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Report No: PAD4627

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT (IBRD) AND
INTERNATIONAL DEVELOPMENT ASSOCIATION (IDA)

PROGRAM APPRAISAL DOCUMENT

ON

PROPOSED LOANS FROM THE IBRD IN THE AMOUNT OF EUR 600 MILLION
TO THE INDUSTRIAL DEVELOPMENT BANK OF TÜRKİYE A.Ş. (TSKB) (EUR 300 MILLION),
AND TO THE DEVELOPMENT AND INVESTMENT BANK OF TÜRKİYE A.Ş. (TKYB) (EUR 300 MILLION)
WITH THE GUARANTEE OF THE REPUBLIC OF TÜRKİYE
AND
PROPOSED LOANS FROM THE CLEAN TECHNOLOGY FUND (CTF) IN THE AMOUNT OF US$30 MILLION
TO TSKB (US$15 MILLION) AND TKYB (US$15 MILLION)
WITH THE GUARANTEE OF THE REPUBLIC OF TÜRKİYE
WITH
GRANT CO-FINANCING FROM
THE ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAM MULTI-DONOR TRUST FUND (ESMAP)
IN THE AMOUNT OF US$3 MILLION TO TSKB (US$1.5 MILLION) AND TKYB (US$1.5 MILLION)
FOR AN
ACCELERATING THE MARKET TRANSITION FOR DISTRIBUTED ENERGY PROGRAM-FOR-RESULTS

AS PHASE 1 OF

THE MULTIPHASE PROGRAMMATIC APPROACH OF
THE EUROPE AND CENTRAL ASIA RENEWABLE ENERGY SCALE-UP (ECARES) PROGRAM
WITH AN OVERALL FINANCING ENVELOPE OF US$2.00 BILLION EQUIVALENT
(UP TO US$1.69 BILLION FOR IBRD AND UP TO US$0.31 BILLION FOR IDA)

January 26, 2024

Energy and Extractives Global Practice
Europe And Central Asia Region

CURRENCY EQUIVALENTS

Exchange Rates Effective Dec 31, 2023

USD 1 =	EUR 1.1077
USD 1 =	TRY 29.86

FISCAL YEAR
World Bank: July 1 – June 30
Türkiye: January 1 - December 31

Regional Vice President:	Antonella Bassani
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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BESS	Battery Energy Storage System
BICE	Investment and Foreign Trade Bank (*Banco de Inversión y Comercio Exterior*)
BiH	Bosnia and Herzegovina
C&I	Commercial and Industrial
CAPEX	Capital Expenditure
CCDR	Country Climate and Development Report
CIF	Clean Investment Fund
CPF	Country Partnership Framework
CTF	Clean Technology Fund
DER	Distributed energy resources
DLI	Disbursement-Linked Indicator
DLR	Development Linked Results
DPL	Development Policy Loan
DRE	Distributed Renewable Energy
DSPV	Distributed Solar Photovoltaics
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
ECARES	Europe and Central Asia Renewable Energy Scale-up
ERC	Emissions Reduction Credit
ESMAP	Energy Sector Management Assistance Program
ESMS	Environmental and Social Management System
ESSA	Environmental and Social Systems Assessment
ESTART	Electricity Sector Transformation and Resilient Transmission
EU	European Union
EUR	Euro
FB	Facility Borrowers
FDN	National Development Bank (*Financiera de Desarrollo Nacional*)
FI	Financial Intermediary
FM	Financial Management
FODER	Fund for the Development of Renewable Energy (*Fondo para el Desarrollo de Energías*)
FOM	Facility Operation Manual
FX	Foreign Exchange
GCF	Green Climate Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
GIZ	German Agency for International Cooperation (*Gesellschaft für Internationale Zusammenarbeit)*
GoT	Government of Türkiye
GW	Gigawatt
HVEN	High Voltage Electricity Network
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFC	International Finance Corporation
IFSA	Integrated Fiduciary Systems Assessment
IPF	Investment Project Financing
IPP	Independent Power Producers
IRENA	International Renewable Energy Agency
ISA	International Solar Alliance
IVA	Independent Verification Agency
MDB	Multilateral Development Bank
MFD	Maximizing Finance for Development

MFD-EP	Maximizing Finance for Development-Enabling Project
MIGA	Multilateral Investment Guarantee Agency
MPA	Multiphase Programmatic Approach
MRV	Monitoring, Reporting, and Verification
MW	Mega Watt
NDC	Nationally Determined Contribution
NEEAP	National Energy Efficiency Action Plan
NEP	National Energy Plan
NHSFO	Non-honoring of sovereign financial obligations
NHSOE	Non-honoring of financial obligations by a state-owned enterprise
PAP	Program Action Plan
PCE	Private Capital Enabling
PCM	Private capital Mobilization
PrDO	Program Development Objective
PforR	Program-for-Results
PIAs	Program Implementing Agencies (i.e. TSKB and TKYB)
PIU	Program Implementation Unit
POM	Project Operational Manual
PPA	Power Purchase Agreement
PPP	Public Private Partnerships
PRI	Political Risk Insurance
PTAD	Program Technical Assessment Document
PV	Photovoltaic
RAS	Reimbursable Advisory Services
RE	Renewable Energy
REI	Renewable Energy Integration
RETF	Recipient-Executed Trust Fund
RISE	Regulatory Indicators for Sustainable Energy
SCADA	Supervisory Control and Data Acquisition
SCALE	Scaling Climate Action by Lowering Emissions
SCD	Systematic Country Diagnostic
SIDS	Small Island Development States
SMEs	Small and Medium Enterprises
SOE	State-Owned Enterprises
SRMI	Sustainable Energy Risk Mitigation Initiative
STEM	Science, Technology, Engineering, and Mathematics
TA	Technical Assistance
TF	Trust Fund
TKYB	Development and Investment Bank of Türkiye (*Türkiye Kalkınma ve Yatırım Bankası*)
TSKB	Industrial Development Bank of Türkiye (*Türkiye Sınai Kalkınma Bankası*)
TSO	Transmission Systems Operators
UHE	Ukrhydroenergo
USD	United States Dollar
USRES	Uzbekistan Solar and Renewable Energy Storage
VCM	Voluntary Carbon Market
VRE	Variable Renewable Energy
WCD	War and Civil Disturbance

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DATASHEET

BASIC INFORMATION

Project Beneficiary(ies)	Operation Name		
Turkiye	Accelerating the Market Transition for Distributed Energy Program as part of ECARES MPA		
Operation ID	Financing Instrument	Does this operation have an IPF component?	
P176375	Program-for-Results Financing (PforR)	No	

Financing & Implementation Modalities

[✓] Multiphase Programmatic Approach (MPA)	[ ] Fragile State(s)
[ ] Contingent Emergency Response Component (CERC)	[ ] Fragile within a non-fragile Country
[ ] Small State(s)	[ ] Conflict
[ ] Alternative Procurement Arrangements (APA)	[ ] Responding to Natural or Man-made Disaster
[ ] Hands-on Expanded Implementation Support (HEIS)	

Expected Approval Date	Expected Closing Date	Expected MPA Program Closing Date
22-Feb-2024	30-Mar-2029	31-Jan-2034
Bank/IFC Collaboration		
No		

MPA Program Development Objective

Increase renewable energy capacity in participating countries of the Europe and Central Asia region.

MPA FINANCING DATA (US$, Millions)

MPA Program Financing Envelope	2,120.70

Organizations

Borrower:	Development and Investment Bank of Turkiye (TKYB), Industrial Development Bank of Turkiye (TSKB)
Implementing Agency:	Development and Investment Bank of Turkiye (TKYB)
Contact:	Özlem Cinemre
Title:	Executive VP
Telephone No:	902166368730
Email:	tkybdfi@kalkinma.com.tr
Implementing Agency:	Industrial Development Bank of Turkiye (TSKB)
Contact:	Meral Murathan
Title:	Executive VP
Telephone No:	902123345124
Email:	murathanm@tskb.com.tr

MPA FINANCING DETAILS (US$, Millions)

MPA Financing Envelope:	2,120.70
of which Bank Financing (IBRD):	1,690.00
of which Bank Financing (IDA):	310.00
of which Other Financing sources:	120.70

COST & FINANCING (US$, Millions)

Maximizing Finance for Development

Is this an MFD-Enabling Project (MFD-EP)?	Yes
Is this project Private Capital Enabling (PCE)?	Yes

SUMMARY

Government program Cost	**5,300.00**
Total Operation Cost	**1,015.40**

Total Program Cost	1,013.74
Other Costs (Front-end fee,IBRD)	1.66
Total Financing	**1,015.40**
Financing Gap	**0.00**

DETAILS

Private Sector Investors/Shareholders

Equity	Amount	Debt	Amount
Non-Government Contribution	151.90	IFI Debt	664.40
Private sector Equity	151.90	IBRD	664.40
		Commercial Debt	107.30
		Unguaranteed	107.30
		Other Debt	58.80
		Trust Funds	33.00
Total	**151.90**		**863.50**

Expected Disbursements (US$, Millions)

WB Fiscal Year	2024	2025	2026	2027	2028	2029
Annual	17.90	91.80	185.20	204.40	142.40	55.70
Cumulative	17.90	109.70	294.90	499.30	641.70	697.40

PRACTICE AREA(S)

Practice Area (Lead)

Energy & Extractives

Contributing Practice Areas

CLIMATE

Climate Change and Disaster Screening

Yes, it has been screened and the results are discussed in the Operation Document

SYSTEMATIC OPERATIONS RISK- RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Moderate
8. Stakeholders	Moderate
9. Other	Substantial
10. Overall	Moderate
Overall MPA Program Risk	Substantial

POLICY COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

LEGAL

Legal Covenants

Sections and Description
TKYB and TSKB IBRD Loan Agreements (LAs), Section I.A.2. No later than sixty (60) days after the Effective Date, the Borrower shall have: (a) executed and delivered the CTF Loan Agreement; and (b) executed and delivered the ESMAP Grant Agreement.
LAs, Section I.B.1(a). The Borrower shall carry out the Program Action Plan, and cause the Program Action Plan to be carried out, in accordance with the schedule set out in the said Plan and in a manner satisfactory to the Bank.
LAs, Section I.C.1. The Borrower shall maintain a Program Operational Manual ("POM") in form and substance satisfactory to the Bank, and thereafter ensure that the Program is maintained and carried out in accordance with the provisions set forth in the POM, including ensuring adherence by the DSPV Sub-borrowers, BESS Sub-borrowers, and Facility Borrowers (which shall include causing the respective Facility Sub-borrowers' adherence to the POM).
LAs, Section I.D.1. The Borrower shall select eligible investments for inclusion under the Program in accordance with the selection criteria, conditions and procedures set forth in the POM, as such criteria and conditions shall include, inter alia, the proposed activities' compliance with the environmental, safety and social management systems (ESMS) and requirements set forth in the ESMS, which shall be consistent with the ESSA.
LAs, Section I.D.2(a). The Borrower shall ensure that only DSPV Subprojects connected to the grid, if at all, at 36 kilovolts (kV) or below shall be eligible for financing under the Program.
LAs, Section I.D.2(c)(i) and (iii). For the implementation of activities under Results Area 2.A, unless otherwise expressly agreed to by the Bank: (i) by no later than the Transition Date, the Borrower shall, in coordination with [TKYB] [TSKB], have formally established the referenced credit facility, including the preparation and adoption of a Facility Operational Manual, all to the satisfaction of the Bank; [… and …] only Facility Loan Agreements signed by the Borrower and Facility Borrowers after the Transition Date shall qualify for financing under the Program.
LAs, Section I.D.2(e). For the implementation of Program activities involving solar investments, the Borrower shall ensure, and shall cause (i) DSPV and BESS Sub-borrowers to ensure, and (ii) the Facility Borrowers to ensure through their respective Facility Sub-borrowers, that all solar investments under the Program include the following requirements: (A) DSPV and BESS Sub-borrowers and Facility Sub-borrowers shall require their respective contractors, subcontractors, suppliers and/or manufacturers providing solar panels and/or solar panel components to provide a declaration that they have not used or engaged forced labor in their respective workforce, and are committed to not use or engage forced labor in their respective workforce when carrying out activities under the Program; and (B) said declarations shall follow the arrangements set forth in the POM.
LAs, Section I.F.1. The Borrower shall, in coordination with [TKYB] [TSKB], contract, not later than ninety (90) days after the Effective Date, and thereafter maintain, throughout Program implementation, a competitively selected, third-party, independent verification agent or agency with assigned verification agents that have experience and qualifications and terms of reference acceptable to the Bank to undertake the DLR verification process.
LAs, Section II.A. The Borrower shall ensure that the Program excludes any activities that: 1. in the opinion of the Bank, are likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people, including the Excluded Activities defined in this Agreement; or 2. involve the procurement of: (a) works, estimated to cost USD 115,000,000 equivalent or more per contract; (b) goods, estimated to cost USD 75,000,000 equivalent or more per contract; (c) non-consulting services, estimated to cost USD 75,000,000 equivalent or more per contract; or (d) consulting services, estimated to cost USD 30,000,000 equivalent or more per contract.

Conditions

Type	Citation	Description	Financing Source
Effectiveness	TKYB and TSKB IBRD Loan Agreements (LAs), Article IV.	The Program Operational Manual has been prepared and adopted in form and substance satisfactory to the Bank.	IBRD/IDA
Disbursement	LAs, Schedule 2. Section IV.B.1.	No withdrawal shall be made: (a) on the basis of DLRs achieved prior to the Signature Date; and/or (b) for any DLR under Category (1), (2), (3), (4), (5), (6) or (7), until and unless the Borrower has furnished evidence satisfactory to the Bank that said DLR has been achieved in accordance with the provisions of the Verification Protocol agreed with the Bank.	IBRD/IDA
Disbursement	LAs, Schedule 2. Section IV.B.2.	The Borrower may withdraw an amount not to exceed EUR 75,000,000 as an advance; provided, however, that if the DLRs, in the opinion of the Bank, are not achieved (or only partially achieved) by the Closing Date, the Borrower shall refund such advance (or portion of such advance as determined by the Bank in accordance with the provisions of paragraph 3 of this Part B) to the Bank promptly upon notice thereof by the Bank. Except as otherwise agreed with the Borrower, the Bank shall cancel the amount so refunded. Any further withdrawals requested as	IBRD/IDA

		an advance under any Category shall be permitted only on such terms and conditions as the Bank shall specify by notice to the Borrower.	

I. STRATEGIC CONTEXT

A. Regional Context

1. **Recent supply shocks in the natural gas markets have led to a significant hike in energy prices across the Europe and Central Asia (ECA) region given its overreliance on imported natural gas.** The ECA region[1] was severely impacted by the successive waves of the COVID-19 pandemic and Russia's invasion of Ukraine, which contributed to an unprecedented energy crisis, placing energy security and affordability in jeopardy. The supply shock in the natural gas markets led to a significant hike in energy prices across Europe due to the high dependance on gas for heating and electricity. Even before Russia's invasion of Ukraine, strong post-COVID-19 recovery had driven energy demand up globally in the second half of 2021, while gas supply and storage remained constrained especially in the ECA region, resulting in exceptionally high natural gas prices. A spike of wholesale electricity prices across Europe ensued, especially where gas fired generation sets the benchmark price, as well as spikes in heating costs. The hike in prices in natural gas and electricity exposed European consumers to price volatility, negatively affected energy-dependent sectors of the economy, pushed inflation to multi-decade highs, and affected vulnerable households, in a region where energy poverty remains high.[2] Although Central Asia is not as dependent on gas imports, it was not spared during the energy crisis, as it experienced significant blackouts in power and heating services during the winter of 2022-23, arising from chronic under-investments and the harshest winter conditions in decades.

2. **The energy crisis highlighted the urgency for ECA countries to transform their energy sectors, reduce dependency on imported fossil fuels, and enhance energy security and affordability.** Europe's policy response to the energy crisis is bearing fruit**.** The International Energy Agency estimated in December 2022[3] that, through the Repower EU program, the gas supply gap in the European Union (EU) for 2023 was half that of 2022, through energy-saving measures, a diversification of energy supply, and an accelerated deployment of renewable energy (RE). The energy crisis highlighted the shortcomings of fossil fuel dependence, as countries with higher shares of RE in their grids experienced a lower increase in electricity prices. Following this crisis, energy security – defined as the uninterrupted physical availability of energy supplies at an affordable price while respecting environmental concerns – has emerged as a key policy objective for countries in the ECA region, alongside the need to decarbonize the energy sectors.

3. **Efforts to achieve energy security can be aligned with efforts to decarbonize economies and achieve stronger, long-term economic growth.** The clean energy transition, consisting of scaling up the development of domestic renewable energy, using energy efficiently, and supplementing these measures with effective energy trade policies will help decarbonize the energy sector and make countries more energy secure. Moreover, the adoption of new technologies is an opportunity to boost economic growth rates that have languished for many countries to the lowest levels over the last three decades. Without efforts to decarbonize the ECA region, long-term economic prospects look grim: there is no economic model based on fossil fuels that makes economic sense over a longer horizon, largely because of global efforts toward net zero emissions, which will lower fossil fuel demand with significant impacts on fossil fuel exporting countries.

4. **As part of the Evolution Roadmap, the Bank seeks to assist countries to better manage and cope with global challenges, including climate change, pandemics, fragility and conflict, as they pursue poverty reduction and shared prosperity on a livable planet.** Part of the response to the urgency and enormity of the challenge is an evolution of the

[1] World Bank ECA lending groups for the current 2024 fiscal year include: IDA— Kyrgyz Republic, Tajikistan, Kosovo; Blend—Uzbekistan; IBRD—Albania, Armenia, Azerbaijan, Bulgaria, Bosnia and Herzegovina, Belarus, Georgia, Croatia, Kazakhstan, Moldova, North Macedonia, Montenegro, Poland, Romania, Russian Federation, Serbia, Turkmenistan, Türkiye, Ukraine. For Reimbursable Advisory Services (RAS), eligible countries in ECA include European Union member states as well as UK, Norway, Switzerland, San Marino, and Iceland. For details of country classifications see http://data.worldbank.org/.

[2] 34 percent of the population in ECA spend 10 percent or more of their average monthly expenditure on energy, a typical threshold for energy poverty. According to World Bank estimates, an additional 4.3 million residents in the ECA region fell into poverty in 2021 when energy prices soared.

