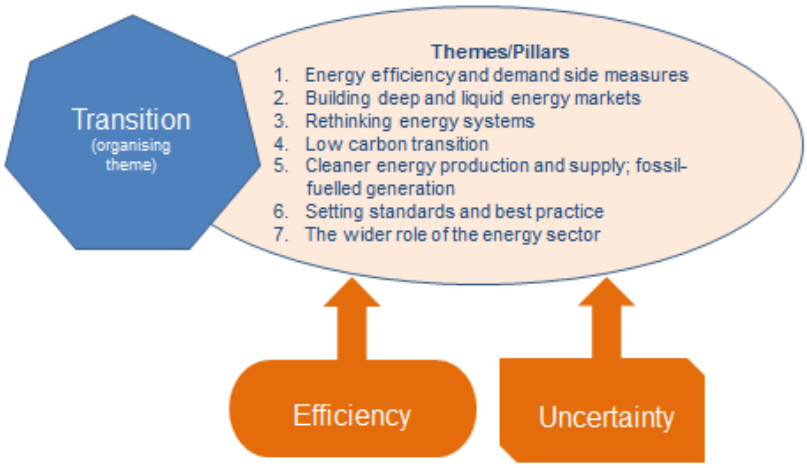
Source: EvD elaboration based on ESS narrative

Operational approach: the seven themes/pillars

Following the description of its goal and considerations of what transition means for the energy sector (see Figure 1), the ESS sets out how, in practice, the EBRD will pursue its agenda in its operational approach. By definition and as further explained by Management for the purpose of this Review, the themes/pillars are not intended to be priorities or to provide guidance in terms of selectivity of the activities (investments, technical cooperation and policy dialogue) to perform.

The ESS identifies seven themes/pillars based on the overarching theme of 'transition' (presumably the challenges described earlier) and taking into account two fundamental considerations: the EBRD pursues 'efficiency', but is constrained by 'uncertainty.' The relationship between the seven themes/pillars and the transition challenges is not clarified (explicitly or implicitly) and the seven themes themselves are very broadly drawn and inevitably interlinked – as described in Box 4.

Figure 2: ESS narrative (2) - EBRD's operational approach to the energy sector



Source: EvD elaboration based on ESS narrative

Box 4: ESS narrative (3) - The seven themes/pillars

The seven themes of the ESS are summarised below. They are mutually reinforcing or inter-dependent and **fit under the broader theme of 'energy efficiency'**:

- **Energy Efficiency and Demand Side Measures**
  - Demand and supply side energy efficiency with reference to SEI and touching on EBRD interventions to support energy efficiency in industrial and commercial entities, extending credit lines to develop energy efficiency financing, promoting energy efficiency in residential, commercial and public buildings, in municipal services, in the transport sector, and in the production, generation and delivery of power, heat and hydrocarbons
  - Demand response and distributed generation by supporting new models
- **Building deep and liquid energy markets** (improving market signals, wider private participation, modernisation of the public sector, support to smaller companies, strengthening the hydrocarbon value chain, market-enabling infrastructure, market-enabling regulation).
- **Rethinking energy systems** (smart grids, best practices in the hydrocarbon sector, investing in advanced technologies and business models).
- **Low carbon transition** (renewable energy, carbon markets – adaptation and resilience, carbon capture and storage with strong support for CCS and CCU and related regulatory frameworks).
- **Cleaner energy production and supply; fossil-fuelled generation** (resource efficiency across the sector; gas flaring reduction – supporting associated petroleum gas utilisation and flaring reduction projects; clean and efficient refining; supporting the shift to higher quality fuels; gas-fired generation (and in particular fuel-switching from coal to gas); coal-fired generation and application of a tripartite test to screen all investments in coal-fired generation or associated infrastructure, including thermal coal mining.)
- **Setting standards and best practice** in: responsible exploration and production – including shale gas; entrenching best practices; nuclear safety standards; transparency and good governance in extractive industries (encouraging endorsement of EITI); transparency of subsoil contracts and licences.

– **The wider role of energy** on local communities.

To those seven pillars, the ESS adds the importance of leveraging investments, policy dialogue and technical assistance (and in certain cases, integrated approach) as well as the importance of maintaining partnerships and cooperation with other stakeholders. Those are considered just statements of methodology in terms of operational approach.

Strategic priorities

Following its discussion of the seven pillars the ESS confirms that "detailed strategic priorities for each country of operations are defined in the relevant country strategies";[41] however, it then also sets out "certain priorities for categories of countries that share certain common characteristics", which introduces another categorisation unrelated to the preceding ones. These are described as follows:

- Energy producers – ensuring responsible development of energy resources and that hydrocarbon extraction is conducted according to standards.
- EU Member States, candidate countries and Energy Community of South Eastern Europe (ECSEE) members: low carbon transition, unbundling, market coupling and promoting security of supply.
- Small, isolated markets – ensuring effectiveness of regulation and tariff mechanism, and identifying options for interconnections and energy trade.
- State-dominated sectors – enabling and supporting private participation, followed by the commercialisation of state-owned enterprises.
- Regional markets (transit countries) – development of interconnections, cross-border energy trade.

There is no discussion of the relationship between these five country categories and their related priorities and the preceding ESS narrative involving ATCs, themes, pillars and the like.

4.1.3 Other elements

Incorporating experience

The ESS describes operations approved and implemented between 2006-2013 and notes some findings and lessons.

- The key role of policy dialogue and technical cooperation is mentioned several times.
- The importance of transparent, stable and predictable regulation and the EBRD's work done in this area.
- The experience with smart metering is seen as valuable for the future.
- The experience with renewable energy projects (especially wind and hydro) is well developed and indicated to be used to shape future operations together with the experience in supporting related legislation and regional trading – despite not indicating the 'how'.

Overall however the examination of experience is limited and there is only minimal elaboration on results achieved. Several particular missed opportunities in the ESS are identified below.

- Performance vs expectations: describes the main outputs of the EOP period but does not compare them to expectations or discuss results in a broader perspective.
- Evaluation of the 2006 EOP: summarises the (generally good) EvD project-level ratings but makes no mention of key findings where ratings were less positive. The ESS just states that the EBRD "*quickly learnt from these experiences and lessons from all projects*

are continuously integrated in new operations."[42] No further discussion is provided on what was viewed as effective and how this might be incorporated in future.

Public comments

The draft ESS was placed on the EBRD website for public to comments (see Annex 2). A summary of public comments received and staff responses were made available to the Board.[43] The ESS was amended in a few instances to reflect comments, namely in relation to: better regulation, biomass/biogas, Carbon Capture and Storage - CCS, Carbon Capture and Utilisation - CCU, coal, shadow carbon price, smart infrastructures, indicators, transparency (see Table A.2 in Annex 2). Other substantial comments, some made repeatedly, especially related to methodologies and approaches to hydrocarbons, were considered but not incorporated. Some of the points made above about the ESS narrative and structure were also raised by public commenters.

Engagement with other IFIs

Collaboration with external partners, including other multilateral institutions with common shareholders, generally benefits from consideration at the strategic level, and is broadly seen as an important standard element of sector and country strategies. The ESS mentions the existence of partners in the energy sector briefly but provides no further discussion.

This is a significant omission for several reasons. Real operational complementarities exist across the different institutions in the energy sector, covering sub-sectors, regions, instruments, core diagnostic work, relationships with policy makers, and policy dialogue conduct and content. This is particularly the case, as in the energy sector, where clients are likely to be state-owned or directed entities. While individual Country Strategies can be a useful vehicle for this kind of collaboration, they tend to be little used for the purpose. More importantly, cross-institutional coordination and collaboration at the level of sector strategy presents opportunities for sharper focus and higher effectiveness that cannot be provided elsewhere; and commitments can provide a powerful bilateral incentive to Managements/staff in both institutions and to client Governments.

4.1.4 Specific Sub-sector Issues

One of the major differences between the ESS and the EOP was its replacement of a focus on sub-sectors with focus on broader thematic issues and objectives. Nevertheless, in the case of the energy sector, some sub-sectors needs to be specifically addressed to provide reasonable clarity to the Board, staff, clients and the public as to the Bank's intended path. For some, the usefulness of the ESS is summarised in the fact that it gave an opportunity for discussion among stakeholders about specific and long-standing interest in hydrocarbons. Therefore the EBRD's approach to those is discussed here. Other important, but less sensitive, areas (such as renewables) are described in more detail in section 4.3.

Coal

In 2013 there was strong push for decarbonisation and the phasing out funding for investments in the coal industry. In particular, civil society organisations were asking the EBRD to take a strong position and lead the IFIs on that.[44] This is still valid today, especially since the EBRD committed to transition to a low-carbon economy spelled out in its Green Economy Transition Approach.[45]

The EOP included a specific section on fossil-fuel-based power generation and specified that "*The Bank will finance both rehabilitation and greenfield projects [of fossil-fuel-based power generation].*"[46] Between 2006 and 2013, coal generation projects constituted less than 6% of the Bank's total investments in the energy sector, including both greenfield and rehabilitation; of these the vast majority were for rehabilitation.[47]

With the CRR4 support for low-carbon transition, the ESS tightened further to "*not finance any greenfield coal-fired power plant except in rare circumstances, where there are no economically feasible alternative energy sources*."[48] The ESS specifies that any project in coal-fired generation or associated infrastructure, including thermal coal mining, needs to pass screening criteria, as defined in a specific methodology eventually circulated in September 2014.[49] The EBRD will only finance such projects in rare and exceptional circumstances and only when they satisfy three coal screening criteria (referred to as the tripartite test). The methodology includes an assessment of the impact of carbon and other emissions, using shadow prices in order to demonstrate that the investment is economically viable even taking emission externalities into account. The cost of greenhouse gas emissions is set at 35 €/tCO2e for emissions in 2014, at 2014 prices.

The EBRD is strategically aligned with other IFIs which define their approach to coal-based power projects in strategic documents - each of them having a different set of criteria for selecting projects. A comparison table is provided in Annex 4.

One particular difference is though with the European Investment Bank (EIB) which does not restrict its approach to coal, but applies the same standard to all fossil fuels (coal, oil and gas). In 2013 the EIB introduced an Emission Performance Standard (or EPS) of 550 gCO2/kWh for any fossil fuel power plant that it finances. This practice was also brought to the EBRD's attention by the public commenting on the draft of the ESS. The official EBRD response was that "*EBRD operates in a set of countries that have a very wide range of social, physical and economic circumstances and where under certain circumstances access to alternative kind of fuels for heating and power generation may not be available. Taking account of this context EBRD adopts an approach based on screening criteria, applied on a country by country and project by project basis.*"[50] The ESS indicates clearly that screening criteria for coal-fired generation projects require that "*infrastructure being financed must be the least carbon-intensive of the realistically available options*"[51] as does the Methodology for the assessment of coal fired generation projects approved in September 2014. Thus it could be argued that the introduction of EPS adds an element of transparency on all hydrocarbon related operations that EBRD's methodologies at the moment are not considering. Some EBRD shareholders consider that EIB's practice could be considered for internal discussion in the next strategic document related to the energy sector by end 2018.[52]

In fact the EBRD has not invested in any coal generation project under the ESS, and the above mentioned methodology has not been applied. Interviewed staff noted that while opportunities existed they were turned down as not passing the 'tripartite test'. One project classified as 'coal-mining' was approved[53] designed to support increased efficiency and decreased carbon intensity of the coal value chain. This was not considered a thermal coal mining project and therefore the tripartite test was not applied. The tripartite test is applicable only to coal-fired generation and associated infrastructures and therefore it was never applied.

It is not clear how other coal related projects (especially on the demand-side) have been treated.

Oil and gas

EBRD's approach to oil and gas in the ESS is very nuanced. It is also discussed in multiple places given the thematic (vs sub-sector) focus of the ESS.

Table 3: Extracts of the 2013 ESS related to oil and gas

In the pillar 'Building deep and liquid energy markets' the EBRD commits to "*strengthen the whole hydrocarbon value chain and maximize the role of energy projects in building more robust economies […] In particular support to oil and gas service companies can be a catalyst to introduce international standards in the sector. […] The Bank will support cross-border energy transportation and transmission projects"* and *"similarly encourage the development of LNG supply infrastructure and address shortfalls in gas storage capacity."*
In 'Rethinking energy systems' the EBRD "*supports the introduction of efficiency- and productivity-enhancing technologies*" throughout the hydrocarbon chain (upstream, midstream and downstream).
In 'Low carbon transition' the EBRD recognises that "*the long-run goal for the power sector is near complete decarbonisation by 2050 if the global climate change agenda is to be achieved*" and that this is possible only through extensive "*capture, transport and long-term storage of the carbon embedded in fossil fuels*". However, the EBRD "*does not envisage deployment of CCS beginning before 2020 and anticipates that this is likely to happen first in the US, EU, Korea or China."*
"*The Bank will therefore support associated petroleum gas utilisation and flaring reduction projects throughout its engagement in the upstream oil sector*", support "*clean and efficient refining*" in the midstream sector, and invest *"in infrastructure and, as described above, petroleum refining and distribution capacity to increase the availability of high quality fuels*". In the same section, EBRD explicitly "*supports the installation of highly-efficient gas-fired generation and in particular fuel switching from coal to gas, which is an important route to improve carbon intensity given the much lower CO2 emissions per MWh*.".
In 'Setting standards and best practice', EBRD "*supports exploration and production of oil and gas*", including "*the possibility of supporting production of unconventional oil and gas."*

All in the list of potential areas of support is an extensive one. There is no further prioritisation or defined project typology.