[3] https://www.iea.org/reports/renewables-2022

World Bank's knowledge and financing model that can scale impact commensurate with the challenge. Against this backdrop, the proposed Renewable Energy Scale-up in ECA (ECARES) Multiphase Programmatic Approach integrates key elements of the new vision expressed in the World Bank's Evolution Roadmap as it seeks to accelerate the scale up of renewable energy in the region and to deliver solutions and impacts at scale by drawing on lessons learned during the recent energy crisis. Fossil fuels (natural gas, oil and coal) still make up more than 80 percent of the region's energy mix, and net import dependency is very high, at half or more of total energy supply in nine countries. Thus, the ECARES MPA seeks to create the enabling conditions and remove the barriers to unleash private capital for renewable energy at scale in the ECA region, which requires the concerted efforts of the World Bank, IFC and MIGA, and thus position the region towards a more sustainable and energy secure future. It also aims to enable ECA countries to be beneficiaries as well as contributors of the knowledge generated among countries that seek to accelerate the energy transition.

B. Sectoral and Institutional Context

5. **The energy sector is the largest contributor to greenhouse gas emissions in ECA due to continued reliance on fossil fuels.** Over half the emissions from emerging and developing ECA countries are attributable to the energy sector, including electricity generation and space heating. About 88 percent of the total energy supply is from fossil fuels (of which roughly half is from natural gas and 22 percent from oil and coal each), nuclear accounts for 6 percent, followed by hydro (2 percent), and other renewables (4 percent)[4]. In the electricity sector, 11 of the 25 most emission-intensive country grids globally are ECA countries. The legacy of the 'unfinished transition' to market economies in some ECA countries has limited private sector participation and maintained relatively weak institutions, which has led to chronic underinvestment in the sector. In addition, the power sector remains at the center of the transition challenge as the biggest emitter within the energy system, generating over 40 percent of emissions.

6. **Nine countries in ECA have objectives to achieve carbon neutrality by 2050 to 2060[5], which will require a significant scale up in the deployment of RE**, **calling for massive investments and a critical role for the private sector**. Achieving carbon neutrality would require decarbonizing the power sector first, typically a decade before the ultimate target, with most of new power capacity additions from RE. Installed RE capacity in the ECA region is 200 GW, of which more than 50 percent is hydropower. The potential for RE deployment is large, as many countries and regions are endowed with significant natural resources. However, progress over the past five years has been uneven and below expectations (see Annex 5). At the recent COP28 held in Dubai, more than 120 countries pledged to triple RE capacity and double the rate of improving energy efficiency by 2030, which are interim steps to avert the worst impacts of climate change. Country Climate and Development Reports (CCDRs) for ECA[6] show massive RE capacity increase needs extending beyond 2030, along with upgrades and expansion of the transmission and distribution infrastructure. Overall, investments of 3.9 percent of GDP would be required to achieve ECA net zero targets by 2060, making private investment essential.

7. **ECA countries are struggling to overcome policy, regulatory, and institutional barriers hindering the power sector transition.** Achieving the region's objective to scale up renewable energy deployment calls for renewed efforts to address key constraints. For most of the countries in ECA, further efforts are required to ensure the financial sustainability of the sector, to reduce the state's role in power generation through reforms of state-owned enterprises (SOEs) and the independence of regulators, and to adopt market-based rules that foster competition. Most of these countries have begun serious efforts to develop a policy framework for renewable energy deployment; however, to meet national climate objectives, these efforts must be enhanced, as outlined in the World Bank's Regulatory Indicators for Sustainable Energy (RISE) program and recent market soundings, which highlight differences across the ECA region (see Annex 5). Improvements across ECA are necessary across a range of areas such as counterparty risk, incentives, regulatory support,

[4] Source: IEA, see Annex 5 for more information.

[5] Nine ECA countries have adopted carbon neutrality targets by 2050 (Armenia, Bulgaria, Croatia, Kyrgyz Republic, and Romania), 2053 (Türkiye) or 2060 (Kazakhstan, Russian Federation, and Ukraine). EU candidate countries, such as in the Western Balkans, have declared an ambition to work with the EU toward a net zero European continent by 2050, according to their NDCs and county strategies.

[6] https://www.worldbank.org/en/publication/country-climate-development-reports

and carbon pricing. Government capacity is typically moderate, and few countries have experience in RE deployment at scale, making a case for regional collaboration (e.g., data management, planning, synergy in procurement, financial management, and knowledge sharing). Annex 6 provides a summary of key areas of World Bank (WB) engagement in energy sector in the ECA region.

8. **Transmission and distribution infrastructure modernization and provision of flexibility services are required for renewable energy scale up, including through regional integration.** Grid networks in ECA do not extend to locations with the best renewable energy resources, nor do they have sufficient storage or flexibility to integrate and balance large quantities of intermittent RE, and in general, more work is needed to develop competitive power markets that incentivize the provision of system flexibility. In the Western Balkans, balancing costs remain a barrier to scale up, as the energy systems have poor flexibility. In the South Caucasus, the relatively underdeveloped electricity transmission network and limited regional connectivity impose severe limitations on the development of the region's ample variable RE sources. In Central Asia and the South Caucasus, there is potential for wider integration of energy markets in the region, which would enable rationalization of the vast potential of renewable energy across borders. Finally, the Energy Community works with EU candidate countries to develop wholesale electricity markets to enable scale up of RE.

9. **Private capital investment in RE generation is key and still faces significant barriers.** Although the private sector has had some success in adding RE in ECA, there are several barriers to its scale up. Grid connection and curtailment risks are perceived to be high. A competitive procurement framework and risk-balanced power purchase agreements (PPA) are missing in some markets and off-taker risks constrain investment, whether in single buyer systems or in nascent and underdeveloped power markets. Foreign currency convertibility is a challenge in many countries as power sector revenues are in local currencies. These risks, among others, create barriers for RE developers to access finance, especially domestic developers with less access to international financiers. In addition, the cost of capital has been increasing following macroeconomic challenges (regional and global) and monetary tightening. Also, there are regulatory barriers in some markets related to land tenure that discourage economies of scale, and significant uncertainty regarding grid connectivity planning, which limits private investments in renewable energy.

Box 1: World Bank Group engagement in the energy sector in ECA Region

The World Bank Group's longstanding engagement in the ECA energy sector supports governments in their goal of delivering affordable, reliable and secure energy. Private sector–led RE investments are a critical component of the clean energy transition, which now needs to be accelerated and scaled up. This requires strong and financially viable utilities and power sectors with robust governance, capable institutions, an enabling environment, and financing mechanisms. The World Bank is therefore applying a three-pronged approach to help governments: (i) achieve energy sector financial sustainability and affordability; (ii) design and implement strategies for decarbonization; and (iii) promote regional power trade and integration, by bringing forward comprehensive solutions through a suite of instruments offered by the World Bank, the IFC and MIGA (see Annex 6 for more details).

a. Energy sector financial sustainability and affordability. The Bank supports ECA countries to implement reforms through a range of instruments such as technical assistance, DPOs and PforRs to: (i) improve the governance, performance and financial viability of the utilities and transmission systems operators (TSOs); (ii) implement energy pricing, tariff and subsidy reforms while protecting the vulnerable; and (iii) build capacity through exchange of best practices globally.

b. Decarbonization. The Bank's engagement in support of ECA countries' decarbonization and electricity supply diversification covers all segments of the electricity sector value chain (generation, national transmission, and distribution) and has spearheaded first-time utility-scale RE generation in several countries, distributed renewable energy (DRE) and battery storage as well as further flexibility services, including through hydropower. Collaborations with IFC and MIGA though the Scaling Solar program have catalyzed new markets for our countries members in Central Asia, while close cooperation is also reflected in policy, regulatory, and institutional reforms support. In Ukraine, the World Bank Group is spearheading an initiative to accelerate the scale-up of RE and energy storage during the reconstruction phase. Extensive technical assistance provided by the WBG helped establish policy, regulatory, market, and transparent procurement frameworks (including through auctions) to spur RE development and integration, while economy-wide decarbonization is being supported through technical assistance for the establishment of carbon pricing mechanisms, e.g., in Türkiye and Ukraine.

c. Regional power trade and market integration. Regional trade and market integration can unlock further opportunities for private sector investment into renewable energy. The Bank has been a key ally to deepen regional cooperation and electricity market integration across ECA countries, including through supporting preparation of flagship investments such as regional interconnectors and regional generation

assets; technical assistance towards developing policies, regulations and markets for regional trade, for instance in the Western Balkans, the South Caucasus and in Central Asia; and flagship analytics such as the forthcoming ECA Energy Futures report.

10. **ECA governments play a critical role in setting comprehensive enabling policies and creating institutions that address transmission and distribution bottlenecks, mobilize private investment in renewable energy, and foster energy security and affordability while meeting global climate goals**. Many ECA countries are developing strategic documents and plans, largely inspired by the EU's leadership and commitment to accelerate the clean energy transition. This includes the development of National Energy and Climate Plans (NECPs) through 2030 and transposition of the Clean Energy Package into national legislation to improve market performance and transparency and develop auctions and market-based incentives to promote renewables. The Bank can offer timely support to these national action plans, targets and strategies. Additionally, there is an urgent need to strengthen dedicated agencies and institutions and support regulators, market operators, TSOs and distribution market operators (DSOs).

11. **Substantial opportunities exist to overcome these challenges and scale RE deployment in the ECA region.** The emerging innovations, as well as the rising political interest in energy security as a result of the volatility of the recent energy crisis, offer an unprecedented opportunity to overcome these challenges in the short to medium-term while decoupling emissions from economic growth by rapidly scaling up RE:

(a) **Technology cost reductions**. Thanks to the dramatic cost reduction over the past decade, RE is cost competitive with fossil fuels in the power sector on a levelized cost of energy basis. The cost of energy storage options, that increase the flexibility of power systems to integrate more renewables, is projected to decline over the next 5 to 10 years.

(b) **The rise of distributed renewable energy (DRE) technologies such as solar rooftops and small ground-mounted solar plants**, as well as innovative business models, provide opportunities that were not available to countries in the last decade. Modular DRE is an increasingly attractive complement to centralized grid systems, giving rise to innovative, private sector-driven business models underpinned by public sector enabling conditions, demonstration pilots, and initiating markets through financing intermediaries. With cost-competitive, consumer-centered models and consumer financing options, DRE companies bring resilience to power systems and increase affordability to consumers.

(c) **Digitization and expansion of the transmission and distribution (T&D) grid, digital platforms and tools are transforming energy planning and financing.** Digital tools, satellite imagery, smart/predictive algorithms and applications of artificial intelligence have already transformed energy planning and operations and are promising tools to guide delivery and finance mobilization. Digital monitoring, reporting, and verification (MRV) platforms promote efficiencies and transparency in public sector financing flows, such as result-based payments and targeted pro-poor subsidies, while at the same time creating unprecedented opportunities to mobilize carbon revenues and other impact-based financing via aggregation, credible verification protocols, and lower transaction costs. As per the analysis of CCDRs, transmission represents 10 percent or more of the cost of the clean energy transition, and a key bottleneck in many ECA countries.

(d) **Regional electricity market integration approaches amplify the benefits of the opportunities mentioned above, including through local jobs creation.** Cross-border trade of renewable electricity and balancing and fast response services can reduce overall grid integration costs by increasing liquidity in markets and reducing overall energy and reserves costs. Building larger regional markets for renewable energy is essential for unlocking economies of scale, integrating regional supply chains, and achieving renewable energy cost reduction. Moreover, region-wide scale-up of renewable energy investments may create incentives for localized manufacturing and assembly of key products and components, creating jobs and increasing value added for the region and further opportunities for regional trade.

12. **The World Bank seeks to develop a regional Program, under a Multiphase Programmatic Approach (MPA), to support ECA countries to accelerate RE transition and achieve scale and impact through private investment, while fostering regional knowledge sharing.** The proposed ECA Renewable Energy Scale-up (ECARES) MPA Program (the ECARES Program) seeks Board approval for an amount of US$2.0 billion in financing (up to US$1.69 billion for IBRD and up to

US$310 million for IDA), also leveraging concessional climate financing and grants from a variety of sources. The ECARES Program includes the appraised Türkiye Accelerating the Market Transition for Distributed Energy Program-for-Results (P176375, IBRD EUR 600 million loan, CTF US$30 million loan, ESMAP US$3 million grant) operation in Phase 1, as well as additional proposed operations for Armenia, Azerbaijan, Kosovo, Kyrgyz Republic, Tajikistan, Türkiye, Ukraine and Uzbekistan, for which letters of request for Bank support to increase renewable energy have been received from the respective governments, and will be covered in subsequent phases under the MPA. These subsequent operations under the MPA will be approved in accordance with the MPA policy. The full MPA is expected to be committed during FY24-31 and implemented during FY24-34, to enable up to 15 GW of RE deployment, contributing to the goal of tripling RE capacity in ECA by 2030, and towards 2050 climate objectives. The Program aims to enable about US$6.0 billion from the private sector, and additional funding from other development partners, governments, national utilities, carbon markets, climate finance. and other impact-oriented financiers and philanthropic donors.

13. **The MPA Program will be anchored in three complementary pillars of activities** – enabling policies and institutional frameworks, investments to develop flexible electricity networks, and financing and risk mitigation instruments for clean energy investments.[7] The ECARES Program has a strong focus on expanding finance for renewable energy, especially from the private sector and climate, while addressing underlying issues constraining private sector expansion, including the enabling environment and implementation capacities and risks - notably by leveraging IFC and MIGA, as well as the WBG's global knowledge and its Climate Change Group. The Program will also seek to identify concessional funding and grant financing to complement the activities supported under the program, including for technical assistance, knowledge creation and sharing, and critical investments. These would be implemented in a coordinated manner under an ECARES Regional Support Network.

14. **The MPA approach will enable shared learning as well as knowledge creation and exchange across ECA countries**. The ECARES Program has been designed to address the above-mentioned barriers and risks systematically, by prioritizing enabling policy development and strengthening institutional capacity, to scale up renewable energy in a wholesale approach. The Program will develop more harmonized systems, create more predictability, increase the level of information and understanding of risks to the benefit of commercial financiers, lead to further economies of scale, bring down costs and help foster new local industries.

15. **The ECARES MPA is being prepared in parallel to a separate and complementary regional MPA focused on scaling-up energy efficiency in the ECA region (Scaling-Up Energy Efficiency in ECA (E3), P181518).** The two ECA energy MPAs are designed to be complementary: while the E3 MPA will focus on demand-side saving of energy through scale up of energy efficiency interventions, the ECARES MPA will focus on the development of clean energy supply. ECARES is primarily focused on increasing renewable energy in power generation, but the program will also help build the foundations for decarbonization of space heating (e.g., through electrification), one of the priority sectors for the E3 MPA. The digitalization and operational improvement of the grid required to integrate renewables will also help reduce network losses, improving the overall efficiency of the sector. Jointly, the ECA regional energy MPAs will enhance energy security and affordability and contribute to the decarbonization of the economies in ECA.

16. **The ECARES MPA leverages the World Bank Group global knowledge in RE development and integration and enabling of private investment and will also benefit from the Sustainable Renewables Risk Mitigation Initiative[8] (SRMI) and its Financial Innovation window**. The pillars and sequencing of activities under ECARES have benefitted from the SRMI methodology[9] to support countries in building a pipeline of bankable RE projects, leveraging private investment while maximizing socioeconomic benefits. Moreover, ECARES plans to access the Financial Innovation Window that aims to

[7] The composition of financing (public/private) will depend on a country's institutional context, market situation and the type of investments.

[8] Launched in 2018, SRMI is a partnership between the World Bank's Energy Sector Management Assistance Program (ESMAP)8, AfDB, ADB, AFD, the European Bank for Reconstruction and Development (EBRD), IRENA, the International Solar Alliance (ISA), the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) via its GET.transform program, and Sustainable Energy for All (SE4all).

[9] World Bank, 2022, SRMI: A Sure Path to Sustainable Solar, Wind and Geothermal.

fundraise US$500 million in the upcoming ESMAP business plan to unlock variable RE investments (wind and solar) by structuring tailored risk mitigation instruments and financing to spur innovation.

C. Relevance to Higher Level Objectives

17. **By scaling renewable energy, the Program contributes to the World Bank's vision to create a world free of poverty on a livable planet.** RE deployment creates jobs and affordable electricity can spur broad and sustainable social and economic development. Additionally, reducing emissions through energy transition is a global public good with local costs and shared, global benefits. In a context of energy crisis, the phasing down of fossil fuel use will be reliant on a rapid and sustainable scale up of renewable energy. Through this Program, barriers preventing ECA countries from mobilizing needed financing in renewable energy will be addressed. These investments will help countries achieve their own national climate action strategies and their Nationally Determined Contributions (NDCs) under Paris Agreement while contributing to energy affordability and energy security which are essential for economic growth.

18. **The ECARES MPA design reflects the ambition to deliver solutions and impacts at scale.** The ECARES Program seeks to deliver replicable and scalable solutions by: (i) adopting an augmented country engagement approach that yields development outcomes at community, national, regional, and global levels; (ii) exploiting synergies from the mobilization of domestic revenues, private capital, and climate financing, while combining traditional and innovative instruments; and (iii) fully leveraging the potential of World Bank institutions, while also harnessing partnerships, recognizing that no single institution can meet the financing needs of the RE transition and that strategic concessional financing must be deployed to maximize impact.

19. **The proposed ECARES MPA, jointly with the ECA Energy Efficiency MPA (E3, P181518), will help address the challenges of energy security, affordability and sustainability in ECA and leverage a One World Bank approach.** The proposed ECARES MPA focuses on one of the objectives most relevant to the ECA region, that is increasing RE and network integration to enable the phasing down of fossil fuels and supporting the decarbonization of end-user sectors. Accordingly, the proposed ECARES MPA acknowledges that rapid and sustained private investment is essential to achieve the energy transition in ECA. The proposed ECARES MPA would implement a One World Bank approach by leveraging expertise and instruments from the World Bank, IFC and MIGA, to structure programs to crowd in private investments. Through the proposed interventions, the ECARES Program will deliver on some of the key scorecard objectives including increases in RE capacity, reductions of greenhouse gas emissions, private capital enabled, and new or better jobs.