In some instances, the EBRD position on oil and gas is very broad and may justify any related investment. The EBRD commits to *"strengthen the whole hydrocarbon value chain"* and *"supports exploration and production of oil and gas"*. At the same time the EBRD acknowledges that *"the long-run goal for the power sector is near complete decarbonisation by 2050"* and that *"given the long life of many energy assets, the infrastructure which will deliver the emissions levels in 2050 is that which will be constructed over the Strategy period"*[54]. The 'trilemma' between affordability, security and sustainability of energy results in little clarity at the sector strategy level.

There are some significant cross-IFI differences of approach to oil and gas (comparison table in Annex 5). EBRD will support exploration and production of oil and gas, and possibly unconventional oil and gas production; the Asian and African Development Banks[5556] will not finance oil and gas field exploration. The World Bank Group will end financial support for oil and gas exploration by 2019. In exceptional circumstances, consideration will be given to financing upstream gas in the poorest countries if there is a clear benefit in terms of energy access for the poor and the project fits within the countries' Paris Agreement commitments.[57] As noted, EIB applies its Emission Performance Standard and shadow carbon price to all fossil fuel projects while the EBRD does not have any EPS and the shadow carbon price is applied only to coal-fired generation projects and not to oil and gas generation projects.

Under the ESS through April 2017 EBRD invested €1.7 billion across 22 oil and gas operations (38% of the overall portfolio of the Energy Business Group), with investments in Azerbaijan, Kazakhstan and Ukraine representing about 68% of the total.

4.2 Has the ESS been an effective guide for and means to track operations?

Box 5: Summary findings for Evaluation Question 2

ESS core themes of energy efficiency and low carbon have been reflected widely across new Country Strategies approved since 2013; operations have similarly been delivered widely across different countries and thematic areas. Aggregated across countries considerable alignment is evident between ex ante themes and ex post operations.

However this follows almost inevitably from the broadness of the ESS seven themes and the fact that individual Country Strategies identify multiple priorities - on average about 3.5 of the 5 main themes.

Across 29 new Country Strategies the Bank proposed to deliver operations across 99 thematic priorities. In aggregate, and generally at the individual country level, it is difficult to credit this as a means to guide and prioritise operational selection in any meaningful way. In the event operations were actually delivered to fewer than 40% of the identified country-thematic priorities.

Overall it is difficult to see any clear linkage from the ESS to country priorities to operational choices. Country results frameworks have value to track country priorities but thus far do not enable conclusions to be drawn at the sector level.

The ESS introduced five Operational Performance Indicators (OPIs) to measure high level transition progress towards a market-oriented energy sector. However, those OPIs are not connected effectively to the ESS itself, focussed instead on being 'context indicators' at country level. To the extent they are tracked it is at the country – not sector level. OPIs are not used in Country Strategies Results Frameworks.

Reporting to the Board on implementation of the ESS has been minimal, though there have been useful opportunities.

The ESS did not incorporate anything specific on resources (financial, human, technical assistance) so there is nothing against which to assess performance.

Ordinarily a strategy-level evaluation would explore as a main question how effectively the strategy was operationalised - how well its broad objectives were translated into specific activities that may be observed and assessed objectively. Specific areas of focus would include: how activities were organised and resources deployed (human, financial, organisational); how activities were determined, tracked and monitored; and how intended results were specified, activities tracked and responsibilities identified.

Due in part to the design/structure issues discussed in the previous section 4.1, as well as to several more specific issues to be discussed here, EvD's ability to cover this ground effectively was significantly constrained. EvD's Approach Paper identified these limitations at the scoping stage, and the specific focus of the Review was shaped accordingly. The focus here is thus limited to how the stated content of ESS was actually used in practice to shape choices, establish objectives, and track activities and their effects. This includes:

- operational focus and priorities at country level;
- indicators used to track progress in countries of operations; and
- accountability mechanisms.

4.2.1 Strategic Focus via Country Strategies

Country Strategies strategic orientations/directions

The ESS states "*detailed focus for each country and region is set, within the parameters of the Energy Strategy, in the Country Strategy prepared for each country of operations.*"[58] This section reviews the alignment between Country Strategies priorities and the themes established in the ESS.

Twenty-nine new Country Strategies approved in the ESS timeframe are assessed[59] [60] against the seven ESS themes, all under the overarching theme of energy efficiency as indicated in the ESS itself:

1. Energy Efficiency and Demand Side Measures;
2. Building deep and liquid energy markets;
3. Rethinking energy systems;
4. Low carbon transition;
5. Cleaner energy production and supply, fossil-fuelled generation;
6. Setting standards and best practice;
7. The wider role of the energy sector.

Main findings are presented below and in Table 4.

Energy efficiency/demand side (Theme 1) and low carbon transition (Theme 4) are dominant, cited for most countries (25). This is consistent with the strategic and operational priority given to energy efficiency and renewables.

Building deep and liquid energy markets (theme 2) was almost as common, and included in 22 Country Strategies.

Other themes were much less cited; rethinking energy systems (theme 3) and wider role of the energy (theme 7) sector in very few cases.

Individual countries cited as many as six themes or as few as two. Dropping the rarely used themes 3 and 7, on average each country invoked roughly 3.5 out of 5 strategic themes.

Thus any given main theme was substantially more likely than not to be cited in any given Country Strategy; said another way, for in any of the new Country Strategies prepared during the lifetime of the ESS, thematic priorities were likely to be broadly similar.

Table 4 also shows the thematic classifications of projects approved by the Board to provide a snapshot of how thematic priorities were operationalised at country level. Some specific findings follow:

Energy operations have been approved in most countries where energy thematic priorities have been identified; thus far about 25% of the countries operations have not materialised, though the ESS runs until end 2018. A more comprehensive analysis could be performed by Management at the end of the period covered by the ESS on all operations approved by end 2018.

Theme 1 (energy efficiency and demand side measures) captures the overarching theme for ESS touching both the demand-side as well as supply-side efficiency investments. Not surprisingly it is the most frequently cited thematic priority at country level (see

Table 4). Yet from the analysis of approved operations up to April 2017 relatively few approved operations specifically tied their relevance at sector level to that theme. EvD understands that given the broadness of the overarching theme 'energy efficiency' and the ubiquity of its presence in Bank operations it is likely that the other ESS themes (also embedding energy efficiency) were more cited in project documents in terms of alignment with the ESS. Nevertheless, it is an unexpected finding.

Little can be said about possible demand-side energy efficiency operations done by other Banking teams (district heating, energy efficiency credit lines) and outside the scope of this Review – as well as outside the scope of the ESS.

Projects to build deep and liquid energy markets (theme 2) were delivered in about half (9/20) of the prioritised cases; in two cases investments were approved despite lack of flagged priority in the Country Strategy.

In cleaner energy production and supply/fossil-fuelled generation (theme 5) delivery was in only four of ten intended countries. However there were four additional cases of delivery in countries for which this was not a cited priority. If this is seen as an indicator of an opportunistic approach by the Bank, such cases would appear most common in the oil and gas sub-sector.

Low carbon transition (theme 4) had the highest alignment between ex ante priorities and actual deliveries over the ESS period, although here too there are numerous countries where delivery remains prospective.

Rethinking energy systems (theme 3) had as many unanticipated deliveries as intended.

The wider role of energy (theme 7) was identified as a country-level theme only rarely, and materialised at the operational level even less often. Notable for its rarity was a privatisation-focussed operation in Kazakhstan.

Table 4: Country Strategies and operations (approved Dec2013-Apr2017) linked to ESS themes

Country	Theme 1	Theme 2	Theme 3	Theme 4	Theme 5	Theme 6	Theme 7	# P*
Albania		√						1
Armenia								0
Azerbaijan			P					2
Belarus								0
Bosnia and Herzegovina		√						2
Bulgaria		√				√		3
Croatia								0
Cyprus				√				2
Egypt		√		√	√	√		6
Estonia			P	√	√			2
Georgia				√	P	√		7
Greece		√		√				3
Hungary								0
Jordan	√			√				8
Kazakhstan	√	P	√	√	√	√	√	8
Kosovo					P			1
Kyrgyz Republic		√						2
Latvia								0
Lithuania								0
Moldova		√						1
Mongolia				√	√			2
Montenegro				√				2
Morocco				√				2
Poland				√				4
Romania			√	√	P	√		5
Serbia		√		√				2
Slovenia								0
Tajikistan		P		√				2
Turkey	√	√		√	P		P	9

* operations classified as stand-alone and sub-operations (for which the link with the Country Strategy was explicit)

Legend	
	Unmatched yet - ESS theme identified in the Country Strategy, but no project approved yet
√	Match - ESS theme identified in the Country Strategy and project(s) approved
P	ESS theme not identified explicitly in the Country Strategy, but project approved in line with the ESS theme

Source: EvD elaboration

It is difficult to come to strong conclusions about much of a predictable or causal alignment between operational priorities cited ex ante in Country Strategies and the operations actually delivered.

- On the one hand the ESS implementation time-frame was limited; there was never any commitment to deliver operations for all identified priorities in all countries; and some element of business opportunism must be assumed and is not inherently problematic.
- But the record is also consistent with the fact that the ESS themes were extremely broadly drawn, and applied to individual countries in a way that cannot be said to have been selective. Commonalities do exist at the sector level across different countries; but so do particularities and constraints that argue for selectivity. It is likely that there were numerous cases of loose application of ESS themes to specific projects a country prioritisation context that itself was loosely drawn.

– It is worth adding that staff indicated that while Country Strategy priorities can be relatively clear ESS requirements and themes are not seen to be – with the sole exception being greenfield thermal coal. Most see the ESS more as an enabler of individual operations for Board approval than as an aid to prioritisation and selectivity.

Country Strategies Results Frameworks

Since end-2014 the EBRD has introduced Country Strategies Results Frameworks (CSRF) in line with the architecture of the transition impact results frameworks circulated in September 2014 and described in section 3.1.[61]

The CSRF is presented in the form of a table with challenges, objectives, activities and indicators for each of the priorities identified. In other words, each Country Strategy has as many results frameworks as priorities. Indicators are both qualitative and quantitative. Qualitative indicators include:

– Qualitative account of successful creation/strengthening of relevant legal and regulatory framework based on transition impact benchmarks and technical cooperation results

– Key regulatory changes achieved through policy dialogue (e.g., establishment of an independent regulator; framework for private sector investment in renewables; improved tariff methods for cost recovery)

Examples of quantitative indicators related to the energy sector are:

– Renewable energy generated with the Bank's support in MWh/y,

– Energy savings (e.g. tons of oil equivalent) resulting from the Bank's investments,

– CO2 emissions reduction as result of the Bank's operation in ktCO2e/y

These respond to requirements set in the SEI/SRI/GET documents. It is understood that these indicators are collected operation by operation, aggregated (if possible) at country level, and eventually consolidated in the EBRD annual Sustainability Reports to show results in terms of SEI/GET.

Additionally, from 2015 a 'context indicator' has been added to the Country Strategies disconnected from challenges, objectives, and activities but introduced to give some context data. Interestingly, in cases where the 'context indicator' is coincidentally one of the ESS Operational Performance Indicators described in section 4.2.2 (e.g. carbon emission intensity) the baseline indicated is not taken from the available baseline collected in 2014 for the OPIs.

In terms of accountability, the above country priorities indicators are used to track progress at country's level via updates to the Board on developments related to those Country Strategies that have reached a mid-point in their strategy period. Country Strategy Updates are available for 2015[62] and 2016.[63] In 2017, Country Strategy Updates have been evolved into Country Strategy Delivery Reviews[64] with changes introduced also for 2018.[65] From a preliminary review of those updates/delivery reviews it seems that they do not include any sector level considerations or make any reference to the ESS when it comes to updating the achievements related to the priorities identified for the supply-side of energy. Data are reported very much at activity level.

4.2.2 Operational Performance Indicators

The first draft of the ESS attempted to address the absence of performance indicators in the 2006 EOP by adding four 'core strategic areas and tracking indicators':

– Sustainable energy financing.