20. **RE integration is a high priority in the ECA region as evidenced in Country Partnership Frameworks and Country Climate and Development Reports**. A review of ECA Country Partnership Frameworks (CPFs) shows that the vast majority explicitly emphasizes the critical role of renewable energy in achieving development objectives. Scaling up renewable energy is either one of the primary objectives to be achieved in some CPFs or featured as a solution to meeting broader development objectives. Also, all ten ECA Country Climate and Development Reports published to date underscore the critical role of renewable energy to meet climate and development objectives. At COP28, many ECA countries signed onto the Global Renewable and Energy Efficiency Pledge to work together to triple the world's installed RE generation capacity by 2030, taking into consideration different starting points and national circumstances and committing to work together in order to collectively double the global average annual rate of energy efficiency improvements every year until 2030.

21. **The ECARES MPA will support ECA countries in achieving their NDCs and contribute to efforts of climate change mitigation and adaptation, and therefore is consistent with the Countries' strategies on climate change.** NDCs of six countries (Armenia, Azerbaijan, Türkiye, Ukraine, Uzbekistan, and Tajikistan) and climate strategies of other countries (Kosovo) to be included in this Program recognize the important role of structural reforms over the long run, prioritizing energy efficiency measures, and the expansion of RE sources. Countries have different goals in achieving reduced greenhouse gas emission targets, but all countries are determined on their path to achieve climate neutrality in the second half of this century. Energy efficiency and RE development are priorities for these countries' energy security and key drivers of low carbon development. Priorities by countries, inter alia, include investments in distribution networks and

transmission lines, investments in replacing fossil fuel powered with renewable energy powered plants, and replacement of existing technologies in electricity and thermal energy production with modern technologies.

D. Multiphase Programmatic Approach

Rationale for Using MPA

A regional MPA will support ECA countries to scale-up RE more effectively and efficiently than individual operations. There is an unprecedented opportunity to address energy security in the ECA region while contributing to the global climate change mitigation goals, as well as addressing energy poverty and climate resilience issues in a sustainable manner. Against this backdrop, with many countries facing similar challenges, an MPA approach can be more effective than individual operations in creating momentum that will incentivize countries to take action, building broader partnerships and leveraging private sector, aligning approaches and leveraging lessons learned, and potentially creating economies of scale through regional harmonization, replicability, and market integration to reduce overall costs.

22. **The MPA provides a framework for governments to attract the scale of capital needed to enact this transformation and facilitates scalable engagements (moving from projects to programs), critical to achieving the energy security, affordability, and transition goals of ECA countries.** MPAs enable working together with countries toward high-level objectives on complex issues that require a broader approach, longer implementation time, continuity of Bank support, and a regional/global response. The ambition of achieving a substantial increase in RE capacity in ECA is a multi-year commitment with a set of mutually reinforcing policy, regulatory, institutional, and financing interventions. Through an MPA, participating countries will be able to identify barriers to increased RE investments (see Annex 7) and address these obstacles through multi-phase projects under the MPA, moving from projects to programs. Through this approach, countries could match borrowing more closely with financing needs, permitting more efficient use of financial resources. The MPA will also help enhance the credibility and sustainability of the government program for the private sector. Combining PforRs, IPFs, and guarantees instruments under the MPA allows countries to incorporate reform measures, public investments, and risk mitigation mechanisms as needed to achieve the expected outcomes of the MPA

23. **The MPA can also help create regional momentum and facilitate replicable engagements across ECA countries that are facing the common challenge of attracting private investment for RE development.** Building on a comprehensive 'menu of options' to meet each country's individual needs, the MPA will bring standardization and best-practice solutions for short-and long-term results while being tailored to country needs. The MPA provides a common program development objective (PrDO) for all MPA participants. The pillars are sufficiently broad to include a range of structuring interventions while providing a flexible menu of activities guided by the common theory of change that addresses high-impact barriers that are known to constrain private investment in renewable energy. In addition, the MPA will allow countries to join when they are ready, insofar as they subscribe to the same PrDO and theory of change.

24. **Furthermore, the MPA provides a partnership platform for bilateral donors, climate funds and multilateral development agencies for streamlining concessional co-financing at regional and national scale, while providing an opportunity for harmonization of preparation and implementation approaches.** It offers the opportunity for donors and climate funds to progressively expand support and bundle resources to support the scale-up of renewables for the region as resources become available, so those can be allocated to ECARES participating countries as needed. As a platform, the MPA avoids a fragmented approach to country assistance and helps build a common strategy and integrated program for each participating country. Grants could be channeled to the ECARES MPA, including through the existing ESMAP Financial Innovation window, streamlining monitoring and reporting. The MPA will also help enhance the credibility and sustainability of a government program for the private sector.

25. **In addition, the regional MPA can support further electricity market integration (both energy and reserves) at the regional level as well as regional synergies in a way that individual country projects could not.** The MPA, through a regional support component, can provide technical assistance towards developing policies, regulations and markets for regional trade and regional analytics that can help optimize regional markets. Additionally, the Program can enhance

collaboration amongst participating countries, allowing country-level RE investments and strengthening of transmission grids to be designed in the context of broader regional market needs. Finally, the regional MPA can foster cooperations towards the development of local value chains for new RE technologies, such as e.g. DRE sources and battery storage.

26. **Moreover, the MPA learning agenda encourages participating countries and institutions to learn from each other and collaborate to disseminate new knowledge.** RE investment in ECA is stalling because of common challenges. The implementation experience of one or more countries can guide the design for new countries entering the program and learning fora can facilitate real-time cross boundary lesson learning and collaboration. First mover countries in innovative spaces such as distributed solar energy and implementation at scale through financial intermediaries and/or fund structures, present critical learning opportunities for other countries. MPAs offer the flexibility for regional institutions to participate within the Program to stimulate regional learning. See Annex 3 for additional details.

27. **The ECARES MPA will span a 7-year commitment period and a 10-year implementation period, and comprise:**

(a) A regional support component implemented through partnerships with regional and global partners. It is expected that this component will be financed mostly by grants (Recipient Executed Trust Funds, RETF), with an initial US$1 million seed funding from ESMAP. Additional contributions from climate funds and bilateral donors will be sought during the implementation of the MPA. In addition, the ECARES MPA team will help fundraise concessional resources at the regional level from climate funds and bilateral donors. Grants to specific operations could be channeled through ESMAP to expedite approval processes and streamline monitoring and reporting.

(b) The proposed Türkiye Accelerating the Market Transition for Distributed Energy Program-for-Results (P176375, IBRD EUR 600 million loan, CTF US$30 million loan, ESMAP US$3 million grant, FY24-FY29), to be delivered in Phase 1. This country-level operation, and its links to the regional MPA, are described below, with details in Annex 4.

(c) Additional operations supporting investments in renewable energy across multiple ECA countries which have requested financing support from the Bank (Armenia, Azerbaijan, Kosovo, Kyrgyz Republic, Tajikistan, Türkiye, Ukraine and Uzbekistan), as well as support towards fostering a regional learning and support agenda, to be delivered in subsequent phases. These subsequent operations under the MPA will be approved in accordance with the policy. Table 1 below and Annex 8 provides information on the proposed pipeline of engagement under the MPA.

(d) Finally, there is an expectation that additional operations beyond those listed above would be added to the MPA upon the reception of letters of intent to join the MPA from additional participating countries (See Annex 8). If so, such operations will be processed as additional financing for the MPA.

(e) The implementation period of the MPA reflects timing of expected subsequent operations under the current Program envelope, and considers the average timeframe for design and studies, procurement, implementation and commissioning of large infrastructure investments in the ECA region.

Table 1. Phases of MPA[10]

	Phases of MPA	Operation ID	Tentative Development Objectives of each operation*	Instrument (IBRD, IDA)	Estimated IBRD Amount ($ million)	Estimated IDA Amount ($ million)	Estimated Other concessional or grant Amount ($ million)	Estimated Approval Date	Estimated Environmental & Social Risk Rating
	1	Türkiye (P176375)	Expand Türkiye's DSPV market and pilot distributed battery electricity storage to increase renewable energy	PforR	664.4	0	33	Feb 2024	Moderate
	2	ECA	Increase RE capacity in participating countries in the Europe and Central Asia (ECA) region	RETF (grant)	0	0	1	March 2024	Low
	3	Uzbekistan	Increase RE capacity though private sector participation	Guarantee	4	0	0	March 2024	Moderate
	4	Ukraine	Enable RE development through enhanced planning, improved auction design and elimination of legal and regulatory barriers	RETF (grant)	0	0	4.5	September 2024	Moderate
	5	Kosovo	Enable wind deployment and facilitate private participation	RETF (grant)	0	0	1.2	Q4 2024	tbc
	6	Armenia (P179336)	Enable RE development through strengthened power transmission infrastructure and improved commercialization of state-owned companies	PforR	40	0	0	Q4 2024	Moderate
	7	Ukraine	Enable RE development through increased battery storage capacity	IPF, AF	0	0	70	Q4 2024	tbc
	8	Türkiye	Enable RE development through modernization and expansion of Türkiye's electricity transmission grid 1	IPF	750	0	0	FY25	tbc
	9	Kyrgyz Republic	Enable RE development through modernizantion and expansion of Kyrgyz Republic's electricity transmission grid	IPF	0	300	0	FY25/26	tbc
	10	Uzbekistan	Increase RE capacity	IPF, Guarantee	150	0	0	tbc	tbc
	11	Tajikistan	Increase RE capacity	Guarantee	0	10	11	tbc	tbc
	12	Azerbaijan	Enable RE development through strengthened transmission infrastructure	IPF	82	0	0	tbc	tbc
Total					1690	310	120.7		
Revised Financing Envelope							$ 2120.7		

[10] Operations will be submitted for approval as ready and after meeting requirements of client countries. The order in this list is indicative.

II. MPA PROGRAM DESCRIPTION

A. MPA Program Development Objective

28. **The proposed MPA Program Development Objective (PrDO) is to increase renewable energy capacity in participating countries of the Europe and Central Asia (ECA) region.**

29. **The project development objectives (PDOs) of individual operations under the MPA Program will align with the PrDO, while reflecting key expected outcomes specific to each operation.** The Türkiye Accelerating the Market Transition for Distributed Energy PforR's PDO is to expand Türkiye's distributed solar photovoltaic market and pilot distributed battery electricity storage to increase renewable energy (see Annex 4).

B. Results Chain, Indicators, and Program Framework

30. **The Program Results Chain reflects the benefits of scaling up private investment in renewable energy that accrue at local, national, regional and global levels (Figure 1).** The proposed PrDO would be achieved through investments structured along three pillars: (1) Enabling policies and institutional frameworks; (2) RE grid integration; and (3) Financial and risk mitigation solutions.[11] All three pillars will be supported by a Regional Support component to facilitate cross learning and ensure economies of scale. These activities would result in clear targets and roadmaps for RE deployment, stronger institutions that will sustainably support renewable energy deployment, an electricity network that will reliably integrate renewable energy, and bankable renewable energy projects. Consequently, these activities will lead to avoided greenhouse gas emissions, reduced energy imports, reduced consumption of fossil fuels, and new and better jobs. This will contribute to global climate objectives, energy security, and affordable energy for sustained inclusive growth. The proposed Program Results Chain assumes continued commitment of client countries to national targets and policy frameworks, institutions strengthened under the Program remain empowered and resourced, infrastructure upgraded is properly operated and maintained, transition to cost-reflective pricing and consumption-based billing continues, and countries maintain relatively stable macroeconomic conditions.

Results Indicators

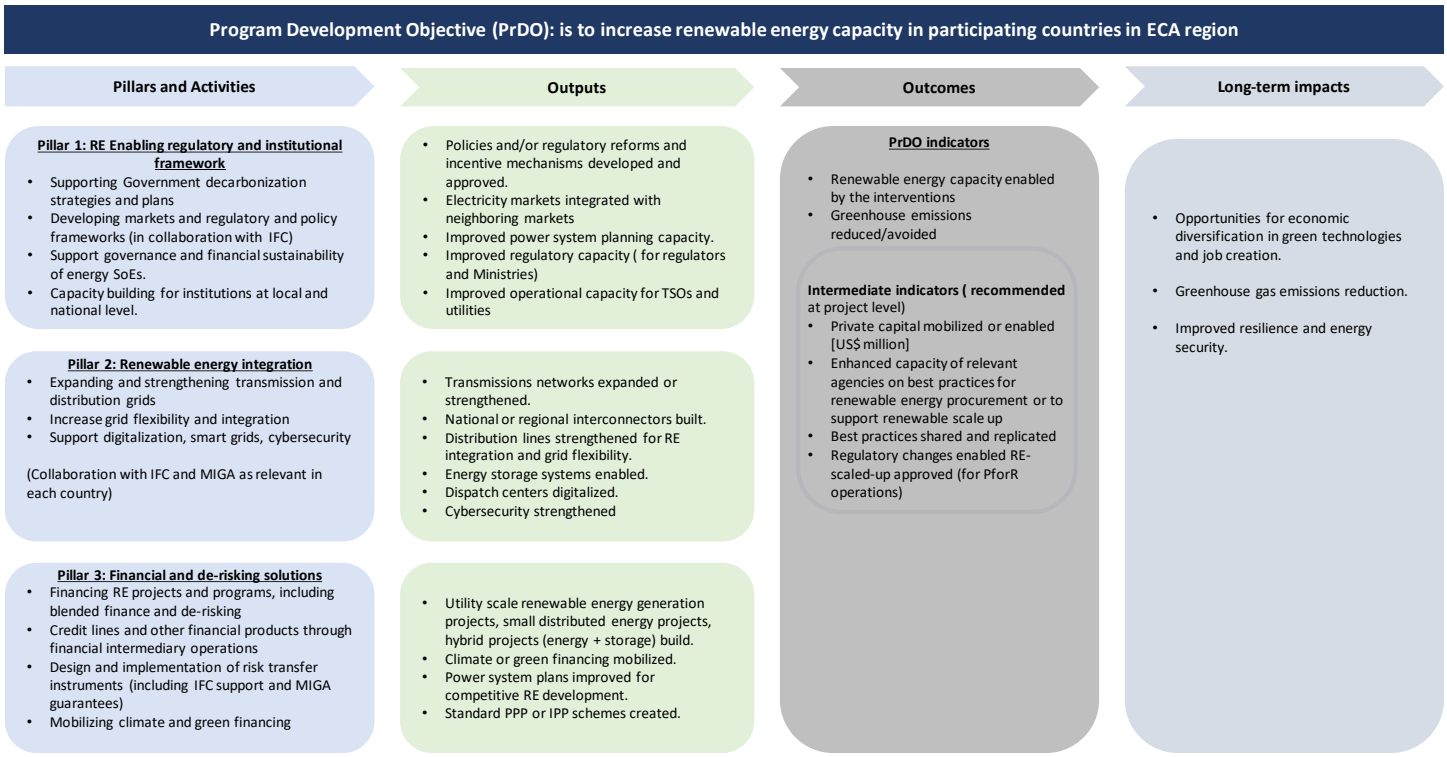
31. **The MPA Program level outcomes will be measured against the PrDO indicators 'Renewable energy capacity enabled', measured in megawatts (MW), and 'Projected lifetime net greenhouse gas (GHG) emissions from results achieved (tons carbon dioxide equivalent).** At operation level, in addition to RE capacity enabled and GHG emissions, the MPA has identified a framework of additional PDO or intermediate results indicators that will be selected as relevant for each individual operation under the MPA. These include: (i) private capital mobilized (US$); (ii) private capital enabled (US$); (iii) grid integration indicators (transmission/distribution capacity increased/enabled; storage capacity increased/enabled); (iv) favorable RE enabling policy/ regulatory enabled/informed; (v) digital monitoring and verification platform implemented; (vi) climate finance indicators (carbon financed mobilized; climate finance mobilized); (vii) citizen engagement indicators (defined by project specialist as feasible and relevant; (viii) gender indicators (defined a project level as relevant); and (ix) regional knowledge exchange indicators (see Section VII). These indicators are consistent with the New WBG Corporate Scorecard (CSC) and Corporate Results Indicators (CRIs).[12] See Annex 1 for the MPA Results Framework, and Annex 9 for discussion of the emissions reductions estimates.

Table 2. ECARES MPA PrDO level Outcome Indicators

Indicators	Unit	End Target
Renewable energy capacity enabled	MW	15,000
Projected lifetime net greenhouse gas (GHG) emissions from results achieved	tCO2e	-240,000,000

[11] The composition of financing (public/private) will depend on a country's institutional context, market situation and the type of investments.
[12] See draft note: New World Bank Group Scorecard FY24-30 - Driving Action, Managing Results (Nov 29, 2023).

Figure 1: ECARES MPA Program Results chain



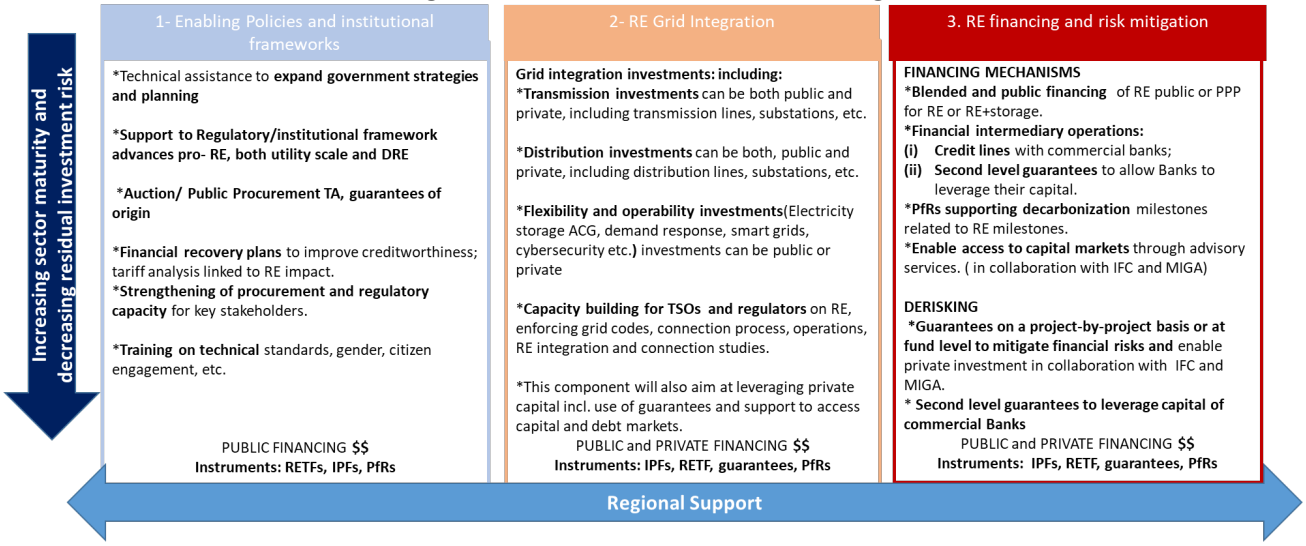
MPA Framework

32. **The MPA has been designed to help address the critical constraints to RE deployment and is leveraging the extensive energy transition engagements of the WBG in the region.** The ECARES Program seeks to invest up to US$2.0 billion in IBRD and IDA financing, committed over 7 years (FY24-31) and implemented over 10 years (FY24-34), to enable up to 15 GW of RE deployment and contribute to the goal of tripling RE capacity in ECA by 2030. It aims to mobilize around 1.5 billon and enable at least US$4.5 billion from the private sector, and leverage funding from other development partners, governments, national utilities, carbon markets, climate finance and other impact-oriented financiers and philanthropic donors. The program will be anchored in the three complementary pillars described in the results chain. Additionally, collaboration with regional and global entities will allow participating countries to leverage the learning agenda and build capacity for preparation and implementation of RE development and scale-up programs. Strong regional coordination will facilitate implementation of best practices and sharing lessons learned among countries facing similar challenges. Phase 1 has already secured some initial funding to start knowledge sharing in early stages, and additional funds will be raised during program implementation to broaden the scope of the support (See Annex 2 for additional information on ECARES Regional Support and learning agenda). Annex 8 provides a summary of the pipeline for subsequent phases and how each operation is expected to contribute to the overarching ECARES MPA program results.

33. **The MPA will also be anchored in ongoing regional analytics and advisory to inform and support the Bank's engagement**. The ECA region is continuing to undertake country-specific and regional analytical and advisory work to inform the renewable energy transition, including through the forthcoming ECA Energy Futures report, CCDRs for Azerbaijan, Kazakhstan, Romania, Türkiye, Uzbekistan, Ukraine (draft), Armenia (ongoing), Moldova (ongoing) and Western Balkans (ongoing), as well as Private Sector Country Diagnostics (PSCDs) and markets sounding undertaken to identify key barriers to private sector and commercial financing mobilization for the ECA energy transition.

34. **The MPA will take a coordinated approach to support the development and adoption of parallel policy and regulatory amendments, institutional strengthening, and market development** to achieve greater levels of ambition, scale, and sustainability. Over time, the MPA will support operations, either successive in a country or of a consistent scope across several countries. The World Bank will partner with regional entities for the implementation of selected activities under the MPA to develop and build synergies at the country and regional level. Components of projects within the MPA will be financed through IPF, RETFs, guarantees or PforR instruments, complemented at the appropriate time by IFC and MIGA financing instruments for commercial stakeholders. The MPA will be structured in three pillars:

Figure 2: ECARES MPA framework design



Pillar 1: Renewable energy enabling policies and institutional frameworks

35. **Enabling policies and institutional strengthening interventions need to cover a range of issues to ensure that investments in renewable energy can be scaled-up and not hindered by legacy thermal generation or dominance of market players, which are still prevailing in several ECA countries:**

(a) ***Supporting decarbonization strategies,*** which would include developing sector decarbonization roadmaps, setting clear targets for RE development consistent with the roadmaps, regularly updating least-cost development plans for timely achievement of targets. Additionally, specific activities and measures would be undertaken to ensure the achievement of targets, including the development of RE projects pipelines, clarifying renewable energy concession regimes and procurement strategies, applying carbon pricing and enhancing regional integration and exploiting synergies across sectors (e.g., heating, electric mobility, and industrial decarbonization). The CCDRs indicate significant potential for carbon reduction even in the short to medium term at relatively low carbon price, by taking advantage of low-cost of renewable energy and ensuring regional integration to scale up RE.

(b) ***Development of markets and regulatory frameworks,*** focusing on key regulatory, secondary legislation and market measures to bring down the cost of renewable electricity and ensure the integration and use of available RE, including: (i) introducing auctions and incentive mechanisms for renewables; (ii) tariff design and cost allocation methodology for transmission, distribution, and storage/ flexibility assets; (iii) improving dispatch rules to ensure that there is no curtailment; (iii) promoting the use of renewable energy (e.g., through green certificates, guarantees of origin, carbon pricing mechanisms and emission trading); (iv) optimizing market rules and market transparency mechanisms and promoting regional market integration; (v) promoting aggregators, leasing and incentives for DRE; and (vi) designing environmental and social frameworks. Legal amendments will remain outside of the MPA, supported by parallel DPOs.

(c) ***Support to improve governance and financial sustainability of energy SOEs.*** The financial sustainability of energy SOEs and of the power sector overall is critical to unlock financing in power networks and ensure the bankability of PPAs, both of which are critical for attracting private and commercial financing for scaling up RE. The MPA will also provide support to assess the impact of potential fossil fuel stranded assets on utilities and TSOs, and inform the implementation, as needed, targeted government subsidies for the poor and social groups affected by energy transition. However, broader energy SOE reform remains outside of the scope of the MPA, and will be supported by DPOs in parallel to ECARES and other instruments.

(d) ***Capacity building for institutions and SOEs, both at country and regional level.*** While many ECA countries have produced ambitious energy transition plans, most require support to carry out necessary studies and strengthen institutions, including: (i) planning, procurement and regulatory capacity for Ministries, TSOs, regulators, etc.; (ii) utilities, and banking sector capacity to develop and finance RE; (iii) training on technical standards, gender, citizen engagement relative to renewable energy or flexibility; and (iv) at regional level, coordination on system planning for countries to include regional power trade into national power system planning and enable trade-offs at a regional level to share resources, save investment costs and maximize renewable energy benefits.

36. ***Instruments and implementations arrangements*****. Enabling policies and institutional frameworks will need support from a variety of World Bank instruments,** including technical assistance (TA) and lending through IBRD and IDA IPFs and PforRs, as well as grants (mostly financed by RETFs). The enabling policies mentioned above will require carefully designed IPFs at both the regional and country levels (e.g., to support the design of reforms and support capacity building activities). PfoRs could help improve country systems for efficiency in procurement and safeguards management and incentivize the implementation of specific actions reflected through appropriate disbursement linked indicators. The complexity and long-term nature of the energy transition must be grounded in a credible government plan as well as reforms and institutional frameworks that can attract private financing while ensuring financial sustainability of the sector. Implementation of activities under pillar I will be conducted by relevant national entities while benefiting from regional learning and capacity building as needed, as per each country's energy sector institutional setting.

Pillar 2: Renewable Energy Grid Integration

37. **The implementation of the energy transition will require unprecedented investment in upgrade and expansion of the power network and flexibility infrastructure.** The latter was identified as a critical bottleneck to renewable energy expansion in ECA. Availability of funding at that scale is a massive challenge, which will call for prioritizing investments for the most economic RE projects. The proposed Program will support:

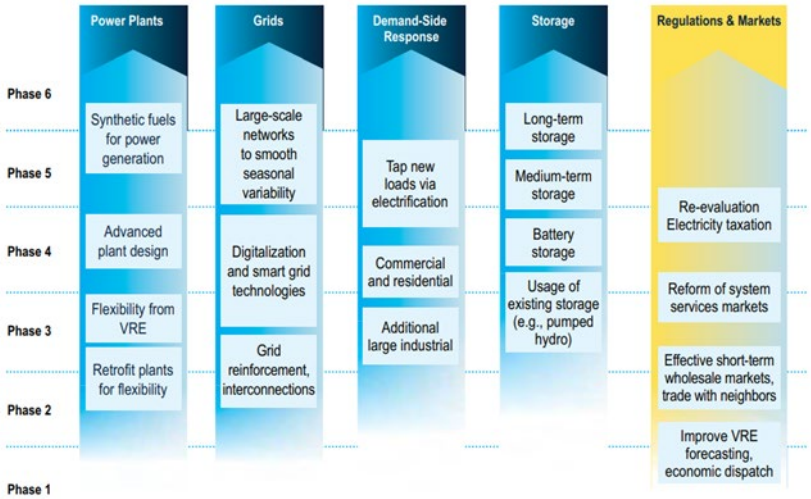
(a) ***Expansion and upgrades of the existing transmission grid at scale*** which are required to address key constraints to scaling up renewable energy due to transmission bottlenecks and lack of network capacity. This would require expanding and/or building high-voltage transmission networks that will support RE integration in the context of regional markets. Complex cross-border interconnectors will be excluded from the MPA scope. Transmission lines specifically build to evacuate power from fossil power plants would be excluded from the scope.

(b) ***Rehabilitation and enhancement of distribution networks and mini-grids.*** Low-voltage power networks will be affected by the expansion of distributed energy resources (DER) such as solar rooftop as well as the increasing demand from transport electrification. The MPA will support investments in upgrading transformer capacity, adding capacitor and reactor capacity, and replacing older feeders with higher capacity, which are needed for meeting load growth, reducing system losses, and maintaining quality of electricity services (frequency and voltage level stability).

(c) ***Investments in energy system flexibility.*** In addition, investments to enhance the dispatch flexibility and digitization of the grid will be supported, including battery energy storage systems (BESS) at both transmission and distribution levels, modernization of existing hydropower with a critical role in providing grid flexibility services, supervisory control and data acquisition (SCADA) systems, and modernization of power dispatch centers, smart-grids, cybersecurity and control systems to evacuate power and enable adequate dispatching.

38. ***Instruments and implementation arrangements*. The development of capable and flexible energy systems will be supported by IPFs and PforR operations, risk mitigation instruments such as guarantees, and trusts funds, using clear selectivity criteria to ensure a focus on integration of renewable energy.** High-voltage transmission investments will most likely be financed by IPFs and/or supported by risk mitigation instruments, while distribution network enhancements and development and other grid flexibility investments could be supported by PforR operations. Where required, risk mitigation instruments could be deployed. The program will also work with IFC and MIGA to deploy WBG products, and in particular risk mitigation instruments and access to capital markets, in ways to maximize financing to the sector. Investments financed under this pillar are often identified as a result of network planning studies that include RE targets. Figure 3 shows key grid integration measures required as RE penetration increases over time. In all cases, transmission investments financed under this program will be analyzed to ensure their positive contribution to increasing the share of renewables in the region. Activities financed under Pillar 2 will be implemented by relevant country agencies or by the private sector.

Figure 3: Required grid integration measures as VRE share increases[13]



Pillar 3: Financing and risk mitigation solutions

39. **In order to accelerate the renewable energy scale-up, dedicated financing and risk mitigation mechanisms will be required that can provide a reliable framework to incentivize large scale private investment.** Country efforts have attracted private capital at individual transaction level, but a wholesale approach is needed to accelerate investments. While countries are undergoing reforms and demonstrating untested approaches, residual risks often remain that hinder affordable private capital. Reliable power networks, robust institutions, and even affordable capital are not sufficient to pivot investment toward renewable energy in all countries. Other instruments may be needed to transfer risks, offer blended finance and make long-term contracts more affordable while off-takers move toward financial viability.

40. **The investments financed under this pillar will draw on the World Bank Group's global experience and founded on approaches designed jointly between the Bank, IFC and MIGA to maximize private capital mobilization** (see Annex 9 for relevant World Bank approaches globally tested)**.** Eligible investments to be supported through direct financing, co-financing or risk mitigation mechanisms will include utility scale RE generation projects (solar, onshore and offshore wind, small hydro and hydropower rehabilitation, geothermal, biomass) at transmission or distribution level, DRE, hybrid projects (energy+storage), investments to repurpose fossil plants to install renewables or enabling technologies, and investments to test or validate the feasibility of renewable projects.

41. ***Instruments and implementation arrangements.*** *The* instruments used under this Pillar reflect barriers identified in ECA countries, and may include: (i) direct public financing or co-financing to pilot new technologies or strategic RE projects where private financing cost would lead to affordability or financial sustainability issues in the short term; (ii) structuring and co-financing of public-private partnerships; (ii) payment, loan and termination guarantees to enable private investment (including project by project and at fund level); (iv) financial intermediaries operations to fund credit lines for small to medium scale DREs, second level guarantees to allow banks to leverage their capital for renewable

[13] Source: World Bank 2020.

investments or risk sharing facilities (e.g. junior debt provided alongside commercially priced bank loans) [14]; (v) support to SoEs to obtain access to capital and debt markets; (vi) PfoRs and trust funds supporting decarbonization milestones related to renewable energy targets. Implementation arrangements will vary depending on the scope and instrument used.

Regional Support

42. **Regional collaboration and knowledge sharing under all three Pillars will be supported through systematic regional support to foster knowledge sharing, capacity building for investment preparation and implementation, and enabling access to carbon markets, among others, leveraging regional partners and in conjunction with the World Bank energy global knowledge group and ESMAP.** The regional support may include: (i) creating as a repository of policy, technology, resource, and financial knowledge; (ii) providing project preparation and transaction support, such as developing guidelines and best practices and development of frameworks and templates for procurement, including sector wide procurement strategies, environmental and social documentation and targeted support to identify project/transaction specific policy and regulatory updates; (iii) supporting demand-driven technical assistance and capacity building for participating countries accessing the ECARES MPA to develop detailed strategies, actions plans, formulation of policies and regulations; (iv) fostering knowledge and data exchange, including the creation or enhancement of data repositories to enhance data collection and access; (v) undertaking market sounding and market research including analysis of value chain supply analysis; and (vi) monitoring, reporting and verification of GHG emissions reductions, as well as aggregation to enable access to carbon markets. See Annex 3 for more information.

Alignment with MPA PrDO and pillars

43. **All operations under the MPA will be fully aligned with the PrDO and with the MPA pillars.** Armenia, Kyrgyz Republic, Türkiye and Ukraine have adopted carbon neutrality targets, while the Western Balkans have declared an ambition to work with the EU toward a net zero European continent by 2050. These call for massive scale up of renewable energy; for instance, Türkiye aims to deliver 60 GW of additional solar and wind capacity by 2035. The operations supported under the MPA are aligned with the MPA pillars as per Table 3 below (see Annex 8 for more details).

Table 3: MPA operations and alignment with MPA pillars

Country and projects for which letters of expression of interest have been received by the Bank	Alignment with MPA Pillar 1 Policy and institutions	Alignment with MPA Pillar 2 RE integration	Alignment with MPA Pillar 3 RE financing and risk mitigation
ECA Renewable Energy Scale-Up Regional Support Network	Yes	Yes	Yes
Türkiye Accelerating the Market Transition for Distributed Energy PforR	Yes	Yes	Yes
Armenia Energy PforR	Yes	Yes	No
Azerbaijan Grid Strengthening for Renewable Energy Integration Project	Yes	Yes	No
Kosovo Renewable Energy Development Project	Yes	No	No
Kyrgyz Republic Renewable Energy Development Project	Yes	Yes	Yes
Tajikistan Solar Project	Yes	Yes	No
Ukraine RE Scale-Up Technical Assistance Project (RENEW)	Yes	No	No
Ukraine Additional Finance to Battery Storage Project	Yes	Yes	No
Uzbekistan Scaling Solar 3 Project	No	No	Yes
Uzbekistan Additional Support through Scaling Solar and Wind Project	Yes	No	Yes
Türkiye Modernizing and Digitizing the Transmission Grid for Renewable Energy Integration 1 Project	Yes	Yes	No

[14] To ensure full alignment with the FI guidelines and smoothen the preparation of individual projects involving financial intermediary financing, the task teams of FI projects will engage early on with the FCI regional colleagues and FIF review coordinator. This help identify of potential issues and find alternative mechanisms that maximize PCM and are financially sustainable.

C. Project Beneficiaries

44. **The main program beneficiaries are people in the ECA region who will obtain more secure, clean and affordable energy services with various associated benefits, including Improved local environment and quality of life.** Immediate beneficiaries will be utilities, TSOs, ministries, regulators, market operators and policy makers. All will benefit from improved policies and capacity building. Other beneficiaries will include private developers, suppliers, construction and engineering firms and financiers, leading to increased employment. Governments will also benefit from improved energy security, reduced pollution, and fiscal benefits in the medium to long term.

D. Rationale for Bank Involvement and Role of Partners

45. **The World Bank Group is a longstanding partner of ECA countries in supporting renewable energy policies, grid integration and financing.** In the period FY18-23, the World Bank committed over US$1.5 billion to RE financing in ECA, equivalent to around 15 percent of the World Bank's total renewable lending. Energy dialogue in ECA countries has led to 23 ongoing clean energy operations in 10 countries, equivalent to 24 percent of the global World Bank energy project pipeline. Renewables is also a focus area for IFC (the global RE portfolio of IFC is US$3.3 billion, around 57 percent of the power portfolio) and MIGA (the Renewable Energy portfolio of MIGA represented 23 percent of its total guarantee exposure over FY21-23, totaling circa US$3.8 billion globally). The wealth of insights gained through years of global engagements has given the Bank a trusted playbook to scale-up RE, while leveraging private investments.

46. **The ECARES Program is designed as a broad-based partnership effort, convening public- and private-sector knowledge and finance partners**. The design of the ECARES MPA aims at building collaboration and partnerships around a common vision for RE development with IFC, MIGA, other DFIs/development partners, as well as the private sector. It will help pool resources along the most viable implementation and financing modalities, including co- and parallel financing, provision of technical assistance and knowledge sharing, and mobilizing and enabling more than US$6 billion of private capital and development partner financing, while also leveraging carbon markets and other forms of climate finance.

E. Lessons Learned and Progress on the Learning Agenda

47. **The ECARES MPA builds upon lessons from decades of global engagement in renewable energy by the WBG,** through both TA and lending, including through Scaling Solar and implementation of ESMAP programs such as the SRMI and the Geothermal program. Substantial operational experience over the last decade has informed the approach and sequencing of interventions under this MPA to gradually scale up investments, notably based on the following lessons.

48. **Successful efforts to expand renewable energy are rooted in strong and consistent government commitment**. Adopting a long-term vision and renewable energy commitments is critical to articulate energy transition ambitions and translate them into tangible, executable plans for renewable energy development and grid and market integration.