– Investing in advanced technologies and business models.

– Improvements and expansion of market-enabling infrastructure and regional energy trade.

– Leveraging projects for strategic gains.[66]

With the exception of the first item (linked to SEI carbon targets) none of these included results and indicators. As noted earlier (section 2.2) this was flagged by Board members at FOPC who "*felt that the strategy could set out more clearly its overall objectives with a view to making the assessment of the success of strategy easier. In particular, many felt that the nature of the strategic performance indicators should be made more precise before publication for comment*." Management responded by introducing five OPIs.

– Private participation (OPI 1),

– Cost reflective pricing (OPI 2),

– Energy efficiency (OPI 3),

– Carbon intensity (OPI 4), and

– Interconnections/energy trade (OPI 5).

The ESS states that the Bank will track these "to measure the progress of its countries of operations towards the transition end-goal of a market-oriented energy sector."[67] The indicators are described as "measurable, comparable over time, reflect key transition goals for the energy sector and are outcomes rather than inputs… systemic changes take time to manifest themselves in outcomes."[68] Thus the ESS specifies that the OPIs are designed to monitor progress made by countries against the transition challenges, while also acknowledging the complexity of attribution directly to EBRD operations.

The EBRD has collected baseline data for the five OPIs in each EBRD country of operation in 2014 (data as of 2011 or 2012). In terms of accountability the five OPIs will be updated by Management only at the end of the period covered by the ESS (2018) as stated in the document itself.[69] These indicators are the only explicit tracking metric identified in the ESS.

An analysis of the OPIs yields the following findings:

– The OPIs are defined at 'outcome' level but it is not clear to which ESS intended 'outcomes' they refer. An essential link is lacking between those unexpressed 'outcomes', the identified regional 'strategic priorities', and the seven themes/pillars (as discussed earlier).

– The indicators are comparable over time as indicated in the ESS. However the timeframe for comparability does not coincide with any EBRD's strategic document, including the ESS timeframe (five years).

– The indicators have (as intended) not been updated since 2014. However this approach undermines their stated purpose to track progress. Indicators should serve to monitor progress towards the achievement of a result and to inform corrective actions. This would seem especially necessary in a fluid operational environment, and where opportunism is built into the business plan.

– EvD updated the OPIs for this Review, subject to data availability. The results of this very long and resource intensive exercise are available in Annex 6. Overall, insignificant progress is evident. Thus far the value of such 'context indicators' appears limited. For instance, comparing the seven largest recipients of energy investments with countries where none were made shows no significant difference (more detailed analysis is provided in Annex 6) – which will probably be visible only in a timeframe longer than the one of the ESS.

Based on this limited analysis the OPIs appear insufficient to assess the contribution of EBRD's operations approved – as indicated in the ESS "*it does not expect necessarily to be*

able to show clear causal links between its activities and these indicators" – which again brings to the conclusion that those are not indicators to track progress, but just 'context indicators'. Measuring OPIs at country level which returns to the problem of the lack of needs' analysis, priorities, and expected results at sector level, which are in any case fundamental to what a 'sector strategy' should be.

Updating the OPIs also revealed that the information required is spread among various EBRD's staff members rather than captured and maintained systemically. This may be a factor in the fact that since the baseline data was collected in 2014 OPIs have not been used, even in Country Strategies Results Frameworks.

Including the OPIs in the 2013 ESS was welcomed and represented a potentially valuable bit of progress on the wider results agenda. As structured and implemented to date, however, they yield little value.

4.2.3 Resources

The ESS did not include any reference to resources – which are in principle a key element in any strategy.

Identifying ex-post resources allocated to implementing the ESS proved to be unfeasible in the absence of clearly-defined priorities in the document.

Banking department scorecards do not provide resources against the relevant sector strategy, but measure success in terms of transition impact, new business, disbursement and portfolio monitoring, financial performance and, since 2017, policy dialogue objectives.

Resources related to a specific sector are not identified in the EBRD's Strategy Implementation Plans (SIPs).

It must be also added that, in the interviews held for the purpose of this Review not once resources have been raised as an area of concern – thus passing the message that there is a general sense of adequateness of the resources available to perform operations in the supply-side of energy.

4.2.4 Information Sharing

The FOPC received an update of the ESS in April 2016, two years after approval. The presentation emphasised that approximately 60% of the work under the ESS contributed to SEI/SRI/GET objectives. FOPC "*agreed the Strategy was resilient and that progress had been very strong. The Committee noted the successes in Ukraine and SEMED in particular and the team's prominent contribution to the GET approach.*"[70]

But while it provided useful information, including on operational volumes, there was little overlap with the structure and themes identified in the ESS. The operational approach is presented according to different themes from the ESS, namely: climate change and renewables; conventional energy supply and resource efficiency; energy security and cross border infrastructure; and, sector reform and policy dialogue. The lack of linkage to the agreed ESS structure reduced the briefings' value for tracking strategic commitments in a highly important sector of Bank activity.

The Energy Business Group has presented ten Board Information sessions on various energy sector issues (excluding extractive industries) since 2013 until end 2017 and these are generally regarded as valuable.[71] However, none addressed any links with the ESS, raising questions as to its internal profile and perceived level of priority.

4.3 What results are observable thus far?

Box 6: Summary findings for Evaluation Question 3

Assessment of results can only be tentative at this stage as the strategic period of the ESS ends in 2018. EvD reviewed operations approved by the Board between **December 2013 and April 2017**: for a total of €4.5 billion in 84 operations across a wide spectrum, many with integrated policy dialogue, technical cooperation and conditions aimed at market opening, state ownership, pricing and measures to protect vulnerable consumers.

Operations included €1.7 billion in natural resources (23 projects) and €2.8 billion in power and energy (61 projects). All but two were debt transactions. Most (87%) comply with SEI/SRI/GET requirements. Most (79%) received good or better ratings for expected transition impact.

All business volume growth over the period was accounted for by state transactions; the share of transactions volume classified as private dropped substantially (to 57%).

EBRD's share of projects' total value has increased; syndication is stable but co-financing has declined; use of non-TC grants expanded significantly, to €600 million, mainly for public clients but also in minor part to support renewable energy operations.

In the absence of a sector-level results measurement and reporting framework or monitorable targets, EvD assessed expected project-level outcomes against five key performance outcomes created ex post from the ESS (and endorsed by Management for the purpose of this Review). Actual performance data are largely unavailable at this date.

Some significant aggregate energy and resource savings and emissions reductions are estimated; but while the sample size and time-frame are limited it appears that their overall amount is down substantially from previous years.

Activity remains substantial across a wide spectrum of renewables and in multiple countries, with accompanying policy dialogue that is well appreciated by stakeholders. Major investments in oil/gas will likely contribute importantly to supply security.

EBRD has done considerable work to ensure compliance with EITI, as well as on corporate governance and business standards; however as targets are not specified, it will likely be difficult to tell a clear story in future.

Greater evidence of results – overall and project-specific – should be available in the future as actual project performance data emerge. However EvD's close analysis of the large pool of individual ESS projects confirms that significant limitations will also exist here given the well-known insufficiencies of medium and longer-term project monitoring. Future strategic and operational choices will need to be made on the basis of limited empirical evidence about the performance of past investments.

This section provides findings related to implementation of activities approved under the ESS. Several important constraints apply and are discussed. Among these are the lack of strategic metrics discussed earlier; in addition it is too early to observe medium-longer term project-level results or effects at country level and preliminary data are used where available. Wider contextual factors must also be acknowledged. These include significant shifts in energy market pricing and technology, major changes in the regional balance of Bank operations, and launch of major internal strategic initiatives and external policy commitments.

The analysis covers operations approved between December 2013 and April 2017, with a few exceptions as noted. Reflecting the focus of the ESS, operations are those of the Energy Business Group (EBG) excluding extractive industries,[72] with any related technical cooperation

and policy dialogue activities. While not exhaustive, and as noted still preliminary, the analysis covers a large body of activities representative of EBRD's engagement on the supply-side of the energy sector since ESS. (Annex 7 provides a portfolio analysis detail). Main features of the portfolio are:

- Investments include 84 operations for €4.5 billion, with: €1.7 billion (23 projects) in natural resources and €2.8 billion (61 projects) in power and energy; this is about 9% of Bank projects and 19% of volume over the period.
- The share of transactions volume classified as private dropped significantly from the previous 3 year period (from 68% to 57%); all of the business volume growth was accounted for by state operations.
- €500 million in grants (non-TC) was used to support nine of the 84 operations; additionally Special Funds resources (still grants) for a total of €168 million was attached to renewable energy operations
- Most operations (73) were SEI/SRI/GET flagged; 54 with 100% SEI/SRI/GET share
- Almost all operations were debt investments (82); only two were equity.
- For transition impact 79% were rated 'good' or 'strong good' with 'high' or 'medium' risks at Board approval.
- Grant donor resources provided €42 million for transactional and non-transactional (policy dialogue) activities.

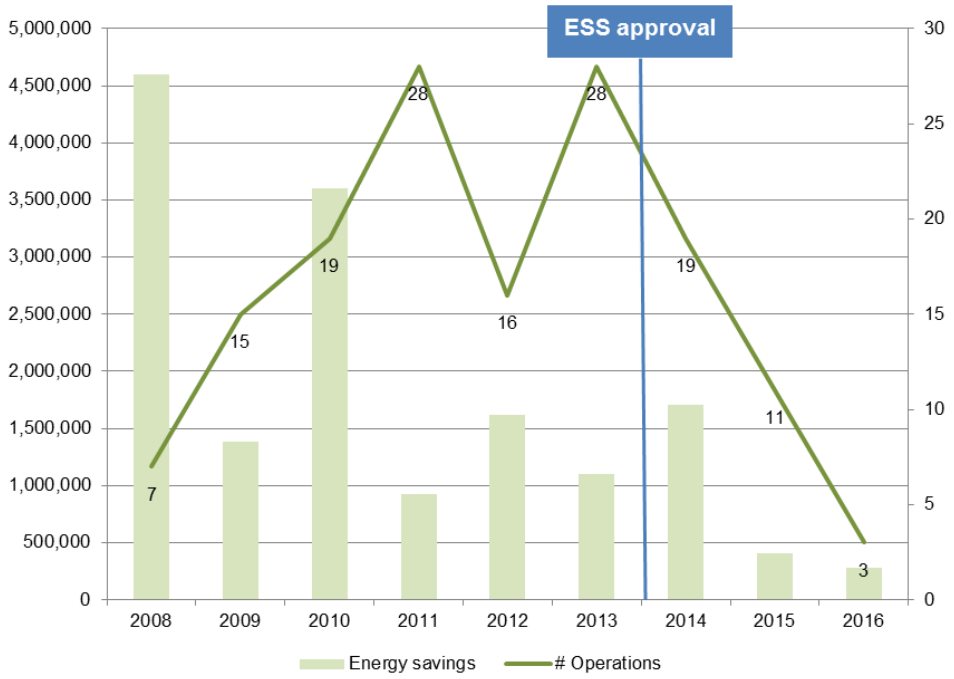
The Approach Paper for the Review reflected the significant challenges arising from the generality of the themes set out in the ESS, the lack of specified results, and the limitations of the Operational Performance Indicators included in the ESS at a late stage. EvD in response developed five key outcomes directly from the intentions stated in the ESS itself, which were validated by Management as a fair interpretation of the Strategy. These five outcomes thus represent what is objectively in the ESS as approved, with observable progress toward them a measure of accomplishment.

- Improved energy and resource efficiency/lower energy intensity on the supply side
- Improved environmental performance
- Enhanced quality and security of supply
- More open and better functioning markets
- Improved transparency, governance, skills, standards/practices

4.3.1 Improved energy and resource efficiency / lower energy intensity on the supply side

E2C2 data assembled under SEI for 35 operations (approved between December 2013 and April 2017) primary energy savings of 2.39 Mtoe per year[73] – based on **estimates at approval, not observed savings**. This is a clearly positive result if it materialises, though a single 2014 operation in Egypt counts for more than half, and savings have been sharply lower since (see Figure 3 and Figure A.15 in Annex 7). Other estimated contributors were four solar[74] and one CCGT investment[75] in Jordan, three wind farms in Poland,[76] and a hydro project[77] and transmission upgrade [78] in Tajikistan.[79]

Figure 3: Trend of primary energy savings (toe/year) from EBRD's supply-side energy operations



Source: EBRD's Energy Efficiency and Climate Change team

Wider conclusions are not possible at this stage, and Figure 3 shows a marked decline in savings over the past decade. The type of operations targeting energy savings has changed over the years: whereas in 2008 the savings were expected to come from few oil and gas extraction operations in Russian Federation[80] and CHP rehabilitation in Kazakhstan,[81] over the years energy savings are expected to come more and more from small(er) renewable energy projects. However, Figure 3 shows a deep decrease in operations with expected energy efficiency components.

The Bank also monitors water and resource efficiency under the Sustainable Resource Initiative, which is complementary to the ESS. Water savings of about 3.9 million cubic meters annually from four operations are estimated, the bulk from replacing an oil-fired plant with a new CCGT in Jordan.[82] Material savings of 25,000 ton of material saved are expected to come from an operation in Estonia.[83]

Transactional donor funded activities are attached to many such investments. E2C2 supports any operation with energy and resources efficiency components through donor or EBRD funded technical advice, energy audits, project implementation support etc. The E2C2 team also tracks all SEI related indicators – for which it is expected that accountability mechanisms are ensured.

Non-transactional/policy dialogue activities with non-banking teams such as the Legal Transition Team work on a conducive legal framework for energy efficiency, such as development of a National Energy Efficiency Action Plan and Energy Efficiency Law for Georgia. Informal policy dialogue occurs across all countries outside of formal donor funded programmes but is not captured in any systematic way.

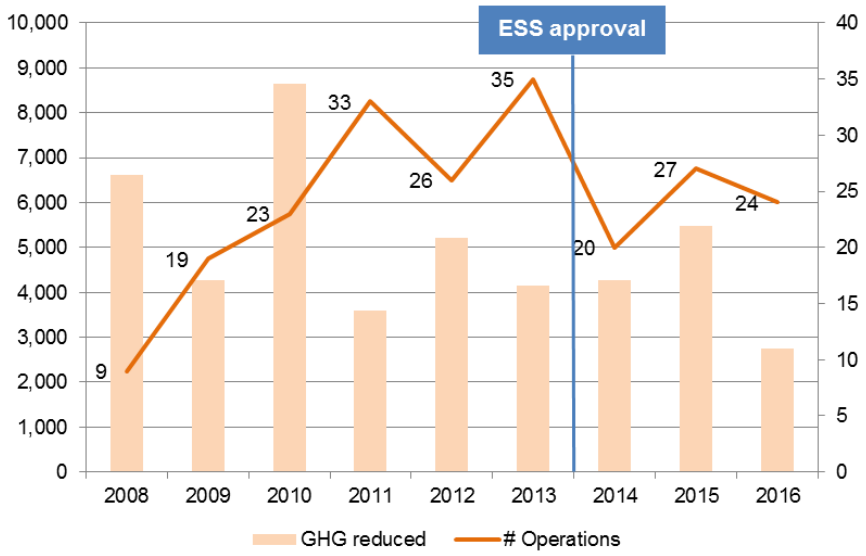
4.3.2 Improved environmental performance

This relates to reduction of CO2 emissions and is linked to the EBRD's commitments under the Green Economy Transition (GET) Approach. EBRD has also been working since 2012 with other IFIs[84] toward a harmonised approach to project-level greenhouse gas (GHG) accounting, including a set of principles on policy commitment, methodology, and reporting. The

implementation of the joint methodology for tracking climate change mitigation finance is publicly available in annual reports.[85]

Available data show 66 of the 84 operations approved between December 2013 and April 2017 contributed a cumulative expected reduction of **11 MtCO2 per year**. These are certainly positive achievements if they materialise.

Figure 4: GHG reduced (kt CO2 per year) from EBRD's operations approved between 2008 and 2016



Source: EBRD Energy Efficiency and Climate Change team

Figure 4 shows the trend in incremental GHG emissions attributable to EBRD operations with a significant (34%) fall-off after 2010 and relative stability since then despite ESS approval. Figure 4 shows also a decreasing trend also within the ESS time-frame. This is surprising considering that CO2 reductions globally are increasing.[86] Final considerations about CO2 reductions derived from operations approved in line with the ESS could only be made at the end of 2018, at the end of the strategic period.

The three countries expected to show greatest results in CO2 reductions for operations approved between December 2013 and April 2017 are Egypt, Tajikistan and Kazakhstan.

The project with the highest expected CO2 emission reduction is the conversion of El Shabab and Damietta West gas-fired facilities to CCGTs in Egypt. This project will be in operation in June 2018 and will contribute to limiting CO2 emissions that have increased constantly in the period 2013-2015, from 189 to 199 Mt per year. Other CO2 emission cuts come from EBRD operations to reduce gas flaring[87].

In Tajikistan, two projects are expected to result in CO2 emissions reductions: Qairokkum Hydro Power Rehabilitation Project (105 kt per year)[88] and, the Cross Regional Power Trade project[89] aimed at infrastructure for high-voltage transmission for the Central Asia South Asia Electricity Transmission and Trade project. This project also has important cross-border dimensions in supplying power to Pakistan and Afghanistan.

In Kazakhstan, eight projects are expected to avoid 1,195 kt CO2 emissions per year.[90] The most important in terms of CO2 emissions reduction is a loan to expand and modernise gas distribution in the west and north. It is estimated that this will replace coal for heating and reduce GHG emissions by more than 750,000 tons CO2 per year.

EBRD has also approved the Georgian Low Carbon Framework (GLCF) approved in November 2015 for US$120 million to support low carbon generation as well as renewable energy. Total

estimated savings under the GLCF are 175,000 tonnes per year; as of end 2017 only one operation was signed.[9192]

On policy dialogue, EBRD's Legal Transition Team and others carried out assessments of the Nationally Determined Contributions (NDC) implementation in selected countries to enhance policy and legal framework and institutional capacity to reach commitments under the Paris Agreement. A forthcoming EvD evaluation of the Sustainable Energy Initiative/Sustainable Resource Initiative in 2018-19 will review this more closely. EBRD work on Chernobyl confinement is managed by a separate team of the EBRD.

4.3.3 Enhanced quality and security of supply

Under the ESS 42 projects have a specific focus on quality and security of supply. The Hussein Thermal Power Station Repowering project in Jordan[93] intends to replace an old heavy oil plant with CCGT technology providing vital additional generating capacity to ensure system stability and quality of supply in Jordan. Plant efficiency is expected to increase from 26% to more than 50%. Signed in December 2016 results will emerge only in years ahead. In terms of energy security the Shah Deniz project in Azerbaijan (oil and gas extraction) has a high profile (Box 7).

Box 7: Azerbaijan – Shah Deniz and related operations

Azerbaijan began transporting gas from the Shah Deniz field in the Caspian Sea to Turkey through Georgia in 2006. As a consequence imports of natural gas ceased after 2007 and by 2015 42% of production was exported.

The EU has given high priority to development of the Southern Gas Corridor (SGC) for the supply of natural gas from Caspian, Middle Eastern and potentially Central Asian sources. The Shah Deniz gas field is an integral part of the SGC and one of the pillars underpinning **energy security and diversification of energy supply to Europe**.

The EBRD has invested in the Shah Deniz project since 2004.[94] The 2013 ESS emphasises greater use of gas for power generation and development of market-enabling infrastructures that underpin the development of energy markets and energy security.[95] Under ESS the EBRD has approved three operations for Shah Deniz and one for the gas transmission pipeline (the SGC), for a total of **more than €1 billion**.[96]

In terms of resource efficiency and environmental performance, the EBRD financing is helping to provide a better energy supply mix for consumers in the Balkans and south-eastern Europe, to achieve significant CO2 reductions through the substitution of obsolete coal-fired power plants, to support the introduction of best practices in terms of technologies in the hydrocarbon sector, and to improve health and safety standards. Through these projects, the EBRD further supports a consortium composed mainly of international private oil and gas companies, contributing to strengthening the private sector involvement in the oil & gas upstream industry in Azerbaijan, dominated by the state-owned company SOCAR – also recipient of earlier EBRD's investments.

The issue of transparency has been of high importance. Despite Azerbaijan having withdrawn from the EITI (Box 11), the EBRD is requesting compliance with the EITI principles, publication of detailed payments, promoting public disclosure and stakeholder engagement in accordance with established international standards. Eventually, after many years, in October 2017, British Petroleum BP (operator of the Shah Deniz) disclosed a summary of the Environmental and Social Management Plans which were not originally publicly available on public domain. This is of critical importance to ensure transparency.

Relative to goals for governance practices, policy dialogue on the regulatory framework, stimulation of the development of privately and competitively provided ancillary services the Shah Deniz operations appear on-track.

The EBRD Country Strategy for Azerbaijan emphasises **the need to diversify away from reliance on hydrocarbons**, identifying as two main challenges that it be market-driven and reinforced by a more sustainable financial sector. The Shah Deniz and SGS related operations diversify as between gas and oil industry, but not outside of hydrocarbons; cooperation has thus far been limited to international banks.

Power transmission, distribution and control

Under ESS in the timeframe December 2013-April 2017 the EBRD has invested €617 million in 14 power transmission/distribution/control projects. Nearly half by volume went to 5 projects in Turkey and Romania[97] [98] Two projects in Turkey are focused at network expansion and upgrading, enhanced metering systems, as well as environmental, health and safety improvements and network efficiency and reduction of losses.[99]Three projects in Romania aim to reduce technical losses and generally to improve security of supply through increase system stability, optimisation of load flow, as well as strengthening interconnectivity and co-operation in the regional market.[100]

The biggest single investment was €100 million for construction in Tajikistan of the high-voltage transmission line mentioned above4.3.2.[101] The project has several important objectives: use hydropower in Tajikistan and Kyrgyz Republic to supply Pakistan and Afghanistan (under the ESS theme/pillar "building deep and liquid energy markets"); second, improve reliability of supply in Tajikistan; third, support power sector restructuring and development based on agreement with the Government of Tajikistan on conditions for power sector reform, including establishment of an independent regulator for the electricity industry. This is considered a priority objective for the Energy Business Group and implemented through a TC with the Legal Transition Team. The Electricity Sector Regulatory Development Program has been the first in a line of projects directed at creating a modernised regulatory framework to help strengthen the technical capacity of sector officials and provide support in examining the legal and institutional changes necessary to develop good practices.

Another cross-country interconnection is in the Former Yugoslav Republic of Macedonia - €37 million toward construction of the first cross-border electricity interconnection between FYR of Macedonia and Albania, and introduces grid efficiency improvements.[102] The project is helping to promote regional co-operation and market integration.

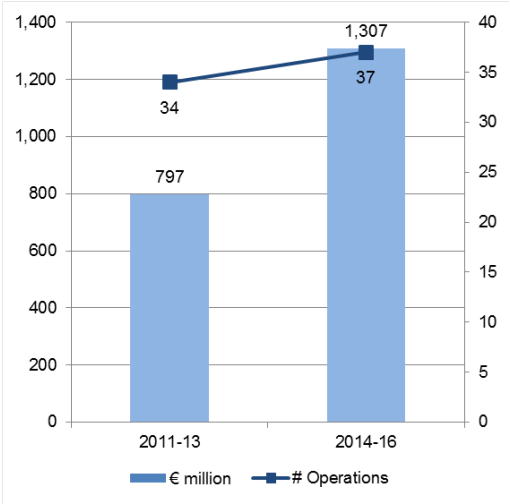
Power transmission and distribution represent 22% of the Power and Energy team portfolio (otherwise dominated by renewable energy), 14% of the entire Energy Business Group portfolio, and are predominantly with state-owned enterprises.[103]

Renewable energy

EBRD has used multiple approaches to support expansion of renewable capacity, including standalone operations and operational envelopes/frameworks. Investments have been frequently accompanied by technical cooperation and policy dialogue to help improve the policy and legislative framework for renewables.

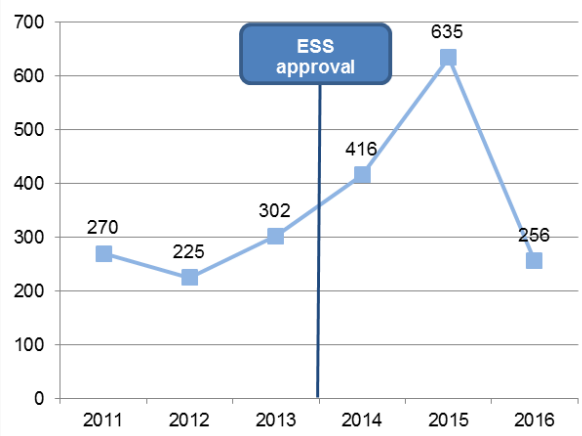
Renewables were an important area for the EBRD in 2011-2013 (nearly €800 million with 34 projects). In 2014-2016 total investment volume rose more than 60% further to a total of €1.3 billion,[104] but with substantially greater unevenness (Figure 6). A total of €56.7 million of investment grants was utilised to support seven out of the renewable energy operations approved under the ESS (see Table A.23 in Annex 7). In contrast to distribution operations most renewable investments were with private sector clients (33) rather than state-owned enterprises (four)[105] although the share accounted for by SOEs increased appreciably.