49. **Establishing stable and comprehensive enabling policy, regulatory and institutional frameworks is critical to build trust in investors.** Such enabling frameworks include: (i) improved electricity pricing by strengthening electricity markets and reforming energy subsidies to better support policy goals: project specific intervention will sometimes require subsidies to ensure that high development impact investments can materialize[15]; (ii) transparent, least-cost power sector planning to guide development; (iii) competitive and transparent procurement processes (auctions or site-specific), rooted in sound legal grounds and in generation plans developed alongside variable renewable energy integration analyses; (iv) strong institutions that design, operate, and regulate the power system, ensuring good governance and transparency.

50. **Harnessing the potential of VRE necessitates substantial expansion and modernization of electrical grids, careful power system planning, and a grid management tailored to improve grid flexibility**. Transmission, distribution and

[15] Renewable energy subsidies could act as a strong enabler in different contexts, setting the power sector on the recovery path for countries with very high generation costs, facilitating the energy transition in coal and gas dominated power systems and economies. By reducing the financial risks in the early stages, grants (which may be used as CAPEX subsidies) provide the necessary impetus to attract private sector investments.

flexibility requirements are likely to be bottlenecks to renewable energy scale-up. Securing the government and/ or the (public or private) utility's financing for grid reinforcements is essential to ensure a smooth energy transition.

51. **Attracting private-sector financing must be more strategic and systematic.** In addition to addressing policy, regulatory and market fundamentals of the energy sector, project-specific risk mitigation measures are often needed to reduce the off-taker risk associated with creditworthiness of utilities, which is a recurrent risk in most countries in ECA. For instance, foreign exchange (FX) is an important residual risk that needs to be addressed, while maintaining the financial viability of utilities.

52. **Collaboration between governments, MDBs, donors and climate funds play a vital role in renewable energy development and implementation.** Technical assistance to solve technical and regulatory challenges, targeted public investments (e.g., pilots, innovative approaches) and existing risk mitigation instruments cover most of the risks and barriers faced by renewable energy developers. By leveraging donor and climate funds, MDBs can develop instruments to cover residual risks and ensure that barriers preventing RE projects from reaching financial closure be lifted.

III. MPA PROGRAM IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

53. **Country-level institutional and implementation arrangements will follow those established in each respective country project for its renewable energy scale-up and will be described for each phase in the country annexes.** Typically, they will involve ministries, utilities, transmission and distribution system operators, regulators and financial intermediaries. When financial intermediary (FI) operations are included, relevant assessments will be conducted as required, and FI risks included in the risk assessment. Each operation will be independently appraised and implemented.

54. **Countries that join the MPA will demonstrate their commitment to the PrDO and theory of change and would need to have fundamental sector conditions to embark on the renewable energy scale-up and energy transition.** Criteria would include: (i) clear commitments to renewable energy scale up expressed through policies, plans and/or strategies to meet the country's NDC commitments, particularly in the power sector; (ii) basic regulatory and policy frameworks to support renewable energy development or plans to establish them during the implementation of this MPA; (iii) implementation capacity through capable institutions that can develop and/or implement the needed measures/activities for scalable programs; and (iv) stated commitment to seek private sector financing for renewable energy generation. Participating borrowers will show how the set of activities they select from the program-level menu of options contributes to the Program's overall renewable energy objective at the national and/or regional levels and to the relevant Program indicators.

55. **The first phase of the proposed MPA provides unique opportunities for initiating a regional network to foster learning and capacity building, as well as generating knowledge regarding the creation of a new market for DRE generation, which can be expanded and replicated in future phases of the MPA.** Importantly, the implementation arrangements proposed, through established financial intermediaries, are scalable which would allow for acceleration of successful investment in DSPV in Türkiye and build the market for further commercialization. A similar model could be adopted to develop DRE and attract private capital in this new market and in other ECA countries. Additionally, the first phase of the MPA also includes the development of a first-of-a-kind financing facility to expand the incipient DRE market further, thereby also contributing to building capacity within the financial intermediaries. This presents additional opportunities for knowledge generation and sharing as well as capacity building across ECA countries. See Annexes 3 and 4 for further details.

Use of concessional resources

56. **In addition to the IBRD/IDA funding provided through the proposed MPA, the Bank will seek to leverage concessional resources to complement the MPA program and incentivize an accelerated energy transition, provide risk mitigation mechanisms, and fund the ECARES Regional Network.** First, the ECARES Program is seeking around US$25

million in grants (RETF) financing from the Energy Sector Management Assistance Program (ESMAP). Fundraising for the next cycle of ESMAP resources is underway including a new implementation support facility and a Financial Innovation Window, to support the countries to structure and fund risk mitigation instruments (e.g., for liquidity risk, foreign exchange risk). The expected grant is included in the ESMAP business plan for FY25-30. Second, the ECARES Program would be seeking US$50 million in grants from the Livable Planet Fund to buy down capital cost or interest payments when agreed results are achieved. The application of concessional funds will follow the framework under development guided by the principles of mobilizing finance for development, providing minimum concessionality, and addressing global public goods. Third, ECARES will seek co-financing through concessional loans and grants from the Green Climate Fund (GCF), the Climate investment funds (CIFs), the Global Environment Facility (GEF) as well as bilateral donor facilities. Finally, ECARES is seeking concessional financing from SCALE providing countries annual payments of grant-like capital from carbon revenues that reduce the effective cost of capital for further investment, based on achieving pre-agreed results such as country-level reductions in carbon intensity of electricity. In addition to the value of the concessionality, climate finance instruments and MDB partnership arrangements help raise the volume of lending in line with the scale of support that is needed for transformative renewable energy programs. Table A6.1 includes a summary of the RETF already confirmed for the MPA. Additional RETFs will be processed as additional financing to the MPA.

57. **The use of concessional resources will be highly targeted towards de-risking private investments and crowding-in private capital through blended finance.** Concessional finance is needed by both LICs and MICs to overcome barriers to affordability and to incentivize investment in global public goods. While concessionality is essential, especially to increase demand from MICs, it should be highly targeted and used to mobilize and not crowd out private sector finance. As many MICs have sizeable, polluting energy systems and can access capital markets, concessionality is required to incentivize action with national costs but global benefits. Concessionality can be applied as grants, blended finance, results-based interest rate buy-downs, payment guarantee solutions, or other risk mitigation instruments. Grants are sometimes needed to finance public costs for improving the enabling environment for private investment, which may include technical studies, transaction advisory services, and site preparation or buying down capital costs (e.g., battery energy storage) but grants should be used with caution and carefully compared to other instruments in terms of effectiveness and efficiency. See Annex 9 for additional details on potential sources of concessional financing and results-based climate financing.

One World Bank approach

58. **The proposed MPA program has been designed in close collaboration with IFC and MIGA to leverage a One World Bank approach to deliver an expected total financing of the Program amounts to over US$8 billion, including US$6 billion of private capital (total mobilized and enabled private capital).** Annex 8 shows the contributions to PCM[16] and PCE of each one of the projects that are expected to be part of the MPA within the currently proposed US$2 billion IBRD /IDA financing. The majority of the expected PCE is expected to finance utility scale RE projects and co-finance DER projects. IFC may provide upstream support, notably to identify upfront barriers, risks, and bankability considerations for private sector engagement, transaction advisory services for public private partnerships (PPPs), and financing for renewable energy and enabling technologies. MIGA may provide the following: (i) political risk insurance (PRI) to mitigate non-commercial risks, including expropriation, transfer restriction and currency inconvertibility, breach of contract, and war and civil disturbance risks, for private sector investors, and (ii) credit enhancement guarantees to help certain governments and/or public agencies to mobilize international commercial financing at beneficial market rates and conditions. A One World Bank team has developed the Program framework and is working on preparing the pipeline of planned and possible additional operations combining the various WBG products to maximize private capital mobilization (PCM), founded on a common assessment of policy, regulatory, institutional and market situation of individual ECA countries, to accelerate and maximize impact as well as promote sharing of lessons learned from leading countries. In

[16] For the Phase 1 Program, PCM is US$259.2 million, including US$151.9 million of private equity and US$107.3 million of unguaranteed commercial debt from TSKB (US$58.8 million) and commercial lenders (US$48.5 million).

some countries, a country level support may help develop a holistic proposal to countries with ambitious targets: Türkiye, Ukraine, Uzbekistan, Kyrgyz Republic, Tajikistan, Azerbaijan, Georgia, and Serbia. In some countries the engagement will be coordinated on a project-by-project basis, including Kosovo, Bosnia and Herzegovina, and Montenegro. A blueprint of such systematic One World Bank approach is being developed through the Ukraine RENew initiative, which will be included in a future phase of this Program. See Annex 10 for additional details on tested collaboration modalities with IFC and MIGA.

59. The Bank is also approaching development partners to leverage the proposed MPA as a platform to mobilize financing and scale-up the program, including from the EBRD, AIIB, IsDB and the EU.

B. Results Monitoring and Evaluation Arrangements

60. **ECARES's progress and implementation will be monitored at the level of the Program and the level of individual operations.** ECARES has a select number of indicators for individual countries' operations and regional activities to use, which will contribute to aligned monitoring of outcomes for the Program. Each operation will be responsible for monitoring its project implementation and results, with results for the entire program also been monitored at the regional level, each through a progress report to be submitted as per each project's respective arrangements. A mid-term review will be carried out mid-way through the Program, which will adopt an adaptative mechanism to introduce modifications in the ECARES Program design and implementation as needed to reflect changing conditions, lessons learned and beneficiary feedback to be sought via periodic surveys as a part of citizen engagement.

61. **The menu of project level indicators will be aligned with the corporate scorecard** and include: (i) renewable energy capacity enabled; (ii) GHG emissions reduced; (iii) private capital mobilized (PCM); (iv) private capital enabled (PCE); (v) new or better jobs; (vi) grid integration indicators (Transmission/Distribution capacity increased/enabled; Storage capacity increased/enabled); (vii) indicators about favorable renewable energy enabling policy/ regulatory enabled/informed (e.g. number of strategies /plans approved, etc.); (viii) digital monitoring and verification platform implemented; (ix) climate finance indicators (carbon financed mobilized; climate finance mobilized); (x) citizen engagement indicators (defined by project specialist as feasible and relevant, section VII shows two options); (xi) gender indicators (defined at project level as relevant); and (xii) regional knowledge exchange indicators. Data sources will include direct reporting from project implementation units, independent assessments by national agencies, and inputs from regional network partners. The program will provide capacity building on monitoring and reportin, as well as data adquisition and data management systems as needed.

C. Sustainability

62. **All of the proposed interventions are designed to have a lasting impact, including enhancement of climate resilience of the infrastructure and communities.** Renewables can reinforce adaptation efforts in sectors vulnerable to climate change. Renewables allow implementation of energy-intensive adaptation solutions – such as air conditioning, desalination and irrigation – with net-zero emissions. DRE solutions can create a resilient energy system, and therefore support vital adaptation measures, for the most vulnerable communities. Renewables can also deliver non-energy services that contribute to climate adaptation.

63. **Gender Responsiveness.** Women have been historically underrepresented in STEM, including science and engineering, which includes the renewable energy sector. At the project level, the MPA will ensure all projects are prepared for gender tagging and include adequate gender indicators selected among the ones identified (see Results framework). In addition, in order to help closing this gap at the regional level, the MPA will facilitate including women and gender experts among the pool of experts procured to raise awareness among participating countries about gender gaps, and to the extent possible, ensure that policy and regulatory systems consider the needs of women and improve their voice and agency. Knowledge workshop, trainings and internships organized under ECARES regional activities will prioritize female trainees and ensure women are equipped with the skills needed to enter the sector. Regional activities will also help harmonize project-level gender gap assessments in participating projects and facilitate alignment of recommendations for gender inclusion.

64. **Citizen Engagement**. Design and implementation modalities of renewable energy projects inherently rely on extensive citizen engagement and are highly country specific. Proper citizen engagement is critical to secure interests and rights of local communities and inadequate citizen engagement has led to project cancelation in several countries. For this reason, citizen engagement will be treated at the project level, and all ECARES projects will have at least one citizen engagement indicator that will monitor progress on upstream engagement prior to, during, and ex-post implementation to create a feedback loop that informs continuous improvement in program implementation and contributes to the learning agenda. Renewable energy projects and enabling transmission and grid integration projects, led by government agencies and the private sector, typically begin with initial consultations with relevant communities at a project's design stage. This is important for understanding the community's needs and concerns, as these will directly affect the intervention's effectiveness and sustainability. During implementation of the ECARES projects, citizen feedback will be solicited through surveys and stakeholder engagement, as articulated in the country and regional Stakeholder Engagement Plans (SEPs). Survey results will be shared with all key stakeholders, including government agencies and utility or private-sector service providers, and used to take informed corrective actions, that will be also communicated as needed. Moreover, country-specific grievance redress mechanisms will be developed and used.

IV. APPRAISAL SUMMARY

I. ECARES MPA Program

A. Technical, Economic and Financial Analysis

65. **MPA supported activities are based on known technologies and business and implementation models, while fostering innovation.** Transmission and distribution grid modernization, digitization and expansion, provision of flexibility services through hydropower modernization and energy storage, renewable energy technologies both at utility-scale and distributed level, will use well-established technologies and methods. In order to achieve scale and impact, as well as maximize private investment mobilization, delivery mechanisms through financial intermediaries and innovative financing structures will be developed and implemented, leveraging the One World Bank approach.

66. **The economic viability of the proposed MPA was assessed qualitatively and on the basis of analytics undertaken as part of CCDRs and of the forthcoming ECA Energy Futures report.** [17] Economic costs include capital expenditures in renewable energy projects and associated facilities to enable the evacuation of power; flexibility costs to enable the proper dispatching (avoiding curtailment of renewable energy generation); and costs associated to improved operational practices in TSOs and utilities (digitalization, automatic control generation, smart-grid technologies to enable a more efficient use of networks and cybersecurity to protect vulnerable DRE and utility scale renewable energy plants). The economic benefits of the MPA include: fossil fuel savings, reduction in operational costs (and increased operational efficiency as a result of renewable energy grid integration measures) and associated important co-benefits, including: (i) energy security through reduced reliance on fossil fuel imports for some countries, leading to less exposure to fuel volatility prices; (ii) climate mitigation through reduced GHG emissions and adaptation benefits through increased resilience to climate change; (iii) increased resilience to cybersecurity and physical attacks (in the case of Ukraine renewables have been identified as less vulnerable to attacks than large thermal units); and (iv) health benefits through reduced air pollution. All supported activities also yield broader economic benefits associated with more affordable and secure energy supply, enabling the electrification and decarbonization of the economy, and fostering economic growth

[17] As reference, in the CCDR for Türkiye, that relies mostly on expansion of RE, the net economic impact of the Net zero scenario is positive over 2022-30 and increases when considering longer time horizons: the RNZP leads to a net $15 billion gain over 2022-30 and a US$146 billion gain over 2022-40, largely due to reduced fuel imports and health benefits from lower air pollution.

and job creation. Economic analysis for each operation under the MPA will be done using the standardized Bank methodology of the economic evaluation of energy projects using a unified cost database developed by the Bank for ECA. [18]

67. **Paris Alignment.** The Program is aligned with the goals of the Paris Agreement on both mitigation and adaptation. See Box 2 below for a summary of the assessments carried out.

Box 2. Assessment and reduction of mitigation and adaptation risks

Assessment and reduction of mitigation risks: Given the current understanding of the scope of projects to be included in the next Phases of this Program, investments include primarily low-risk activities. Namely, activities under Pillar 2 dedicated to expansion and upgrades of the existing transmission grid at scale to address key constraints to scaling up renewable energy due to transmission bottlenecks and lack of network capacity are considered universally aligned. Consequently, all related activities are also considered universally aligned. Activities under Pillar 3 include investments in renewable energy generation projects (solar, onshore, and offshore wind, small hydro, and hydropower rehabilitation, geothermal, biomass), repurposing of fossil plants to install renewables, etc. These activities are considered universally aligned as material lifecycle sources in case of hydropower, geothermal energy and biomass analyses proved that GHG emissions of the renewable energy shall be substantially lower than corresponding GHG emissions from fossil fuel generation.

Assessment and reduction of adaptation risks: The most likely climate hazard risks in these countries to which the projects under this Program will be most exposed to are floods, draughts, and extreme temperatures, impacting mostly activities in the Pillar 2 and 3 of the MPA dedicated to expansion and upgrades of the existing transmission grid and renewable energy generation from hydropower. Namely, extreme weather events can result in area-wide outages, reducing the reliability of supply, impacting adversely on the performance and physical integrity of T&D lines, transformers, and switch gears. Climate change also alters probability distributions and the spatial and temporal patterns of water inflows to hydropower plants with reservoirs. Consequently, inherent level of risk from climate hazards to these investments could not be considered negligible, thus program designs need to envisage reduction measures to increase resilience to climate hazards the investments are exposed to and bring residual risks for adaptation to an acceptable level. Further details on adaptation risks and risk reduction measures would be provided for each country's operation as these go through preparation.

B. Fiduciary

68. **Fiduciary arrangements for the ECARES Regional Support Network.** The fiduciary arrangements to provide Regional Support will include the establishment of one or more PIUs hosted by regional or global partners. The PIUs will be selected based on specific eligibility criteria and implement grants to deliver the scope of activities envisaged for regional support. Some partners may collaborate with participating countries towards the MPA objectives using their own financial resources. See more details in Annex 3.

69. **Fiduciary arrangements for country specific operations will be defined at the project level.** FM arrangements for all IPF operations within the MPA will be assessed in accordance with the Financial Management policies of the World Bank for IPF operations. Similarly, fiduciary assessment (including FM, procurement and anti-corruption measures) for any PforR within the MPA will be conducted as per the policy and directive applicable to PforR operations. The assessments will determine if the arrangements would provide adequate assurance on the use of funds for the intended purpose. For each MPA operation, agreed arrangements with the implementing agencies will be documented and agreed by appraisal.

70. **In IPF operations, procurement** will be carried out in accordance with the World Bank policies and procedures applicable to IPF procurement and the relevant Guidelines on Preventing and Combating Fraud and Corruption; and other provisions stipulated in the Legal Agreements. Procurement arrangements, capacity assessment, risks, and risk mitigation for the first phase operation in Türkiye are summarized in Annex 4.

71. **Appropriate enhanced mitigation measures on prohibition of forced labor will be developed for each operation under the MPA where solar is core as defined in the World Bank Environmental and Social Framework.** For IPF

[18] Work is ongoing in the Bank ECA region to collect cost of capital estimates (ranges) in FY24 on a country basis, from ECA country experts (WB, IFC and private sector) through interviews. The output will be a database of cost-of-capital estimates that can be used to inform economic analysis and feasibility studies under the ECARES MPA.

operations where solar is core, the bidding documents will emphasize forced labor risks in solar panels and components and will require that sellers of solar panels to the project will not engage or employ any forced labor among their work force. Bidders will be required to provide two declarations: a Forced Labor Performance Declaration (which covers past performance), and a Forced Labor Declaration (which covers future commitments to prevent, monitor and report on any forced labor, cascading the requirements to their own sub-contractors and suppliers). In addition, enhanced language on forced labor will be included in the contracts. The Bank will prior review procurements of solar panels and components to ensure that enhanced provisions are used by the Borrower. Procurement and FM procedures will be reflected in the respective Project Operations Manuals. For IPF involving Fis, and for PforR operations, under subsequent phases where solar is core, enhanced mitigation measures that are appropriate to the project structure will be developed, and reflected in project documents (e.g. Project Operation Manual, Project Action Plan, sub-loan agreements).

C. Environmental and Social

72. **The Environmental and Social risk of the ECARES MPA Program is rated as Moderate.** This rating is based on phase 1 operations. Future phases will be assessed, and rating would be adjusted as needed. Where possible[19], borrower frameworks will be used to manage Low and Moderate environmental and social risks. As with the Türkiye operation, for future PforR operations included under the MPA, ESSAs will be developed. All investments will be prepared in accordance with the requirements of the environmental and social policies of the World Bank. The MPA will develop during preparation and implementation a structured database of ESF documents and templates for typical investments that can help expedite preparation by participating countries and promote harmonization. **The environmental and social risk of the Regional Support Network is low**, as this TA grant is focused on advisory support, knowledge exchange, skills development, consumer engagement, convening and partnerships, as well as digital monitoring, reporting, and verification (D-MRV) for RE and climate finance.

II. *Türkiye, PforR operation, Accelerating the Market Transition for Distributed Energy (Phase 1 of ECARES Program)*

73. **Achieving Türkiye's goals of net-zero emissions by 2053, and meeting growing energy needs with reduced import dependence, will require major restructuring of the country's energy system.** Including power generation, transport, building, and industrial sectors, energy accounts for 75 percent of Türkiye's GHG emissions. Having tripled capacity of solar and wind in the last decade, the country's strategy is to utilize RE resources to the maximum extent and promote energy efficiency subject to feasibility, market conditions, and energy security. Moreover, the Government has recently announced an ambitious program to develop 60 GW of solar and wind power by 2035 additional to the 22.5 GW installed as of early 2023.

74. **Distributed renewable energy can contribute to Türkiye's goals while benefiting consumers, but faces high up-front costs, high financing costs, and other market barriers.** Distributed solar photovoltaics (DSPV) and Battery Energy Storage Systems (BESS) can off-set the price burden faced by customers without stressing the transmission and distribution systems. They can also reduce energy costs and promote industrial competitiveness. This is particularly critical for the commercial and industrial (C&I) sector, including services, which stands out for projected annual average electricity demand increases of 5.5 percent between 2020 and 2035, rising to about 53 percent of final energy consumption, absent any intervention. Yet uptake has been limited to date. Macroeconomic and market conditions of high inflation, currency depreciation, liquidity pressures, and uncertainty, have constrained commercial lending for distributed renewables. Financing for DSPV and BESS technology is limited and still requires support to develop and pilot business model applications that are viable in Türkiye's energy market.

[19] The use of borrower frameworks is limited to those countries where an ESF gap analysis has been conducted and mitigation measures to cover those gaps have been clearly identified and in place.

75. **The Türkiye Accelerating the Market Transition for Distributed Energy PforR is the first operation under the proposed ECARES MPA.** The operation aims to help expand the country's DSPV market and pilot distributed battery electricity storage. It is an important channel of climate finance for scaling-up renewable energy in Türkiye. It also presents a unique opportunity to generate knowledge from an institutional arrangement, market creation and financial mechanism perspective, with strong scalability and replicability potential across ECA countries. See Annex 2 and Annex 4 of this Project Appraisal Document and the accompanying Program Technical Assessment Document (PTAD)[20] for details.

76. **Strategic relevance.** Meeting the growing electricity demand through domestic RE resources, and reducing air pollutants and carbon emissions, particularly through a combination of solar energy and battery storage options is a priority for the government of Türkiye (GoT). The proposed operation is thus strategically relevant and aligned with the GoT's decarbonization priorities and energy security objectives.

77. **Scope.** The operation will support investments in distributed solar PV (DSVP) and pilot battery storage solutions, through direct lending of the participating financial intermediaries, as well as through a credit facility they will establish to on-lend through eligible institutions to further scale the DSPV market.

78. **PDO and results indicators, and alignment with the MPA PrDO, pillars and results framework.** The proposed Program Development Objective (PDO) is to expand Türkiye's DSPV market and pilot distributed battery electricity storage to increase renewable energy. The PDO is fully aligned with the ECARES MPA PrDO. The operation aligns with all 3 Pillars of the MPA. Support for the implementing agencies and, through them, to DSVP facility borrowers, is consistent with Pillar 1, helping to develop the institutional market ecosystem for DRE scale-up. The PforR activities for distributed battery support Pillar 2 as a flexibility mechanism for RE integration. The financing platform and market transition established by the PforR constitute a mechanism consistent with Pillar 3. The operation's PDO indicators (RE capacity enabled, projected lifetime net GHG emissions from results achieved, private capital mobilized, distributed energy financers supported, and distributed battery energy storage piloted) will in turn contribute to the MPA indicators.

79. **Technical soundness and opportunity for replication.** The PforR will finance technically proven, mature, widely marketed clean energy technologies (solar PV and lithium-ion battery storage). A detailed list of eligible technologies is included in the PTAD. PV already has a long track record in Türkiye whereas experience with BESS installation is less common. However, BESS technologies are already mature in the international market, with a variety of international suppliers and integrators that can offer solutions. Many ECA countries are considering such technologies.

80. **Implementation arrangements.** A highly scalable and replicable mechanism was selected for institutional arrangements. Two Financial Intermediary (FI) Program Implementing Agencies (PIAs) will work in parallel: the state-owned Development and Investment Bank of Türkiye (Türkiye Kalkınma ve Yatırım Bankası [TKYB]); and the privately-owned Industrial Development Bank of Türkiye (Türkiye Sınai Kalkınma Bankası [TSKB]). As Türkiye's lead private and public development banks, TSKB and TKYB focus their activities on identified market gaps for nascent markets. TSKB and TKYB are financially solid and well placed to increase awareness and capacity and as such raise industry standards, including environmental and social (E&S) aspects, for the nascent DSPV and BESS banking industry. The PTAD includes further details on TSKB and TKYB as well as a FI assessment for each PIA. Working with both banks will help further accelerate the market creation as it will allow reaching out to a larger network of subprojects developers, facility borrowers, and other market stakeholders. This will result in a larger and more diversified pipeline and enhanced ability to raise awareness and capacity building.

81. **Pipeline and scalability.** TSKB and TKYB have strong initial pipelines of DSPV subprojects for C&I customers representing a large diversity of sectors. Preliminary subproject pipeline estimates obtained from the borrowers indicate that there are about 55 subprojects, equivalent to almost 1 GW of DSPV through rooftop solar and ground-mounted installations. Eligible subprojects are limited to specific categories under Türkiye's regulation on 'unlicensed' electricity generation, focused on those that offset annual electricity consumption of host facilities. For storage subprojects, the

[20] The PTAD is available in operation files and will be disclosed.

preliminary pipeline includes about 70 MW of subprojects, all associated with ground-mounted renewables across different locations in Türkiye. To this end, the CTF concessional financing will be vital to scale up BESS subprojects in coming years. Final investment decision to finance a project will depend on due diligence. Further details on eligible expenditures can be found in the Program Technical Assessment Document.

82. **Technical, economic and financial assessment of sub-projects.** Project Implementing Agencies (PIAs) and Facility Borrowers (FBs) will evaluate all sub-projects through a well-defined technical assessment framework which will be included in the Program Operation Manual (POM) and Facility Operational Manual (FOM), both subject to the World Bank's approval. Sub-projects will need to be in an advanced stage of maturity and would be assessed considering the following eligibility criteria: (i) full conformity to the policies and regulations related to DER in Türkiye; (ii) equity and private debt leveraged; (iii) sponsors' experience; (iv) size of MW for each subproject and number of subprojects under the same borrower; (v) maturity of the sub-projects; (vi) technical and financial viability of the sub-projects; (vii) ability to assume financing commitments; (viii) environmental and social considerations including complying with social and environmental permits and regulations. Further details as well as eligibility and evaluation criteria and processes for the selection of sub-projects to be supported will be detailed in the POM, which will be subject to approval by the Bank. All beneficiaries of sub-loans (either by PIAs or FBs) shall have private ownership.

83. **Selection criteria for FB.** For the Program's second stage, the PIAs will establish a facility to on-lend to other eligible institutions (FBs) to expand the DSPV market. To ensure inclusive and transparent participation of FBs, the PIAs will be required to carry out a series of capacity buildings and outreach activities to promote the facility in the industry. Prospective FBs will need to meet a series of minimum criteria as follow: (i) being under the Banking Regulator's supervision; (ii) not being under any sanction regime or financial restructuring plan; (iii) sound financial performance considering standard prudential indicators; (iv) existence of adequate business practices, including a credit policy, risk management policies, an investment policy, loan collection policies, business continuity, among others to ensure sound business practices; (v) operational capacity (including the technical capacity to carry out an adequate appraisal and supervision of DSPV sub-projects' technical, financial, and commercial aspects); adequate loan monitoring procedures and loan collection experience; and adequate Anti-Money Laundering/Know Your Customer policies and procedures; (vi) market-oriented governance; and (vii) adequate project pipeline and experience in infrastructure projects. Final criteria for the FBs will be included in the FOM and subject to World Bank validation.

84. **Pricing of PIA and Facility sub-loans.** To avoid market distortions, PIAs and FBs will follow their respective pricing policy according to credit market conditions. The funding provided by PIAs would fully cover PIAs' costs. The cost of on-lending will include the cost of IBRD funds to PIAs plus an on- lending margin reflecting PIAs' administrative costs, a credit risk margin (or risk markup) associated with market conditions and fees due accordingly to Türkiye banking regulations. The ultimate beneficiary cost will include the PIAs/FBs administrative costs, and a credit risk margin (or risk markup) associated with the market conditions and beneficiary enterprise. The significant market advantage from the World Bank funds is in terms of maturity, facilitating the provision of long-term finance to enterprises without taking on a significant maturity mismatch. This is addressing a key shortcoming in the DER market. The use of financing priced at cost, as described above, is justified by: (i) the national and international public interest in promoting the use of green innovative technology at scale, given the substantial environmental benefits that it is expected to bring, (ii) the nascent stage of the DER industry, whereby first movers face higher initial risks and higher prices given the technology's limited track record, and (iii) the importance of attracting private sector investments through public incentives from an early stage. By providing funding in this way, the PIAs will enhance the industry as well as the financed sub-projects' capacity to manage the incremental risks of the Program innovative approach. FX lending is contemplated, especially for export-oriented consumers, and pricing formula will reflect such risks.

85. **Removal of market barriers and capacity building for FBs.** To further contribute to market development, the PIAs will build awareness and capacity in the market (that is, their own in-house capacity as well as that of other stakeholders, especially FBs). The capacity-building support will strengthen the FBs' ability in evaluating and appraising the technical

aspects of these investments, and in turn meet the selection criteria listed above. The PIAs will be responsible for ensuring that the investments are in compliance with Turkish regulations.

86. **Expenditure framework.** The proposed operation expenditure is US$1.01 billion. The expenditures will occur when PIAs disburse sub-loans directly or through FBs, which will be subject to their due diligence and approval processes (accordingly to the criteria listed above, and further outlined in the PTAD).

87. **TSKB and TKYB capacity.** Both PIAs have high capacity, market reach, and a strong record in the delivery of sub-loans. Both PIAs have extensive experience in the implementation of World Bank-financed projects, including in the RE sector. See the Program Technical Assessment Document for additional information.

88. **Economic and financial evaluation.** The results of the economic analysis confirm the project is economically viable, even without CO2 emission reduction benefits, as well as financially viable (likely financial internal rates of return estimated by Bank staff have a minimum of 9.5 percent and above depending on the technology selected). A comprehensive analysis to assess BESS economic and financial viability across the value chain, and explore the market potential, shows the need for concessional CTF funds to de-risk BESS investments and support innovative business models to pilot the financial viability of BESS in Türkiye. Only technically, economically, and financially viable projects, as assessed by the PIAs, will be eligible. See the PTAD for details on assumptions and results of the economic and financial evaluation.

89. **Beneficiaries.** The beneficiaries are: (i) DSPV and BESS customers that can benefit from reduced energy costs by installing DSPV systems; (ii) commercial banks and leasing companies whose awareness, capacity, and financing will be increased; and (iii) aggregators, equipment manufacturers, service suppliers, and project developers who are engaged in DSPV services and operations. The government will benefit through implementation of its National Energy Plan through the Program's investments, towards its long-term renewable energy scale-up goals. Indirect beneficiaries include the general public with more secure, clean and affordable energy services and an improved environment.

90. **Sustainability. The Türkiye operation is Paris aligned, and citizen engagement** took place through public consultations during the preparation of the Environmental and Social Systems Assessment (ESSA) and will continue through implementation (see the ESSA for details). The operation is promoting activities to address gender-based disparities in economic opportunities and access to finance (see Annex 4). See the PTAD for further details of Paris Alignment of the Türkiye operation.

91. **Fiduciary.** An integrated fiduciary system assessment (IFSA) of each financial intermediary's institutional capabilities and fiduciary systems, including oversight and supervision, has been carried out. The World Bank deemed their capacity adequate to carry out the program. The Program Technical Assessment Document provides additional details on the IFSA (which is also available in the operation files).

92. **Environmental and Social System Assessment.** An Environmental and Social Systems Assessment (ESSA) has been carried out to assess TSKB and TKYB environmental and social management systems. Similarly to the IFSA, the World Bank has deemed their system adequate to implement the Program. The operation is anticipated to have positive E&S impacts overall, such as reduction in local pollutants and improved access to renewable resources. See the Program Technical Assessment Document for further summary of E&S risks and measures.

93. **Monitoring and Evaluation (M&E).** The PIAs have adequate capacity to be responsible for results M&E and arranging for independent verification of the operation DLIs. Annex 2 provides the M&E plan and Verification Protocol table.

94. **The overall risk for the Türkiye operation is considered Moderate.** Fiduciary, Environmental and Social risks are rated as Moderate. See Annex 4 for additional details on Risk assessment for the operation.

V. GRIEVANCE REDRESS SERVICES

95. **Grievance Redress.** Communities and individuals who believe that they are adversely affected as a result of a Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing

program grievance mechanism or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), visit https://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, visit https://accountability.worldbank.org.

VI. KEY RISKS

96. **The overall risk for the ECARES MPA is assessed as Substantial.** The Program consists of multiple phases with various projects and different implementing agencies. The ECARES Program will use proven technologies and frameworks. Each phase will be designed to build on the experience of past operations, scaling up successful approaches and improving designs by integrating lessons. Risks will, however, vary by country, considering different country conditions, different capacities of implementing agencies, as well as fragility and security issues.

97. **Macroeconomic risk is assessed as Substantial at the MPA level** considering the negative impacts in the region caused by tighter global financial conditions, sticky inflation, and deteriorating global economic fragmentation. Climate change is also impacting the region with force, with record-high temperatures, widespread fires, devastating floods, and other natural disasters across ECA. A slower-than-expected growth in the euro area could weigh on activity by reducing remittances in ECA and deepening the slowdown in exports and Foreign Direct Investment (FDI), including in the renewable sector. Lower commodity prices and a slower than projected economic expansion in Russia could retard growth in Eastern Europe, the South Caucasus, and Central Asia. And a much slower decline in inflation could lead to further monetary tightening with adverse impacts on economic growth.

98. **Stakeholder risk is assessed as Substantial at the MPA level** considering potential risks linked to financial stability in energy companies impacting bankability of RE projects, risks associated to potential opposition to renewable energy and T&D projects by civil society, and risks associated to forced labor along the RE supply chain. In order to mitigate these risks, the country teams will maintain a close dialogue with sectoral stakeholders, monitor the financial sustainability of the sector using DPOs to address structural barriers (in parallel to ECARES), and implement force labor risk mitigation measures in procurement.

99. **Fiduciary risk is rated Substantial at the MPA level** since agencies that will fulfill fiduciary responsibility have differences in risks and capacity for procurement and financial management (FM) across the region that could lead to uneven progress in implementing Program activities and achieving the stipulated targets. Updated detailed capacity, FM, and procurement assessments will be conducted in the designated implementing agencies during the project preparation in each phase. The findings (risk rating and fiduciary arrangements) and agreed actions to mitigate the risks will be reflected as assessed.

100. **Sector Strategies and Policies, Institutional Capacity for Implementation and Sustainability, Technical Design, and Environmental and Social risks are rated Moderate.** Each operation under the MPA will be assessed independently and may show higher levels of risk under certain risk categories; for instance, operations supporting transmission grid expansion for RE integration may present a substantial environmental and social risk.