Figure 5: EBRD's investments in renewable energy by EBRD of Board approval (2011-13 vs 2014-16) in € million and number of operations



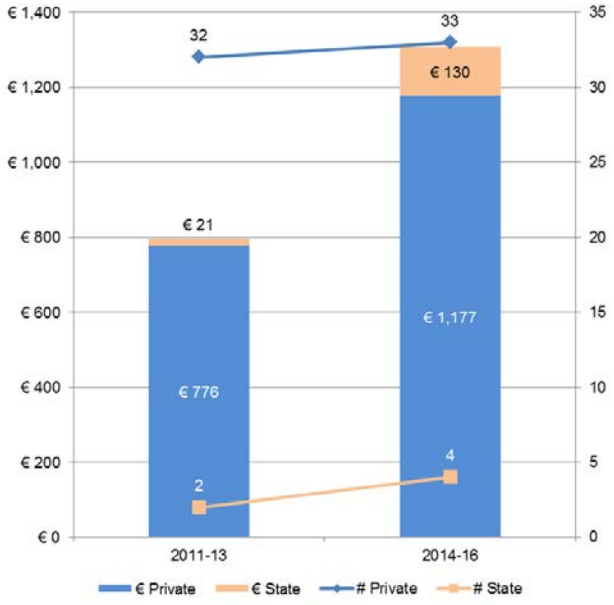
Source: EvD elaboration of DTM data

Figure 6: EBRD's investments in renewable energy by EBRD of Board approval per year (2011-2016) in € million



Source: EvD elaboration of DTM data

Figure 7: Ratio STATE/PRIVATE in terms of number and volume (€ million) of EBRD's approved renewable energy operations



Source: DTM

Prior to the ESS, the EBRD did not approve any frameworks for renewables. Since ESS, however, five financial frameworks specifically devoted to renewable energy have been approved (Table 5) one as an integrated approach (Box 9). Under Board-approved frameworks sub-operations are approved by Management under delegated authority. The approval of frameworks sends strong positive signals to the market regarding EBRD willingness to invest in the medium-term, including with attached TC and/or policy dialogue. Framework approval was strengthened by a more solid pipeline of operations and the increase of the delegated authority threshold from €10 to €25 million in 2016.

Table 5: Financial frameworks related to renewable energy approved Dec 2013 – Dec 2017

Framework name (OPID)	Board approval	Country	EBRD finance approved	(Sub-) operations* approved
IA: Integrated Approach to Polish Renewables - IAPR (46289)	15 Oct 2014	Poland	EUR 400 million**	5 (signed)
SEMED Private Renewable Energy Framework – SPREF (46907)	14 Oct 2015	Regional	US$ 250 million	2 (1 not signed yet)
PLUTO - Early stage geothermal support framework (46809)	09 Dec 2015	Turkey	US$ 100 million	2 (1 signed)
Kazakhstan Renewables Framework - KAZREF (48919)	14 Dec 2016	Kazakhstan	EUR 200 million	2 (signed)
Greek Renewable Energy Framework (49024)	08 Mar 2017	Greece	EUR 300 million	1 (signed)
Egypt Renewable Feed-In-Tariff Framework (48213)	07 Jun 2017	Egypt	US$ 500 million	16 (signed)

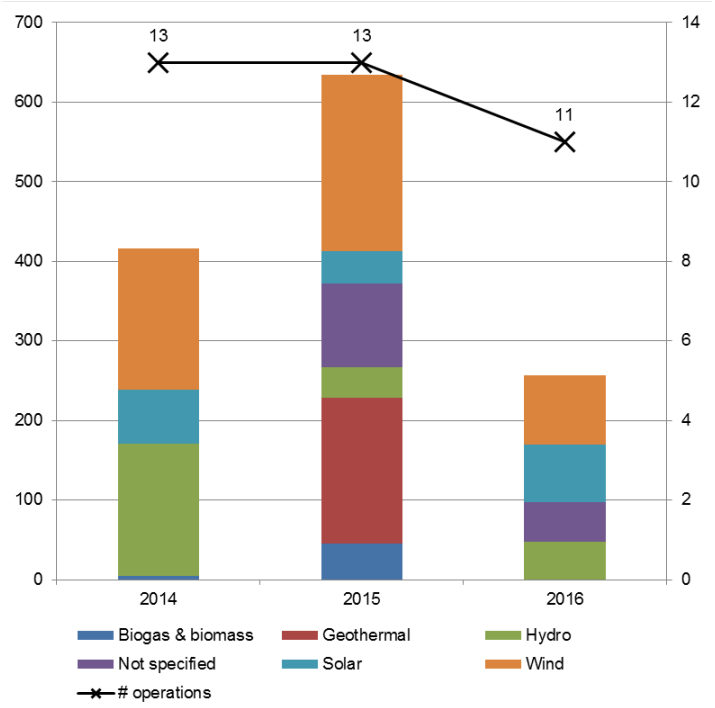
Source: DTM

**Operations approved as part of Integrated Approach financial frameworks are classified as stand-alone*

***Differently from other financial frameworks, in the case of Integrated Approach the envelope of investments is indicatively approved, but resources are not committed as each operation is required to be Board approved*

The composition of renewable investments has varied under ESS, as would be expected (Figure 8). In 2014 investment was dominated by wind and hydro. In 2015 both volume and sector diversification increased, while the reverse was true in 2016. The number of operations fluctuated much less. New approvals in 2017 (particularly in Egypt and Turkey) and 2018 are likely to change the composition again.

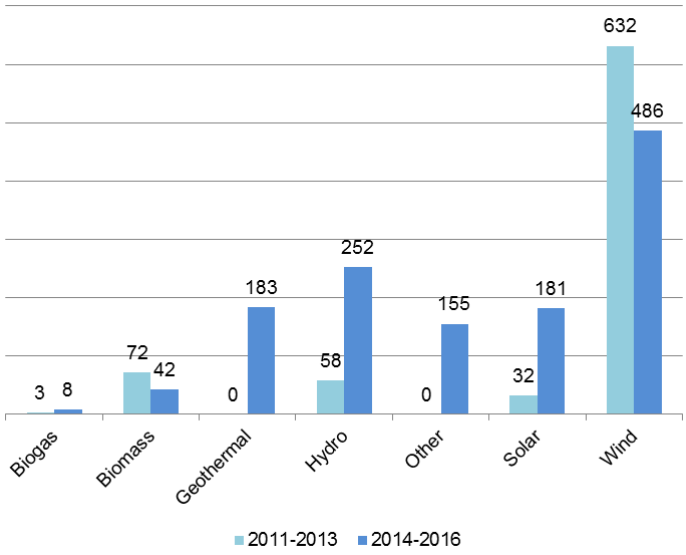
Figure 8: EBRD's renewable energy investments (€ million) by year of Board approval (2014-2016)



Source: EvD elaboration of DTM data

Figure 9 compares renewable investments before (2011-13) and under the ESS (2014-2016), and confirms that the larger picture is one of diversification – moving from an overwhelming dominance of wind projects to investment in a wider range of technologies (although with wind still accounting for 35% of investments). The drop in wind operations may have reflected regulatory change in some EU countries, especially Poland and Romania. Recent approvals in 2017 (particularly in Egypt and Turkey) and 2018 are likely to change the composition again.

Figure 9: EBRD's renewable energy investments (€ million) by year of Board approval



Source: EvD elaboration of DTM data

In terms of capacity installed a total of 1.737 MW via the 35 operations approved under the ESS in the timeframe December 2013-April 2017. Georgia, Jordan, Poland and Turkey were large beneficiaries (Table 6), and they (except Jordan) all had financial frameworks for renewables in place.

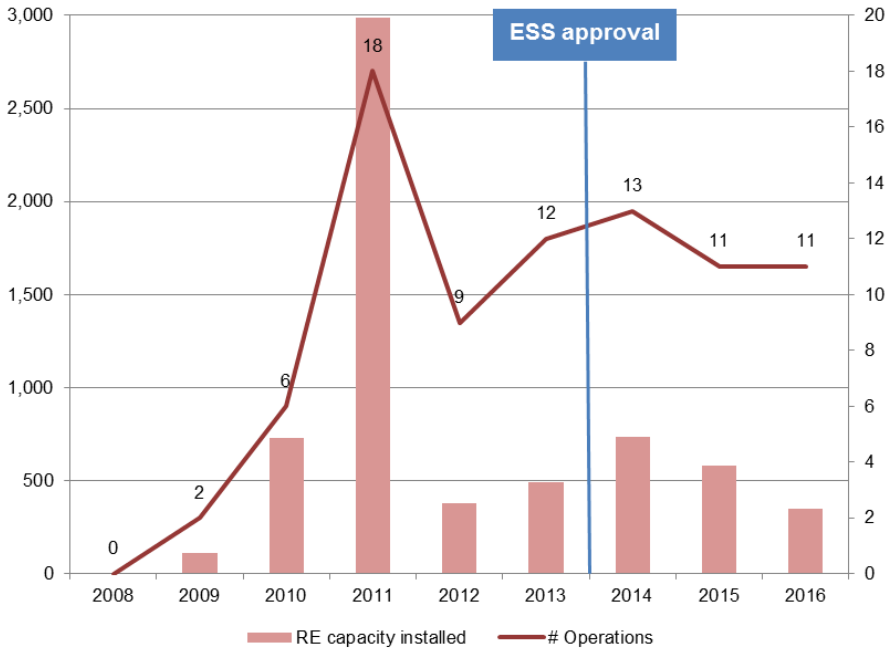
Table 6: Cumulative renewable energy capacity installed (≥ 100MW) approved Dec2013-Apr2017

Country	Capacity installed (MW)
Georgia	332.2
Poland	263.0
Jordan	246.0
Turkey	233.3
Tajikistan	126.0
Morocco	120.0
Kazakhstan	100.0

Source: EBRD Energy Business Group

Assessing trends in renewable energy capacity installed is not straightforward. Firstly the EBRD did not set targets for itself in its approved operations; and, secondly the analysis of data over the years does not show a clear trend. As indicated in Figure 10 the comparison shows that there was a pick of installed renewable energy capacity via EBRD's approved operations in 2011 – mainly due to one big operation approved in 2011 in Ukraine which counted the installation of 2,020 MW[106] – more than the total amount installed in the time-frame 2014-2016.

Figure 10: Renewable energy capacity installed (MW) from operations approved 2008-2016



Source: EBRD Energy Business Group

The available data confirm a mostly positive story with respect to an increase in renewable energy capacity installed and EBRD's role in that. When looking at data at country level there is an increasing trend registered. For instance, in Georgia the total installed renewable energy capacity increased from 2,734 MW in 2013 to 2,898 MW in 2016, in Jordan from about 20 MW in 2013 to 495 MW in 2016, in Poland from 5,115 MW in 2013 to 8,030 MW in 2016, and in Turkey from 25,550 MW in 2013 to 34,467 MW in 2016.[107] Even if it is not possible to show direct attribution, it is possible to argue that there is a correlation between EBRD investments and increased installation of renewable energy.

Jordan was a country of specific focus for the evaluation team and numerous interesting findings emerge.

Box 8: Development of renewables in Jordan

Jordan lacks domestic fossil fuel resources and has historically relied heavily on imported gas, experiencing periods of supply shortage. The supply situation improved with construction of a Liquefied Natural Gas (LNG) terminal at Aqaba (2015); the development of oil shale and the possibility of resuming gas imports from Egypt are also important supply issues. However, fuel diversity is a priority, and renewable energy has been made by the Government the priority for development and diversification[108] thanks to the country's favourable wind and solar resources.

EBRD started operating in Jordan in late 2012,[109] and became quickly a **major player** in the country and a **trusted partner** of public and private parties. The EBRD identified energy as first priority area of intervention[110] – aligning well with country's needs and also coordinating successfully with other IFIs, mainly IFC to develop the renewable energy market. Interviews held by EvD in Jordan confirmed **very good coordination**, supported by the commitment and presence of EBRD staff.

EBRD financed a 240MW **peaking power plant** to improve quality and security of electricity supply and meet peak demand.[111] The project appears successful in terms of capacity for incorporation of renewable energy in the grid, and increasing end user tariffs to full cost recovery levels.

Jordan's solar photovoltaic capacity grew from 3 MW to 295 MW between 2013 and

2016. EBRD's eight **solar plants** provided 276MW of this increased capacity. Similarly, two EBRD-supported **wind farms** added 127MW[112] which is the bulk of the overall increase in onshore wind capacity.

EBRD has operated alongside IFC in the renewables sector, and their joint presence is regarded as important in building the profile and credibility of the sector and in attracting investment. With all operations mentioned above (solar and wind) EBRD invested €246 million; thanks to that a total of €68.5 million has been syndicated to bilateral financial institutions and €40.4 million co-financed by other lenders. It also worth noting that for the most recent operation approved at the end of 2017 the syndication was to an international commercial bank[113] (and not a bilateral financial institution as the other operations) – which is an encouraging sign of response of the market, still not enough to foster local banks to invest in project finance.

The operations have been appreciated also for the **engagement with local communities**, in terms of opportunities for employment, enhancement of skills, and raising awareness on sustainability. Despite absence of formal technical assistance provided to clients or the institutions, the EBRD is carrying out very much **appreciated policy dialogue** activities in the sector. In particular the country's and sector's teams are praised by private and public institutions for their commitment and responsiveness to the country's needs. Among others, tangible results have been harvested in terms of the support provided to draft the first PPA, and the current support to investigate the potential for energy storage.

While Jordan is a case where needs drove the search for alternatives to hydrocarbons, Kazakhstan has committed itself to diversification despite its resource endowments. In doing so it has chosen the EBRD as strategic partner and launch a programme of renewable energy generation to which the EBRD is contributing via investments[114] and TC assistance that all stakeholders value. The targets that the government has set for itself are very ambitious – the results will be available in the next few years.

Another interesting case is Egypt, which is a relatively new development of the second half of 2017 when a framework of USD 500 million has been approved and already 16 operations signed by the end of the year.[115] Expectations from the Egyptian experience are very high and the EBRD is investing financial as well as non-financial resources (to support the authorities in the preparation of a solar grid code and the preparation of the Strategic Environmental and Social Assessment for the Benban solar complex). For these operations the EBRD has also been awarded the 2017 Thomson Reuters' Project Finance International Award for "Global Multilateral transaction of the Year". Also for this case, long-term results will be available in the next few years.

Some useful observations may be made in the case of Poland, where EBRD developed an Integrated Approach.

Box 9: Integrated Approach to Polish Renewables

EBRD was active in renewables in Poland before the ESS, accounting for approximately 17% of total installed wind capacity as of 2013 and some additional biomass capacity.

Building on that experience and the potential it confirmed EBRD approved a comprehensive approach to renewables in Poland in 2014[116] The framework Integrated Approach to Polish Renewables (IAPR) aims to support expansion of renewable energy generation capacity through a combination of investment, technical assistance and policy dialogue. It targets €400 million in around 500MW renewable energy operations; and €150 million in the distribution sector with a total of CO2 savings of 1 million tonnes/annum. Operations were to concentrate on: (i) promoting private sector investments in order to counterbalance the increasing role of state-controlled companies; (ii) addressing remaining bottlenecks, including grid access and capacity; (iii) transferring

skills and promoting capacity building to the Polish grid operators with regards to the management of electricity generated by renewable energy sources, (iv) improving the energy mix.

Four wind operations were approved between 2014 and 2016 investing €168 million to install a total of 263MW and expecting CO2 emissions savings of 470ktonnes/year.[117] Indeed this is a direct contribution to increase the total installed capacity of power generation in the country, with some positive effects on the continuity of supply, and definitely contributing to increase the share of private energy production.

In June 2016 an important amendment was made to the Renewable Energy Sources Act **replacing the green certificate system with an auction scheme**. The system favours technologies with more load capacity factor such as biogas, biomass and hydropower, versus intermittent sources such as solar and wind. Given this change EBRD has not invested further in other wind operations. At the same time, throughout 2016 (and as expected at approval of the IAPR), the EBRD has supported the Energy Regulatory Office in order to ensure most value added under the new legal circumstances.[118] A first "transparency assignment" provided successfully legal interpretations of the new regulations ahead of the pilot auction; a second "implementation assignment" is on-hold as linked to the timing of the second auction. EBRD also invested €116 million in 2017 to support PGE (state-owned power company) to: (i) increase connection capacity for new renewables; (ii) improve grid assets and management; and (iii) reduce energy losses.[119] The operation is expected to translate in savings of 70ktonnes of CO2 per annum.

The IAPR foresaw support to the support to the Polish grid operators in grid management techniques- the assignments are currently under design and will depend on co-financing availability.

By end 2017 around half of the originally intended €400 M has been committed under the IAPR, which is due to run only until the end of 2018.

Hydro projects were concentrated mainly in Georgia and Tajikistan (Annex 7). In Georgia, the EBRD approved two run-of-the-river projects, raising installed capacity by close to 300MW, increasing peak load capability through storage, and contributing to export sales to Turkey.

In Tajikistan, a turbine upgrade to increase capacity and efficiency is accompanied by regulatory assistance via the Legal Transition Team to develop best practice tariff methodology.

Geothermal operations generally involve larger investments in volume terms than other renewables. Two operations have been signed in Turkey only and more are expected under an approved framework in 2017 (Table 5).

Investments in biomass and biogas were approved in Estonia,[120] Serbia[121] and Ukraine.[122] In Serbia and Ukraine the operations were part of frameworks in place before approval of the ESS, namely the Western Balkans Sustainable Energy Direct Financing Facility (WeBSEDFF) and the Ukraine Sustainable Energy Lending Facility (USELF).

4.3.4 More open and better functioning markets

The ESS identifies key characteristics of a market-oriented energy sector as "competition and effective markets necessarily require multiple market actors. This in turn requires wide and diverse involvement from private sector participants".[123] These characteristics are captured directly by two of the seven transition impact sources extant under the ESS, namely "greater competition in the project sector", and "more widespread private ownership". These sources are interlinked and operations may be meant to capture more than one. Nevertheless, only 3 of 84 operations approved identified competition as a TI source:[124] 32 operations were flagged as contributing to private ownership.

Regarding project classification between 'private' and 'state' 60 (71%) under the ESS were classified private,[125] and 24 (29%) as state.[126]

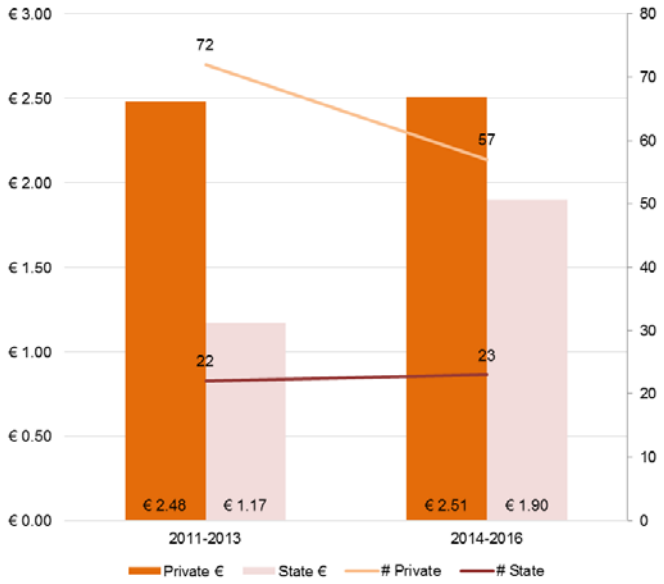
Table 7 compares this with operations approved pre-ESS (2011-2013) and shows some significant differences. The volume of private sector operations was essentially unchanged between the two periods; both the number of private operations and their share of overall business volume declined substantially. On the state side, the number of transactions was maintained and volume significantly increased. Essentially all of the 21% increase in business volume under the ESS was accounted for by transactions with state clients.

Table 7: Portfolio class of EBRD's energy operations approved (2011-2016)

Timeframe	Portfolio class	NCBI (€ billion)	% (€)	# operations	% (#)
2011-2013	Private	2.48	**68%**	72	**77%**
	State	1.17	**32%**	22	**23%**
	Total	3.65	100%	94	100%
2014-2016	Private	2.51	**57%**	57	**71%**
	State	1.90	**43%**	23	**29%**
	Total	4.41	100%	80	100%

Source: EvD elaboration of DTM data

Figure 11: Portfolio class of energy operations (excluding extractive industry) by year of Board approval (€ million and number)

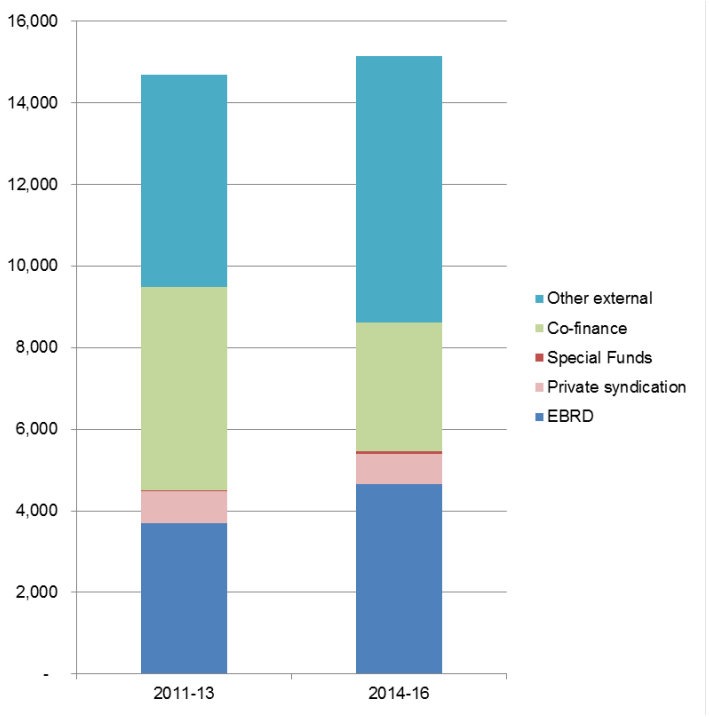


Source: DTM

EvD also compared the non-EBRD portion of overall transaction finance during the pre-ESS and ESS periods, which includes syndication and co-financing assumed to have been mobilised by EBRD engagement.

Figure 12 shows EBRD's financing share rose from 25 to 31%between the two periods. The share of syndication has not changed while co-financing has declined from 34 to 21%. The share accounted for by other external finance increased from 35 to 43%. This overall picture is also clear in the annual data across the two periods (Annex 7).

Figure 12: EBRD finance, private syndication, special funds finance, co-finance and other external finance over total project value (approvals 2011-16) in € million



Source: EvD elaboration of DTM data

The use of grants is also reviewed. Changes in the way grants have been treated internally in EBRD does not allow for comparability over the years. Additionally no single repository captures the data – a Bank wide issue raised by EvD in multiple occasions to Management and the Board.

From the information available (see Table A.23 in Annex 7):

- Concessional co-finance for a total of €16.5 million was provided mainly via Special Funds (CTF and CIF) to operations in Ukraine (small hydros, wind farms and solar) and Morocco (wind farm);
- Incentive payments (€1.4 million) from CIF and GEF to operations in Georgia and Kazakhstan;
- Investment grants (€70.1 million) to support renewable energy operations (private sector clients) in Kazakhstan, Mongolia, Tajikistan, and Ukraine – but also power distribution operations in FYRoM and Kyrgyz Republic.

Further considerations are not possible at this stage – the use of grants is mostly focused on the support to renewable operations and private sector clients.

EBRD policy dialogue work aimed at market opening, reduced state ownership, cost-reflective pricing and measures to protect vulnerable consumers. Examples include:

- regulatory work in Tajikistan to introduce electricity market regulation, market opening, tariff transparency and sector restructuring;
- regulatory work in Bulgaria focussed on market monitoring mechanisms; training on modern electricity legal, financial and regulatory mechanisms;
- legal and regulatory support for the EU third energy package;
- unbundling of the gas sector in Moldova, including compliance with the EU second energy package; and legal recommendations and an action plan for implementation;

– Infrastructure Regulation and Tariff Policy Development in Kazakhstan.

Box 10: Kazakhstan – Infrastructure Regulation and Tariff Policy Development

The EBRD has been involved in a complex technical assistance aimed at establishing a modern and transparent framework for regulation, as well as to strengthen the institutional capacities and means to implement and administer such a framework".

The so called "Tariff TC" is funded by the EBRD Shareholder Special Fund (SSF) and the Government of Kazakhstan. The Tariff TC is supporting the reforming of the tariff policy and regulatory framework for natural monopolies, namely: Oil transportation by major pipelines; **Gas storage and transportation through major pipelines and/or distribution networks, operation of gas tank facilities, as well as transportation of sour gas through connecting pipelines; Transmission and/or distribution of electric energy**; District heating; Main-line railways; Air navigation, airports, seaports; Telecommunication; Postal services; Water and/or wastewater.