ANNEX 1: ECARES MPA PrDO indicators

PDO Indicators by PDO Outcomes

Baseline	Closing Period
ECARES MPA: To increase renewable energy capacity in participating ECA countries	
Renewable energy capacity enabled (megawatts)	
Dec/2023	Jan/2034
0	15000
Projected lifetime net GHG emissions from results achieved (Metric tons of CO2e)	
Dec/2023	Jan/2034
0	-240,000,000

Intermediate Indicators by Components

Baseline	Closing Period
Regional support and learning agenda	
Number of knowledge exchange events organized (Number)	
Dec/2023	Jan/2034
0	10
Total private capital enabled (Amount(USD))	
Dec/2023	Jan/2034
0	4500000000
Total private capital mobilized (Amount(USD))	
Dec/2023	Jan/2034
0	1,500,000,000

Monitoring & Evaluation Plan: PrDO Indicators by PrDO Outcomes

Renewable energy scale-up in Europe and Central Asia	
Renewable energy capacity enabled (MW)	
Description	This indicator captures direct, indirect, and enabling policy support for generation, integration, and for enabling infrastructure. Direct support includes the Bank's direct financing of investments in physical infrastructure. Direct support covers both greenfield and brownfield projects. For brownfield projects that add capacity without rehabilitation, the incremental operational capacity added is counted towards this indicator (concept of additionality). For rehabilitation projects, the total capacity enabled by the rehabilitation should be counted. Indirect support covers third-party financing of the infrastructure and activities focused on renewable energy market development (for example, a financial Intermediary that offers a lending window), development of RE-enabling infrastructure (transmission and distribution, grid integration), and some technical assistance activities (i.e., transaction advisory, market development support). Enabling policy support includes upstream policy work to accelerate the renewable energy deployment, as well as technical assistance activities to support sector ministries and other public authorities in the development of policies, laws, and regulations that enable renewable energy generation.
Frequency	Semi-annual
Data Source	Recipients of ECARES funding—Program implementing agencies or private-sector companies
Methodology for Data Collection	Direct reporting by project implementing agencies. Data verification protocols will be implemented to avoid double-counting.
Responsibility for Data Collection	Regional Partner's secretariat PIU's digital MRV team and Statistics unit.
Projected lifetime net GHG emissions from results achieved (Metric tons of carbon dioxide equivalent (Metric tons of CO2e)	
Description	This indicator measures projected aggregate absolute Scope 1 and 2 GHG emissions over the economic lifetime of activities financed under the Program under a reference scenario without the Program, less the emissions with the Program, based on results achieved during implementation. Values are cumulative. Negative values indicate emissions reductions.
Frequency	Semi-annual
Data Source	Recipient private companies and program implementing agencies.
Methodology for Data Collection	Direct reporting by project implementing agencies. Data verification protocols will be implemented to avoid double-counting. Emission reductions (tCO2e) will be calculated using appropriate monitoring methodologies and emission factors.
Responsibility for Data Collection	Regional Partner's secretariat PIU's digital MRV team and Statistics unit

Intermediate indicators at program level

Menu of potential intermediate indicators for specific operations under the ECARES MPA

The participating operations under this MPA will include the above-mentioned PrDO indicators as PDO indicators. In addition, the operations will select among the indicators below depending on the specific scope of the operation and the instrument(s) used:

Private capital
Private capital mobilized (Amount (USD)

Description	This indicator measures the volume of financing flows from private sectors, including climate finance sources (e.g., carbon revenues), for ECARES interventions (e.g., renewable energy deployment) supported through direct financing or co-financing. In addition to private legal entities, this will also include retail and household investors, incl. equity providers, and private commercially-run foundations.
Frequency	Semi-annual
Data Source	Data from private companies receiving support through project preparation funds; program implementing agencies; regional financing facilities and participating financial institutions.
Methodology for Data Collection	Depending on the choice of reporting option selected by the recipients: (i) direct reporting by project implementing agencies or (ii) reporting through the digital MRV system.
Responsibility for Data Collection	Implementation agencies at country level, aggregation at regional level by Regional Support Partner.
Private capital enabled (Amount (USD)	
Description	Private capital enabled (PCE) is the monetary value of all private investments resulting directly from projects that reduce or remove binding constraints to sustainable private sector solutions by addressing the binding constraints to private capital whether they be physical, operational, policy, legal, regulatory, institutional, or related to other enabling environment factors that affect private investment and commercial financing. This indicator measures the volume of financing flows from private sectors, including climate finance sources (e.g., carbon revenues). In addition to private legal entities, this will also include retail and household investors, incl. equity providers, and private commercially-run foundations. PCE is estimated ex-ante for indicative purposes. At Program completion the actual PCE will be captured in addition to an estimate of the expected PCE within 3 years of program closure.
Frequency	Semi-annual
Data Source	Data from private companies receiving support through project preparation funds; government program implementing agencies; regional financing facilities and participating financial institutions.
Methodology for Data Collection	Depending on the choice of reporting option selected by the recipients: (i) direct reporting by project implementing agencies or (ii) reporting through the digital MRV system.
Responsibility for Data Collection	Implementation agencies at country level and Regional Support Partner at Regional level

Climate related indicators	
Projected lifetime GHG emissions from results achieved	
Description	Projected lifetime GHG emissions from results achieved (tons)
Frequency	Semi-annual
Data Sources	Implementing agency/PIU
Methodology for data collection	Direct reporting from implementing agency. PIU
Responsibility for data collection	Implementation agencies/PIU
Deployment of D-MRV platform (Text)	
Description	This indicator relates to deployment and maintenance of the digital platform for MRV of new renewable energy capacity added, country renewable electricity share and for enabling results-based payments, including carbon financing.
Frequency	Semi-annual
Data Source	Implementation agency/ PIU
Methodology for data collection	Confirmation by Regional Partner
Responsibility for Data collection	Implementation agencies/ PIU at country level and Regional Support partner at regional level
Carbon finance revenues associated with GHG reductions generated by ECARES-financed investments (Amount (USD))	
Description	This is the amount of carbon revenue generated through data aggregation and transaction facilitation through Digital MRV systems

Frequency	Semi-annual
Data sources	Implementation agencies/ PIUs
Methodology for Data collection	Following methodology described in Annex 9.
Responsibility for Data collection	PIUs at project level, aggregation by Regional Support partner (to be identified)
Climate finance mobilized excluding carbon-finance revenues (Amount (USD))	
Description	Amount of climate funds disbursed by the operations included in the MPAs
Frequency	Semi-annual
Data sources	PIUs
Methodology for Data collection	Direct reporting by Implementation agencies /PIUs
Responsibility for Data collection	Implementation agencies/ PIUs at project level, aggregation by Regional Support partner (to be identified)

Regional support network and learning agenda	
Number of renewable energy companies, institutions and financial institutions assisted by the MPA (Number)	
Description	The ECARES Regional support network will provide technical assistance grants to support selected private companies, public institutions and financial institutions.
Frequency	Semi-annual
Data Source	Participating SOEs, private companies, public institutions, financial institutions.
Methodology for data collection	Direct reporting by project implementing agencies
Responsibility for Data collection	PIUs at project level, aggregation by Regional Support partner (to be identified)
Number of people trained (of which number of women)	
Description	The ECARES Regional Support Network will provide technical assistance grants to support selected private companies participating, public institutions and financial institutions.
Frequency	Semi-annual
Data sources	Participating SOEs, private companies, public institutions, financial institutions
Methodology for Data collection	Direct reporting by project implementing agency
Responsibility for Data collection	PIUs at project level, aggregation by Regional Support partner (to be identified)
Number of updated renewable energy strategies and plans (Number)	
Description	This indicator will track the number of published strategic documents (strategies, plans or roadmaps) promoting scale-up of renewables supported directly or indirectly by the ECARES MPA. The MPA will promote regional knowledge exchange through regional support.
Frequency	Semi-annual
Data sources	PIUs/Implementation agencies
Methodology for Data collection	Direct reporting by PIUs/implementation agencies
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)
Number of knowledge exchange events organized with participation of several countries (Number)	
Description	Number of events related to renewable energy technologies or grid integration organized
Frequency	Semi-annual
Data sources	PIU/ Implementing agency
Methodology for Data collection	Direct reporting

Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)

Grid integration indicators	
Transmission/Distribution capacity increased/enabled (MVA)	
Description	This indicator measures the additional transmission capacity enabled by each operation involving T&D investments under the MPA, through direct or indirect support.
Frequency	Semi-annual
Data Source	PIUs/ Implementation unit
Methodology for data collection	Direct reporting
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)
Storage capacity increased/ enabled (MWh)	
Description	This indicator measures the capacity of battery storage, pumped storage or other type of electricity storage enabled through direct or indirect support.
Frequency	Semi-annual
Data sources	PIUs
Methodology for Data collection	Direct reporting by PIUs/implementation agencies
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)

Jobs	
Number of new or better jobs (Number)	
Description	This indicator measures the number of new or better jobs.
Frequency	Semi-annual
Data Source	PIUs/Implementation Unit
Methodology for data collection	Direct reporting by PIUs/implementation agencies
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)

Gender: two relevant indicators are proposed. One or more could be selected by the project teams	
Share of participating entities that have gender analysis, actions and indicators in place	
Description	This indicator measures the share of entities that have prepared a gender analysis and identified relevant actions to close the identified gaps during the implementation of the MPA.
Frequency	Semi-annual
Data Source	Direct reporting by PIUs/implementation agencies
Methodology for data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)
Increased Number of Females employed in Energy Sector (Number)	
Description	This indicator measures the increase in number of women employed in the Energy Sector during the implementation of the MPA.
Frequency	Semi-annual
Data sources	Office of statistics in country/ reporting by PIUs
Methodology for Data	Direct reporting

collection	
Responsibility for Data collection	PIUs/Implementation Agencies, aggregation at regional level by a Regional partner (to be identified)

Citizen engagement	
Number of annual consultation events and publicly disclosed summaries/minutes of these consultations (Number)	
Description	This indicator measures the number of citizen engagements workshops and events (online and in person events) to share information on ECARES MPA and seek feedback on design of the projects and insights into improving design. Events must provide minutes about the decisions taken as a result of those consultations.
Frequency	Semi-annual
Data Source	PIUs/Implementing agencies
Methodology for data collection	Direct reporting
Responsibility for Data collection	PIUs/implementation agencies

In addition, for financial intermediary operations, the participating projects could select among the indicators below:

Sub-loans for renewable energy projects/DER/storage (Amount (USD))	
Description	Cumulative monetary amounts of sub-loans for RE/ DER/storage projects made to sub-project borrowers by the Program Implementing Agency (PIA).
Frequency	Annual
Data sources	FI
Methodology for Data collection	Direct Reporting
Responsibility for Data collection	FI
Funding leveraged through guarantees or risk sharing facilities implemented by the FI	
Description	Total funding leveraged by the FI using risk mitigation instruments supported by World Bank
Frequency	Annual
Data sources	FI
Methodology for Data collection	Annual
Responsibility for Data collection	FI
RE Generation capacity/ Storage supported by FI sub-loans (MW/MWh)	
Description	Cumulative amounts of renewable energy generation capacity installed through sub-loans provided to sub-borrowers by the Program Implementing Agency (PIA).
Frequency	Annual
Data sources	FI
Methodology for Data collection	Direct Reporting
Responsibility for Data collection	FI

ANNEX 2. Results Framework Matrix for Türkiye Accelerating the Market Transition for Distributed Energy Program-for-Results

Program Development Objective(s)

Expand Türkiye's distributed solar photovoltaic market and pilot distributed battery electricity storage to increase renewable energy.

PDO Indicators by Outcomes

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
(i) Expand Türkiye's distributed solar photovoltaic market.					
Renewable energy capacity enabled (Megawatt)					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	0	138	491	868	963
Distributed energy financers supported (Text)					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
Relevant institutions have low awareness of or capacity to implement DSPV financing opportunities	-	-	10 institutions have increased awareness of DSPV financing opportunities	4 institutions have strengthened capacity to implement DSPV financing opportunities	10 institutions have increased awareness of and 4 have strengthened capacity to implement DSPV financing opportunities
Private capital mobilized (Amount(USD))					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	32400000	90720000	162000000	213840000	259200000
Projected lifetime net greenhouse gas emissions from results achieved (Metric ton)					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	-1750000	-4900000	-8750000	-11550000	-14000000
(ii) Pilot distributed battery electricity storage to increase renewable energy					
Distributed battery energy storage piloted (Yes/No)					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029

No	No	No	Yes	Yes	Yes

Intermediate Indicators by Results Areas

Baseline	Period 1	Period 2	Period 3	Period 4	Closing Period
Results Area 1 - Scaling up distributed solar photovoltaic (DSPV)					
Commitment and disbursement of DSPV Sub-loans to DSPV Sub-borrowers (Amount(USD)) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	117600000	3822000000	588000000	588000000	588000000
Generation capacity Commissioned under DSPV Sub-projects financed by DSPV Sub-loans (Megawatt) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0.00	0	138	450	692	692
Results Area 2 -Expanding the market and promoting innovation for distributed energy					
Commitment and disbursement of Facility Loans to Facility Borrowers to finance Facility Sub-loans for DSPV Sub-projects (Amount(USD)) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	0	0	60500000	157300000	242000000
Generation capacity Commissioned under DSPV Sub-projects financed by Facility Sub-loans (Megawatt) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	0	0	41	176	271
Commitment and disbursement of BESS Sub-loans to BESS Sub-borrowers for BESS Subprojects (Amount(USD)) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	0	3000000	9000000	24000000	30000000
Battery energy storage capacity Commissioned under BESS Sub-projects financed by BESS Sub-loans. (Megawatt hour(MWh)) DLI					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	0	0	10	48	64
Other intermediate indicators					
Institutions receiving DSPV Sub-Loans or Facility Loans that are gender-inclusive (Number)					
Dec/2023	Mar/2025	Mar/2026	Mar/2027	Mar/2028	Mar/2029
0	2	4	6	8	10

Disbursement Linked Indicators (DLI)

Period	Period Definition	Timeline
Period 1	Year1	01-Jan-2024 to 31-Mar-2025
Period 2	Year2	01-Apr-2025 to 31-Mar-2026
Period 3	Year3	01-Apr-2026 to 31-Mar-2027
Period 4	Year4	01-Apr-2027 to 31-Mar-2028
Period 5	Year5	01-Apr-2028 to 31-Mar-2029

Baseline	Period 1	Period 2	Period 3	Period 4	Period 5
1 : Commitment and disbursement of DSPV Sub-loans to DSPV Sub-borrowers (Amount(USD))					
0	117600000	264600000	205800000	0	0
0.00	64,246,600.00	144,554,850.00	112,431,550.00	0.00	0.00
DLI allocation		321,233,000.00	As a % of Total Financing Amount		46.18%
2 : Generation capacity Commissioned under DSPV Sub-projects financed by DSPV Sub-loans (Megawatt)					
0.00	0	138	311	242	0
0.00	0.00	24,932,250.00	56,077,313.00	43,615,888.00	0.00
DLI allocation		124,616,250.00	As a % of Total Financing Amount		17.91%
3 : Increase eligible institutions' awareness of and capacity to participate in the credit facility for DSPV Subprojects under Results Area 2 (Text)					
Relevant institutions have low awareness of or capacity to implement DSPV financing opportunities	-	-	10 institutions have increased awareness of DSPV financing opportunities	4 institutions have strengthened capacity to implement DSPV financing opportunities	-
0.00	0.00	0.00	3,000,000.00	23,041,700.00	0.00
DLI allocation		26,041,700.00	As a % of Total Financing Amount		3.74%
4 : Commitment and disbursement of Facility Loans to Facility Borrowers to finance Facility Sub-loans for DSPV Sub-projects (Amount(USD))					
0	0	0	60500000	96800000	84700000
0.00	0.00	0.00	36,000,250.00	57,600,400.00	50,400,350.00
DLI allocation		144,001,000.00	As a % of Total Financing Amount		20.7%

5 : Generation capacity Commissioned under DSPV Sub-projects financed by Facility Sub-loans (Megawatt)					
0	0	0	41	136	95
0.00	0.00	0.00	7,476,975.00	24,923,250.00	17,446,275.00
DLI allocation		49,846,500.00	As a % of Total Financing Amount		7.17%
6 : Commitment and disbursement of BESS Sub-loans to BESS Sub-borrowers for BESS Subprojects (Amount(USD))					
0	0	3000000	6000000	15000000	6000000
0.00	0.00	2,000,000.00	4,000,000.00	10,000,000.00	4,000,000.00
DLI allocation		20,000,000.00	As a % of Total Financing Amount		2.88%
7 : Battery energy storage capacity Commissioned under BESS Sub-projects financed by BESS Sub-loans. (Megawatt hour(MWh))					
0	0	0	9.6	38.4	16
0.00	0.00	0.00	1,479,750.00	5,919,000.00	2,466,250.00
DLI allocation		9,865,000.00	As a % of Total Financing Amount		1.42%

Monitoring & Evaluation Plan: PDO Indicators by PDO Outcomes

(i) Expand Türkiye's distributed solar photovoltaic market.	
Renewable energy capacity enabled (Megawatt)	
Description	This indicator measures the installed capacity, measured in megawatts peak (direct current), of commissioned distributed solar PV facilities financed by sub-loans from the Program Implementing Agencies directly in Stage 1 and sub-loans through Facility Borrowers in Stage 2. This constitutes 'indirect support' under the New World Bank Group Corporate Scorecard FY24-30 typology for renewable energy capacity enabled.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the cumulative generation capacity of DSPV installed under sub-loans and facility sub-loans based on the acceptance letter by the distribution company.
Responsibility for Data Collection	TSKB and TKYB
Distributed energy financers supported (Text)	
Description	This indicator measures the number of eligible institutions (e.g., commercial banks, leasing companies, distribution companies) that receive awareness, outreach and training carried out by TSKB and TKYB toward participating in the DSPV Stage 2 Facility.
Frequency	Annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	Number of Distributed energy financers that receive awareness and outreach and training from TSKB and TKYB toward participating in the facility, will be counted.
Responsibility for Data Collection	TSKB and TKYB
Private capital mobilized (Amount(USD))	
Description	This indicator measures the amount of private capital mobilized by the Program, which includes co-financing by PIA and Facility Borrowers, and equity contribution by sub-borrower beneficiaries, for DSPV and BESS investments.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will track their co-financing amount as well as co-financing from facility borrowers and equity contribution by sub-borrower beneficiaries for DSPV and BESS investments.
Responsibility for Data Collection	TSKB and TKYB
Projected lifetime net greenhouse gas emissions (cumulative) (Metric ton)	
Description	This indicator measures projected aggregate absolute Scope 1 and 2 GHG emissions over the economic lifetime of assets financed under the Program (20 years) under a reference scenario without the Program, less the emissions with the Program, based on results achieved during implementation. Values are cumulative. Negative values indicate emissions reductions.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	Calculated per the World Bank GHG accounting guideline using the average electricity generation from installed renewable energy under the program and grid emissions factor in Türkiye
Responsibility for Data Collection	TSKB and TKYB
(ii) Pilot distributed battery electricity storage to increase renewable energy.	
Distributed BESS piloted (Yes/No)	
Description	This indicator measures whether the program pilots enables distributed BESS pilot by installation and commissioning of distributed BESS financed by TSKB and TKYB under the Program to increase renewable energy.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	Implementation of BESS subprojects
Responsibility for Data	TSKB and TKYB