Among others, Phase One of the TC recommended considering the change from the current cost plus margin tariff system to the **Regulatory Asset Base (RAB) model**, as well as other additional actions aimed at making regulation leaner and less bureaucratic. This change is expected to achieve the following main results:

– investment to expand and modernise the electricity grid and improve end user service;

– incentivise network operators to increase efficiency and reduce costs;

– Ultimately stimulate the interest of private investors and hence facilitate privatisation.

Phase Two of the TC is to design the optimal solution for implementing this new tariff model. The current focus is on the electricity distribution sector, and the **Kyzylorda Electricity Distribution Company**[127] has been chosen for the pilot project to implement the RAB model starting from 2018. Several details of the model are still to be finalised, however expertise is brought from international markets, primarily the UK where the RAB model has been used for a number of years and on a number of regulated sectors. From the results of the pilot more actions will be planned.

4.3.5 Improved transparency, governance, skills, and standards/practices

The transition impact sources closer to this OPI outcome are 'demonstration of new replicable behaviour and activities' and 'Setting standards for corporate governance and business conduct'. Both are heavily invoked at the individual project level (54 and 56 of 84 operations, respectively; Annex 7). The analysis of this outcome covers a wide spectrum of features that are of high interest for the EBRD – as spelled out also in the ESS:

– transparency

– governance and environmental performance of firms

– modernisation of the public sector

EBRD worked to improve disclosure of revenue, ownership, licensing and related data in order to increase government accountability and enable more effective citizen engagement.

The Extractive Industries Transparency Initiative (EITI) is a legal and regulatory framework that aims to enable such disclosure in pursuit of transparency and accountability. The EBRD has provided support for EITI for a number of years across several countries of operation. In Mongolia, the EBRD has provided significant support for EITI implementation across five linked TC projects ranging from law and institution building to a public online reporting system. Other countries getting support include Armenia, Kazakhstan and Kyrgyz Republic.

Support programmes are also being examined for Albania, and Tajikistan. The case of EITI and Azerbaijan is discussed below.

Box 11: Azerbaijan - Transparency in Extractive Industries

Azerbaijan joined EITI in 2004 at the outset of the initiative and was the first country to be validated as fully EITI-compliant in 2009. It reverted to 'candidate' status in April 2015 over concerns about limitations on civil society, with corrective actions required by EITI. Azerbaijan took a number of steps which the EITI Board confirmed as meaningful progress; however the required corrective actions were not viewed as fully met and the country was suspended in March 2017.

The Government of Azerbaijan decided to withdraw from the EITI in March 2017 but has confirmed it remains committed to EITI principles and will continue to disclose information related to revenues received from extractive industries to the fullest extent. A Commission on Transparency in Extractive Industries has been established.

The EBRD's longstanding engagement in Azerbaijan's hydrocarbon sector (along with other IFIs such as IBRD, AIIB, ADB and MIGA) has been an opportunity to support the implementation of the new Commission's initiatives. The latter is preparing the extractive industries transparency report for 2016 with the content envisaged to be aligned with the 2015 EITI report, and an independent auditor for its review has now been selected. As an active observer of the Commission, the EBRD participated in a number of the Commission's meetings including when an Independent Auditor was transparently selected through an open tender and when a draft extractive industries transparency report for 2016 was presented to civil society, international organisations and local and foreign extractive companies operating in Azerbaijan. The Commission is tasked to work in partnership with non-governmental organisations, the private sector and independent experts.

The EBRD has committed to remain an active observer of the Commission together with other IFIs and the diplomatic community in the country by joining its regular open meetings.

The EBRD performed different activities to improve governance and environmental performance of firms considering the importance of the services that energy companies provide. This is further emphasised by the fact that numerous clients in the energy sector are still State-owned.

In the past few years, the EBRD (mainly via its Legal Transition Team Programme) has undertaken a number of corporate governance reviews upon EBRD investee companies in the energy sector. Activities were finalised at reviewing the practices in place and identifying shortcomings with the aim to develop a corporate governance action plan for tackling the weaknesses found. In case of state-owned enterprises, the review was often complemented by a review of the legislation in place as in most cases improvements to the practices cannot be achieved without amendments to existing regulatory framework. Among the companies reviewed, it is worth mentioning some that are part of the portfolio reviewed for this Review, namely: Electrica in Romania[128], ADES[129] and PICO International Petroleum[130] in Egypt, Naftogaz[131] in Ukraine, KESH[132] in Albania, Akfen Yenilenebilir Enerji AS[133] in Turkey, MEPSO[134] in FYR of Macedonia, and Elektroprivreda Srbije[135] in Serbia. For some of these companies (e.g., KESH, ADES), the EBRD is also assisting the companies in implementing selected actions included in the corporate governance action plan.

5. Recommendations

EvD's detailed review of the Energy Sector Strategy and the operations delivered under it (between December 2013 and April 2017) has produced broad and important findings:

- Operations were delivered across a wide range of sub-sectors and clients generally at a high level of quality and relevance; there was a high degree of continuity with pre-ESS patterns, as implicitly intended by the Strategy; projected results are consistent with its very broadly drawn themes.
- However, actual project-level performance data are limited and will remain so under the Bank's long-standing resourcing and monitoring practices; a comprehensive picture of sector-level performance cannot be adequately established, now or in future; and, there is limited capacity to draw wider, evidence-based conclusions about performance relative to the strategy itself.
- The Strategy itself has elements of strength. But it also has major omissions and limitations that sharply reduce its value to Management as a framework for prioritisation and selectivity, and to the Board as a means of strategic focus and effective oversight.

Recommendation 1

The Bank should clearly establish the purpose and standing of sector strategic documents of this kind in its wider strategic, operational and results architecture, including linkages to Country Strategies, other strategic documents, and new transition elements. Documents should provide the basis for mutual Board and Management understanding as to the nature of the commitments and undertakings they represent.

Recommendation 2

The new energy sector strategic document should encompass all energy related activities and instruments irrespective of their organisational implementing units. It should present strategic-level objectives for operations providing the basis for selectivity and sufficient to report on and assess sector level delivery performance. Such objectives could include, e.g. relative end-of period shares for private and public operations; GET-relevant metrics; specific sub-sector trends; use of specific instruments; commercialisation/privatisation accomplishments; and/or, policy dialogue priorities.

Recommendation 3

The scope of the new energy sector strategic document should include critical elements now omitted.

- Commit to sector-level diagnostics/analysis from which sector-level challenges and objectives will be derived;
- Review operational experience under the current ESS identifying lessons and how they will be incorporated in the new sector strategic document;
- Present institutional resources required to implement the energy sector strategic document - human, financial, donor resources as well as how actual performance data will be collected to corroborate estimates at approval;
- Identify targeted areas for engagement with other public institutions, including analysis of EBRD's added value;
- Produce a time-bound reporting plan to provide the Board with an adequate overview of ESS implementation at the sector level across relevant business groups.

Recommendation 4
The Bank should clarify its approach to hydrocarbons (coal, oil, gas – on both demand and supply sides), including methodology for screening criteria; this would improve transparency with respect to complementary institutional priorities (such as under the Green Economy Transition Approach) as well as with practices in comparator institutions.

Annex 1 Evaluation methodology

Annex 2 2013 ESS approval process

Annex 3 Comparing the 2006 Energy Operations Policy and the 2013 Energy Sector Strategy

Annex 4 IFIs approaches to coal

Annex 5 IFIs approaches to oil and gas

Annex 6 Operational Performance Indicators

Annex 7 Data analysis

Annex 8 People interviewed

Endnotes

[1] As approved by the Board of Directors on 10th December 2013
[2] Circulated in September 2017
[3] As approved by the Board of Directors on 10th December 2013
[4] Capital Resources Review 4: 2010-2015 (emphasis added)
[5] ESS, p. 6
[6] ESS, p. 6
[7] covered by the newly introduced 2012 Mining Operations Policy
[8] covered by the 2012 Municipal and Environmental Infrastructure Strategy
[9] "*Many Directors emphasised the need for the Bank's activities on energy demand to be reflected in this strategy.*" Minutes of the Meeting of the Financial and Operations Policies Committee of 11 July 2013
[10] The 2012 Sustainable Energy Initiative, the 2013 Sustainable Resource Initiative, the 2012 Mining Operations Policy, the 2012 Municipal Environmental Infrastructure Strategy, the 2013 Transport Sector Strategy, and the 2008 Environmental and Social Policy
[11] ESS, p. 36
[12] ESS, p. 6
[13] ESS, p. 4
[14] ESS, p. 44
[15] ESS, p. 66
[16] Minutes of the Meeting of the Financial and Operations Policies Committee of 11 July 2013
[17] ESS, p. 67
[18] Minutes of the Meeting of the Financial and Operations Policies Committee of 11 July 2013
[19] The English Oxford Dictionary defines strategy as "a plan of action designed to achieve a long-term or overall aim" whereas a policy is a set of common rules made by an organisation for rational decision making.
[20] Nomenclature, discussed at the Board Information Session on 17 July 2013, p. 1
[21] Nomenclature, discussed at the Board Information Session on 17 July 2013, pp. 9-11
[22] In 2017, as part of its Optimised Decision Making work stream within the Operational Effectiveness and Efficiency programme, the EBRD looked at the decision making processes and eventually introduced the **RACI** (Responsible, Accountable, Consulted, Informed) model. A **repository for Decisions, Policies, Directives, Procedures and Guidance** has been created to ensure internal operational and administrative efficiency. Policies have been indicated to be as statements of broad substantive principles that require, permit or constrain activities to fulfil the Bank's purpose and function. Board approved strategies (e.g. Country Strategies and Sector Strategies) are a sub-set of Policies. The evaluation team notes that RACI is a **classification tool** and does not address the issues of interest of this Review in terms of the aim and content of strategies and policies.
[23] covered by the newly introduced 2012 Mining Operations Policy
[24] covered by the 2012 Municipal and Environmental Infrastructure Strategy
[25] The Architecture of Transition Impact Results Frameworks in the Bank, p. 1
[26] The Architecture of Transition Impact Results Frameworks in the Bank, p. 6
[27] It is assumed that the universally accepted definitions for hierarchy of results outputs-outcomes-impact are used
[28] Corporate Strategy Department, ERBD Strategic Planning Process, 12 July 2016, page 13
[29] Transition Concept Review, approved by the Board of Directors at its meeting of 2 November 2016
[30] Extractive Mining Industries Strategy approved on 13/14 December 2017
[31] Report by the Chair of the Financial and Operations Policies Committee on the Draft Extractive Mining Industries Strategy
[32] Independent Development Evaluation African Development Bank, Independent Evaluation of Policy and Strategy Making and Implementation, September 2015
[33] Definitions provided by the ADB Strategy, Policy and Review Department in October 2017.
[34] Strategies, Policies, Sector Frameworks and Guidelines at the IDB, September 2012
[35] World Bank Group, Policy and Procedure Framework, January 2014

[36] As confirmed by the WBG Board resource centre in October 2017
[37] ESS, p. 6
[38] ESS, pp. 18-22
[39] ESS, p. 36
[40] ESS, p. 36
[41] ESS, p. 66
[42] ESS, p. 22
[43] Energy Sector Strategy – Report on the Invitation to the Public to Comment (November 2013)
[44] Energy Sector Strategy – Report on the Invitation to the Public to Comment (November 2013)
[45] Green Economy Transition Approach, approved by the Board of Directors at its meeting of 30 September 2015
[46] 2006 Energy Operations Policy, p. 25
[47] Energy Sector Strategy – Report on the Invitation to the Public to Comment (November 2013), p. 16
[48] ESS, p. 57
[49] http://www.ebrd.com/downloads/policies/sector/coal-methodology.pdf
[50] Energy Sector Strategy – Report on the invitation to the Public to comment (November 2013), pp 15-16
[51] ESS, p. 57
[52] This was especially minuted in the **EBRD Board meeting of 5 April 2017** while discussing a geothermal operation in Turkey: "*One Director encouraged the EBRD's further involvement in the geothermal energy sector in other countries to combat CO2 emissions. He suggested that* ***the shadow price of carbon should be taken into account when assessing feasibility of energy projects****. Management said that the team would consider the issue with E2C2, and it could be* ***discussed in the context of the development of the new Energy Sector Strategy****.*"
[53] Sharyn GoI (OPID: 44754) approved under the Direct Investment Facility (DIF) framework in December 2013 and signed in January 2014. The total project cost was US$ 25 million for expansion of the Sharyn GoI coal mine and upgrade and expansion of the NACO smokeless fuel briquetting facility. The EBRD contributed with US$ 10 million.
[54] ESS, p. 23
[55] 2009 ADB Energy Policy
[56] 2012 Energy Sector Policy of the AfDB Group
[57] http://www.worldbank.org/en/news/press-release/2017/12/12/world-bank-group-announcements-at-one-planet-summit
[58] ESS, p. 4
[59] **Ukraine** has been not considered in this exercise, as the Country Strategy was substituted by the "Ukraine: EBRD Reform Anchoring and Crisis Response Package" which did not allow for comparability with Country Strategies.
[60] The **Federal Yugoslav Republic of Macedonia** is not included in the list as the Country Strategy was approved on 1st May 2013, before the ESS. In the case of **Tunisia**, the EBRD does not have yet a Country Strategy. In both countries operations in the energy sector have been approved and signed, but are not captured in Table 4
[61] The Architecture of Transition Impact Results Frameworks in the Bank, discussed at FOPC on 30 September 2014
[62] Country Strategy Updates 2015
[63] Country Strategy Updates 2016
[64] Country Strategy Delivery Reviews 2017
[65] Country Strategy Delivery Reviews 2018 – Process Note
[66] CS/FO/13-15, p. 64
[67] ESS, p. 67 (emphasis added)
[68] ESS, p. 67 (emphasis added)
[69] "*The Bank will measure and report these key metrics for each country of operations by the end of the first half of 2014. They will be measured again following the conclusion of the Strategy period during the process of preparation of the next Energy Strategy. The Bank will also issue a brief commentary on these metrics, identifying non-quantitative areas of improvement or otherwise in the same areas.*" ESS, p. 68

[70] Minutes of the Meeting of the Financial and Operations Policies Committee of 14 April 2016
[71] Azerbaijan: Lukoil Shah Deniz Tranche 2; Polish Renewables - Regulatory Change Update; Alpaslan II Dam Hydro Environmental and Social Issues; Energy Security and Efficiency; Integrated Approach to Polish Renewables; Egypt: Pico; Shah Deniz; Southern Gas Corridor projects - EITI and EBRD Countries of Operation; Project Nenskra.
[72] As of 2017 the Energy Business Group comprises three teams: Energy Russia Caucasus & Central Asia (ERCCA), Natural Resources (not in ERCCA countries), and Power & Energy Utilities (not in ERCCA countries)
[73] Data provided by the EBRD's Energy Efficiency and Climate Change team in June 2017
[74] Greenland Solar Project Jordan (OPID 46701); EJRE Solar Project Jordan (OPID 46700); Oryx Solar Project Jordan (OPID 46421); Ma'an Solar Power Project (OPID 44973)
[75] Hussein Thermal Power Station Repowering/Zarqa (OPID 47412)
[76] Darlowo Wind (OPID 45739); Radzyn Wind Farm (OPID 46645); Polenergia Wind Portfolio (OPID 46962)
[77] Qairokkum Hydro Power Rehabilitation Project (OPID 41553)
[78] Cross Regional Power Trade (OPID 47221)
[79] Other minor savings are expected to come from hydro and wind projects in Bosnia and Herzegovina, Egypt, Estonia, Kazakhstan, Kosovo, Mongolia, Montenegro, Morocco, Romania, Serbia, Turkey and Ukraine.
[80] Pechora Energy LLC (OPID 39611) and Irkutsk Oil and Gas Company (Equity) (OPID 38719)
[81] Kazakhstan: Aktobe CHP rehabilitation (OPID 38738) and Russian Federation: OGK-5 Capacity Replacement (OPID 38700)
[82] DIF - Sharyn Gol Mongolia (OPID: 44754); Petrom Kazakhstan (46043); Hussein Thermal Power Station Repowering/Zarqa in Jordan (47412); TUPRAS Resource Efficiency Loan in Turkey (48256)
[83] Estonia: VKG Energy Efficiency (45286); the Board approval document does not mention material savings, however a record of that is captured by the by the Energy Efficiency and Climate Change team. The operation is aimed at contributing to the construction of a Novel Integrated Desulphurisation plant and installation of a new turbine and boiler
[84] The IFIs included in this initiative are: the African Development Bank (AfDB), the Agence Française de Développement (AfD), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Global Environment Facility (GEF), the Inter- American Development Bank (IDB), KFW Development Bank, the Nordic Development Fund (NDF), the Nordic Environment Finance Corporation (NEFCO), the Nordic Investment Bank (NIB), the UK Green Investment Bank, and the World Bank Group (WBG)
[85] The 2016 report is available at www.ebrd.com/2016-joint-report-on-mdbs-climate-finance.pdf
[86] https://www.reuters.com/article/us-energy-carbon-iea/global-carbon-emissions-hit-record-high-in-2017-idUSKBN1GY0RB
[87] PICO Oil and Gas (OPID 44491), IPR Development Facility (OPID 45184), and Merlon Petroleum (OPID 47177)
[88] OPID: 41553, signed in July 2014 for an amount of US$ 50 M to rehabilitate the hydro-mechanical and electro-mechanical equipment of the Kairakkum hydro power plant with total installed capacity of 126 MW.
[89] OPID: 47221, signed in August 2015 for an amount of US$110 M (out of a total project of US$1,13 B)
[90] Yereymentau Wind Farm (45618), Petrom Kazakhstan (46043), Burnoye Solar Power Plant (46570), Kyzylorda Electricity Distribution Project (46770), Atyrau Energy Project (47478), Gas Network Modernisation (48047), Samruk-Energy transformation loan (48308), Bozoi Gas Storage Facility (48356).
[91] OPID: 47431 approved in December 2015 and signed in January 2016
[92] A second operation (Mestia HPPs: Kasleti-2, OPID: 47361) has been approved under delegated authority in May 2017, but not signed yet. The operation consists in the development, construction and operation of the 10MW run-of-the-river Kasleti-2 Hydro Power Plant that will increase the share of privately owned generation capacity in Georgia where c. 40-50% of domestic electricity consumption is generated in state owned facilities.

[93] OPID: 47412. The facility consists of a loan in the amount of up to US$ 95 M (EBRD A Loan of up to US$ 75 M and a B Loan of up to US$ 20 M by Europe Arab Bank (EAB). The Project will be co-financed by the International Finance Corporation (IFC), OPEC Fund for International Development (OFID), and the Industrial and Commercial Bank of China (ICBC).
[94] The EBRD was involved in four completed operations related to Shah Deniz, namely:
SOCAR – Shah Deniz Gas Condensate Field Development, approved and signed in 2004 for a total EBRD contribution of US$ 38.5 M (OPID: 15937)
SOCAR – South Caucasus Pipeline, approved and signed in 2004 for a total EBRD contribution of US$ 21.5 M (OPID: 27637)
Lukoil Overseas: Shah Deniz Gas Condensate Field Development, approved and signed in 2005 for a total EBRD contribution of US$ 110 M (OPID: 35605)
Lukoil Overseas : South Caucasus Gas Pipeline, approved and signed in 2005 for a total EBRD contribution of US$ 70 M (OPID: 35606)
[95] ESS, p. 41
[96] Lukoil Overseas: Shah Deniz Gas Condensate Field Development II (linked to Lukoil Overseas: Shah Deniz Gas Condensate Field Development - 35605) approved and signed in 2014 for a total EBRD contribution of US$ 200 M (49215); Lukoil Shah Deniz Stage II approved and signed in 2015 for a total EBRD contribution of US$ 250 M (OPID: 46766); Lukoil Shah Deniz Stage II Extension approved in 2017, but not signed yet – for a total EBRD contribution of US$ 100 M (OPID: 49215); Azerbaijan Southern Gas Corridor approved and signed in 2017 for a total EBRD contribution of US$ 500 M (OPID: 48376)
[97] SEDAS Phase II (OPID 47451) approved and signed in 2016; and TREDAS FINANCING (OPID 48387) approved and signed in 2016.
[98] Transelectrica Bond Issue (OPID 46012) approved and signed in December 2013; Electrica Equity (OPID 46271) approved and signed in 2014; CEZ Distribution Romania (OPID 46630) approved and signed in 2015.
[99] SEDAS Phase II (OPID 47451) approved and signed in 2016; and TREDAS FINANCING (OPID 48387) approved and signed in 2016.
[100] Transelectrica Bond Issue (OPID 46012) approved and signed in December 2013; Electrica Equity (OPID 46271) approved and signed in 2014; CEZ Distribution Romania (OPID 46630) approved and signed in 2015.
[101] Cross Regional Power Trade (OPID 47221) approved and signed in 2015.
[102] FYR Macedonia: MEPSO: FYR Macedonia-Albania Transmission Phase I (OPID: 46274) signed in December 2015
[103] Out of the 14 operations under consideration, 10 are classified as “STATE” portfolio class
[104] Nine operations approved and signed between 2014 and 2016 were previously classified as Electric Power Generation and they have been re-classified as Alternative Energy in September 2017 following the circulation of the Approach Paper of this Review. Therefore, the number of operations in Alternative Energy was increased from 28 to 37 and the volume from €901 M to €1,307 M
[105] Yereymentau Wind Farm in Kazakhstan (OPID: 45618); Qairokkum Hydro Power Rehabilitation Project in Tajikistan (OPID: 41553); Gori Wind Power Plant in Georgia (OPID: 47431); ONEE Hydro Rehabilitation in Morocco (OPID: 47379)
[106] Ukraine: Hydro Power Plant Rehabilitation Project (OPID: 40518) approved in September 2011 for the rehabilitation of 39 hydro units during the period of 2012-2017 (2,020 MW spread over eight HPPs on the Dnieper Cascade)
[107] Data from IRENA (International Renewable Energy Agency)
[108] In 2012 a Renewable Energy and Energy Efficiency Law was approved, and in 2015 the Energy Strategy followed setting the target of 20% of installed renewable energy and counting 9% of energy production.
[109] Jordan became a country of operation in November 2013. Before that EBRD was operating in the country with the status of “Potential Recipient Country” through the SEMED Investment Special Fund
[110] Country Strategy for Jordan (BDS/JO/14-1 Final)
[111] Jordan: IPP4 Al Manakher Power Project (OPID: 44284) signed in October 2012 with AES
[112] Al Rajed Wind Farm (OPID: 48100); Shobak Wind Farm (OPID: 49222)
[113] Shobak Wind Farm (49222) syndicated to Europe Arab Bank (UK)
[114] As standalone operations: Burnoye Solar Power Plant (46570) signed in 2015; Yereymentau Wind Farm (45618) signed in 2014; and eventually in 2017 the Kazakhstan

Renewables Framework - KAZREF (48919) under which the following sub-operations have been signed: KAZREF – Burnoye Solar Power Plant Extension (48545), Zadarya Solar Power Plant (48821) and related extension (49772).

[115] Egypt Renewable Feed-In-Tariff Framework (OPID: 48213) approved in June 2017

[116] EBRD's Management organised two Board Information Sessions (in March and in October 2014) to provide the Board all elements to have an informed opinion (see also section 4.2.4)

[117] Darlowo Wind (OPID: 45739) signed in December 2014; Radzyn Wind Farm (OPID: 46645) signed in December 2014; Polenergia Wind Portfolio (OPID: 46962) signed in April 2015; Banie Wind Farm (OPID: 47932) signed in December 2015 and extended in April 2016

[118] Funded via the EBRD Shareholder Special Fund

[119] PGE Grid Enhancement For Renewables (OPID: 48064) signed in June 2017

[120] Graanul Invest Phase III (OPID: 47509) – approved and signed in July 2015

[121] BGS Biogas (OPID: 47007) – signed in July 2015 for €4,5 M

[122] USELF: Rokytne Biogas Plant (OPID: 45543) – approved and signed in 2014

[123] ESS, p. 36.

[124] UCNGP in Moldova (48769); Land Power Wind Farm (44601) in Romania; Karacaoren HEPPs (48279) in Turkey

[125] According to the Glossary of Banking Operational Terms dated March 2000: "An operation involving financing of entities owned or expected to be owned by the private sector, a designation used for determining the portfolio ratio as required in the Agreement Establishing the Bank"

[126] According to the Glossary of Banking Operational Terms: "An operation involving financing of entities owned or controlled by sovereign, municipal, or regional governments; a designation used for determining the portfolio ratio as required in the Agreement Establishing the Bank (ref: BDS101/92)"

[127] EBRD's client in the operation Kyzylorda Electricity Distribution Project (OPID 46770) approved and signed in December 2014

[128] Electrica Equity (OPID: 46271) approved in Jun 2014

[129] ADES (OPID: 46386) approved in Oct 2014

[130] PICO Oil and Gas (OPID: 44491) approved in Jun 2015

[131] Naftogaz Gas Purchase Facility (OPID: 47283) approved in Sep 2015

[132] KESH Restructuring Project (OPID: 48132) approved in Jun 2016

[133] Akfen Yenilenebilir Enerji Co (f. Project Green) (OPID: 47631) approved in Dec 2016

[134] MEPSO: FYR Macedonia-Albania Transmission Phase I (OPID: 46274) approved in Nov 2015

[135] EPS Restructuring (OPID: 47318) approved in Oct 2015