Collection	

Monitoring & Evaluation Plan: Intermediate Results Indicators by Results Areas

Results Area 1 - Scaling up distributed solar photovoltaic (DSPV)	
Commitment and disbursement of DSPV Sub-loans to DSPV Sub-borrowers (Amount(USD)) DLI	
Description	Subloans disbursed to sub-borrower to finance distributed solar PV.
Frequency	Semi-annual
Data source	TSKB and TKYB reports
Methodology for Data Collection	TSKB and TKYB will monitor the cumulative amount of sub-loans, and disbursed amount to sub-borrowers for eligible DSPV sub-projects in line with eligibility criteria and relevant data described in the Program Operational Manual (POM). This indicator will be verified by the Independent Verification Agent (IVA) for selected samples of sub-loans for disbursement
Responsibility for Data Collection	TSKB and TKYB
Generation capacity Commissioned under DSPV Sub-projects financed by DSPV Sub-loans (Megawatt) DLI	
Description	Installed capacity (MW) from distributed solar PV sub-projects. Given the potentially large number of solar PV units installed, the verification of this DLI will be on a sampling basis, in each market segment.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the capacity of DSPV sub-projects that has been installed and are operational based on the acceptance letter by the distribution company. This indicator will be verified by the IVA for selected sample of sub-loans for disbursement.
Responsibility for Data Collection	TSKB and TKYB
Results Area 2 -Expanding the market and promoting innovation for distributed energy	
Commitment and disbursement of Facility Loans to Facility Borrowers to finance Facility Sub-loans for DSPV Sub-projects (Amount(USD)) DLI	
Description	This indicator measures the cumulative amounts of sub-loans committed and disbursed to sub-project borrowers by the FBs through funds on-lent by the PIAs.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the cumulative amount of sub-loans, and disbursed amount to facility borrowers for eligible DSPV sub-projects in line with eligibility criteria and relevant data described in the Facility Operational Manual (FOM). This indicator will be verified by the Independent Verification Agent (IVA) for selected samples of sub-loans for disbursement.
Responsibility for Data Collection	TSKB and TKYB
Generation capacity Commissioned under DSPV Sub-projects financed by Facility Sub-loans (Megawatt) DLI	
Description	This indicator measures the cumulative amounts of DPSV generation capacity made to sub-project borrowers by the FBs through funds on-lent by the PIAs, TSKB and TKYB.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the capacity of DSPV sub-projects that has been installed and are operational based on the acceptance procedures provided by regulation. This indicator will be verified by the IVA for selected sample of sub-loans for disbursement.
Responsibility for Data Collection	TSKB and TKYB
Commitment and disbursement of BESS Sub-loans to BESS Sub-borrowers for BESS Subprojects (Amount(USD)) DLI	

Description	This indicator measures cumulative monetary amounts of sub-loans for BESS made to sub-project borrowers by two PIAs, namely TSKB and TKYB. This indicator has two breakdown sub-indicators each of which represents sub-loans amount by TSKB and TKYB, respectively.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the cumulative amount of sub-loans and disbursed amount for BESS sub-projects in line with the eligibility criteria and relevant data described in the POM. This indicator will be verified by the IVA for selected sample of sub-loans for disbursement.
Responsibility for Data Collection	TSKB and TKYB
Battery energy storage capacity Commissioned under BESS Sub-projects financed by BESS Sub-loans (Megawatt hour(MWh)) DLI	
Description	Installed battery energy storage system (MWh) financed by sub-projects. Eligible types of battery storage includes generation, transmission, distribution grids, and consumers.
Frequency	Semi-annual
Data source	Reports from TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor the capacity of the BESS sub-projects that has been installed and comissioned based on the acceptance report. This indicator will be verified by the IVA for selected sample of sub-loans for disbursement.
Responsibility for Data Collection	TSKB and TKYB
Other intermediate indicators	
Institutions receiving DSPV Sub-Loans or Facility Loans that are gender-inclusive (Number)	
Description	To quality as gender-inclusive a firm must meet at least one of the following criteria: have a gender inclusion policy and/or action plan; 1 C-level manager is a woman; 25% mid-level managers are women; share of women employees has increased by 5% compared to 3 years earlier. TSKB and TKYB will target such firms in awareness raising and include training on gender-inclusion for facility borrowers.
Frequency	Semi-Annual
Data source	TSKB and TKYB
Methodology for Data Collection	TSKB and TKYB will monitor their own and also participating entities' gender analysis, action and indicator status as part of monitorng implementation in accordance with details defined in the Program Operation Manual.
Responsibility for Data Collection	TSKB and TKYB

Verification Protocol Table: Disbursement Linked Indicators[21]

1 : Commitment and disbursement of DSPV Sub-loans to DSPV Sub-borrowers (Amount(USD))	
Formula	EUR 0.27 for each EUR 1.00 of the total DSPV Sub-loan amounts committed under duly signed DSPV Sub-loan Agreements, up to EUR 72,500,000 (per PIA) for DLR 1.1. EUR 0.27 for each EUR 1.00 of the total Sub-loan amount for each DSPV Sub-loan that has achieved fifty percent (50%) disbursement, up to EUR 72,500,000 (per PIA) for DLR 1.2.
Description	This DLI is based on the cumulative monetary amounts of sub-loans for DSPV made to sub-project borrowers by the Program Implementing Agencies (PIAs), namely TSKB and TKYB. Each PIA is allocated half of the DLRs amount. The target of this DLI is to commit and disburse at least 50 percent of total sub-loan amounts equivalent to US$588 million (US$294 million for each PIA). The DLRs are: DLR 1.1 (Scalable): DSPV Sub-loan Agreements signed between PIA and DSPV Sub-borrowers before the Transition Date. DLR 1.2 (Scalable): DSPV Sub-loans disbursed under the DSPV Sub-loan Agreements referenced in DLR #1.1, for which, in each case, at least the first fifty percent (50%) of the said Sub-loan has been disbursed. See PTAD for list of eligible investments. (For investments involving battery energy storage, see DLI 6 and 7).
Data source/ Agency	TSKB and TKYB reports
Verification Entity	Independent Verification Agent (IVA)
Procedure	The IVA will verify, based on the report submitted by TSKB and TKYB, the number of sub-loan agreements signed and disbursements to sub-projects against the eligibility criteria and relevant data described in the Program Operational Manual (POM) such as sub-project borrower name, loan amount, and disbursed and undisbursed amounts. The IVA will verify a small representative sample of these sub-loans, including through field visits.
2 : Generation capacity Commissioned under DSPV Sub-projects financed by DSPV Sub-loans (Watt)	
Formula	EUR 0.17 per watt of capacity, up to EUR 56,250,000 (per PIA)
Description	This DLI is based on the cumulative amounts of DSPV electric power generation capacity made to sub-project borrowers by TSKB and TKYB. Each PIA is allocated half of the DLR amount. The target of this DLI is 691MW (345.5 MW for each PIA). The DLR is DLR 2 (Scalable): Watts peak of generation capacity Commissioned.
Data source/ Agency	TSKB and TKYB reports
Verification Entity	IVA
Procedure	The IVA will verify the acceptance document, issued by the prescribed authority under the Regulation on the Acceptance of Electricity Generation and submitted by TSKB and TKYB as described in the POM, to accept a facility's application to commence commercial operation in the electricity market. The IVA will verify a small representative sample of these sub-loans, including through field visits.
3 : Increase eligible institutions' awareness of and capacity to participate in the credit facility for DSPV Subprojects under Results Area 2 (Text)	
Formula	USD 150,000 (per PIA) for each potential Facility Borrower to which Awareness and Outreach is delivered jointly or individually by the TKYB and/or TSKB, and documented in a results report prepared jointly or individually by TKYB and/or TSKB, up to USD 1,500,000 for DLR 3.1 (total USD 3 million) EUR 2,625,000 (per PIA) for each potential or selected Facility Borrower to which the Facility Training Curriculum is fully delivered and documented in a results report prepared by TKYB and/or TSKB, up to EUR 10,500,000 for DLR 3.2 (total EUR 21 million)
Description	Establishment of a transparent and inclusive facility by the PIAs (TSKB and TKYB) through which they finance Facility Borrowers (FBs), such as commercial banks and leasing companies, to on-lend to sub-project borrowers for DSPV investments. Each PIA is allocated half of the DLRs amount. The DLRs are: DLR 3.1 (Scalable): Awareness and Outreach delivered (in accordance with terms of reference specified in

[21] Note: Front-end fees equal to EUR 1.5 million for IBRD and US$ 0.135 million for CTF. DLR formulae are designed to approximate the intended results target values. For some DLIs, dividing allocated funds according to the formula results in a value that differs slightly from the target outcome. Such difference is due to rounding of the per-unit value in the formula. The disbursement amounts are fixed in the legal agreements and target values are also captured in the Results Framework.

	the POM to potential Facility Borrowers on the credit facility for DSPV Subprojects under Results Area 2, with a collective TSKB and TKYB target of a minimum of ten (10) potential Facility Borrowers. DLR 3.2 (Scalable): Facility Training Curriculum delivered (in accordance with terms of reference specified in the POM to potential and/or selected Facility Borrowers on the credit facility for DSPV Subprojects under Results Area 2, with a collective TSKB and TKYB target of a minimum of four (4) such potential and/or selected Facility Borrowers.
Data source/ Agency	TSKB and TKYB reports
Verification Entity	IVA
Procedure	The IVA will verify, based on the reports submitted by TSKB and TKYB, that the potential Facility Borrowers have completed awareness and capacity building events as described in the PAP and POM.
4 : Commitment and disbursement of Facility Loans to Facility Borrowers to finance Facility Sub-loans for DSPV Sub-projects (Amount(USD))	
Formula	EUR 0.30 for each EUR 1.00 of the total Facility Loan amounts committed under duly signed Facility Loan Agreements between PIA and Facility Borrowers, up to EUR 32,500,000 (per PIA) for DLR 4.1 EUR 0.30 for each EUR 1.00 of the total Facility Loan amount for each Facility Loan that has achieved fifty percent (50%) disbursement, up to EUR 32,500,000 (per PIA) for DLR 4.2.
Description	This DLI is based on the cumulative monetary amounts of sub-loans for DSPV made to sub-project borrowers by the Facility Borrowers (FBs) through funds on-lent by the PIAs, namely TSKB and TKYB. Each PIA is allocated half of the DLRs amount. The target of this DLI is to commit and disburse at least 50 percent of total sub-loan amounts equivalent to US$242 million (US$121 million for each PIA). The DLRs are: DLR #4.1 (Scalable): Facility Loan Agreements signed between PIA and Facility Borrowers. DLR #4.2 (Scalable): Facility Loans disbursed under Facility Loan Agreements referenced in DLR #4.1 for which, in each case, at least the first fifty percent (50%) of the said Facility Loan has been disbursed.
Data source/ Agency	TSKB and TKYB reports
Verification Entity	IVA
Procedure	The IVA will verify, based on the report submitted by TSKB and TKYB, the number of sub-loan agreements signed and disbursements of FBs to sub-borrowers through on-lent funds from TSKB and TKYB. Eligibility criteria and relevant data described in the POM such as borrower name, loan amount, and disbursed and undisbursed amounts will be verified. The IVA will also verify a small representative sample of these sub-loans, including through field visits.
5 : Generation capacity Commissioned under DSPV Sub-projects financed by Facility Sub-loans (Watt)	
Formula	EUR 0.17 per watt of capacity, up to EUR 22,500,000 (per PIA)
Description	This DLI is based on the cumulative amounts of DSPV electric power generation capacity made to sub-project borrowers by FBs. Each PIA is allocated half of the DLR amount. The collective target of this DLI is 271MW (135.5 MW for each PIA). The DLR is: DLR #5 (Scalable): Watts peak of generation capacity Commissioned.
Data source/ Agency	TSKB and TKYB reports
Verification Entity	IVA
Procedure	The IVA will verify, based on the report submitted by TSKB and TKYB including documents described in the FOM, such as the acceptance letter by the distribution company, that the capacity of sub-projects has been installed and is operational. The IVA will verify a small representative sample of these sub-loans, including through field visits.
6 : Commitment and disbursement of BESS Sub-loans to BESS Sub-borrowers for BESS Subprojects (Amount(USD million))	
Formula	USD 0.33 for each USD 1.00 of the total Sub-loan amounts committed under duly signed Sub-loan Agreements up to USD 5,000,000 (per PIA) for DLR 6.1. USD 0.33 for each USD 1.00 of the total Sub-loan amount for each BESS Sub-loan that has achieved fifty percent (50%) disbursement, up to USD 5,000,000 (per PIA) for DLR 6.2.
Description	This DLI is based on the cumulative monetary amounts of battery energy storage system (BESS) sub-loans for made to sub-project borrowers by the PIAs, namely TSKB and TKYB. Each PIA is allocated half of the DLR amount. The target of this DLI is to commit and disburse at least 50 percent of total sub-loan amounts equivalent to US$30 million (US$15 million for each PIA). The DLRs are: DLR #6.1 (Scalable): BESS Sub-loan Agreements signed between PIA and BESS Sub-borrowers to finance BESS Subprojects. DLR #6.2 (Scalable): BESS Sub-loans disbursed under BESS Sub-loan Agreements referenced in DLR #6.1 and for which, in each case, at least the first fifty percent (50%) of the said Sub-loan has been disbursed.

Data source/ Agency	TSKB and TKYB reports
Verification Entity	IVA
Procedure	The IVA will verify, based on the report submitted by TSKB and TKYB, the number of sub-loan agreements signed and disbursements to sub-projects against the eligibility criteria and relevant data described in the POM such as borrower name, loan amount, and disbursed and undisbursed amounts. The IVA will verify a small representative sample of these sub-loans, including through field visits.
7 : Battery energy storage capacity Commissioned under BESS Sub-projects financed by Sub-loans (Watt-hour)	
Formula	USD 0.16 per watt-hour (Wh) of capacity, up to USD 4,932,500 (per PIA)
Description	This DLI is based on the cumulative amounts of BESS capacity commissioned by sub-project borrowers of TSKB and TKYB. Each PIA is allocated half of the DLR amount. The target of this DLI is 64 MWh (32.0 MWh for each PIA). The DLR is: DLR #7 (Scalable): Watt-hours of storage capacity Commissioned.
Data source/ Agency	TSKB and TKYB reports with evidence to verify achievement of each BESS facility commissioned. Documentation may include, as applicable (and not restricted to): record of the facility scope and capacity (in MWh and MW) of BESS project (such as TOR or contract documents); records of field tests reports and necessary permit procedures under the responsibility of the licensee or facility owner; record of approval of the facility design in accordance with the Regulation on Electric Facility Projects; record of acceptance of the facility constructed according to the approved design in accordance with the Regulation on Acceptance of Electricity Generation and Electricity Storage Facilities; record of contractual power of the consumption facility to which the BESS is integrated; facility inspection report.
Verification Entity	IVA
Procedure	The IVA will verify that the capacity (MWh and MW) of sub-projects is commissioned based on the report submitted by TSKB or TKYB with the documentation as specified in the POM (considering data items indicated above). The IVA will also visit a representative sample of BESS sub-loan facilities. The IVA will check that given facilities comply with the terms and conditions specified in official documentation as applicable.

ANNEX 3. ECARES Program Regional Support Network, Implementation Plan, and Learning Agenda

1. **The allocation proposed for the first phase of the ECARES Program and the grant secured for the Regional Support Network is provided in Table A3.1 below.** The ECARES Regional Support Network is expected to be implemented as a Recipient Executed Trust Fund. The Reginal Support Network and the Türkiye PforR are described in this Annex and in Annex 4, respectively. The MPA anticipates that up to 8 countries in the ECA region will participate in ECARES within an IDA/IBRD lending envelope of up to US$2 billion. See Annex 8 for details the pipeline of projects for subsequent phases.

Table A3.1: Allocation Proposed for first Phase of ECARES

FY24 Q3 Board approval	Project ID	IBRD amount (US$ million)	Multi-Donor Trust Fund amount (US$ million)	Total (US$ million)
Türkiye	P176375	664.4	33 (CTF, ESMAP)	697.4

2. **Regional collaboration and knowledge sharing among participating countries will be supported through a Regional Support Network** leveraging global and regional partners to foster knowledge sharing, capacity building for investment preparation and implementation, and enabling access to climate and carbon finance. The Bank will channel grants (including possible regional IDA grants, trust funds including from ESMAP, and climate finance grants) to finance the activities. An initial ESMAP US$1 million grant has been secured to support the initial activities under this Regional Support component and is expected to be submitted for approval shortly after the PforR, once completed negotiations with the pre-identified recipient.

A. Context

3. **To achieve speed and scale of renewable energy deployment in the ECA region, it is essential to pair the financing under the ECARES Program with accessible, relevant, and timely knowledge.** Several ECA countries face significant knowledge gaps in critical topics underpinning renewable energy development, including:

(a) Technical knowledge: including the performance and pricing of renewable energy and storage technologies, planning and grid integration operational practices, and technical risks.
(b) Procurement, legal, and regulatory knowledge: including best practices for public procurement, auctions, incentive mechanisms, energy and carbon markets regulation, market transparency permitting, grid access, grid codes and regulations for balancing reserves. These topics are continuously evolving and need to be adapted to country circumstances and goals, including industrial policy.
(c) Financial solutions knowledge: including innovative solutions piloted in other regions, to accelerate and scale-up the deployment of renewable energy in a sustainable manner.

4. **A Regional Support Network will be established to support and build capacity in participating countries with the required expertise to design and implement renewable energy projects and the enabling environment in which they operate.** The Regional Support Network will underpin the ECARES Program's learning agenda encouraging participating countries and institutions to learn from each other and collaborate to disseminate new knowledge and develop innovative solutions. The Regional Support Network aims to leverage the expertise of a combination of partners to multiply the impact of the World Bank Group's knowledge and resources. This annex describes the vision for the Regional Support Network which will be developed through a coalition of partners with differentiated regional presence and expertise. The Regional Support Network will be launched with a first partner, funded by a RETF, and shortly after the approval of the Phase 1 of the ECARES Program.

B. Relevance to Higher-Level Objectives

5. The Regional Support Network aligns with international and national goals to increase renewable energy capacity. The international community has rallied around the goal to support a tripling of renewable energy by 2030 to be on track with the goals of the Paris Climate Agreement.

C. ECARES Regional Support Network Description

6. **The ECARES Regional Support Network aims to create an enabling environment for increasing renewable energy in participating ECA countries.** This Regional Support Network will, amongst others, monitor progress toward the overall Program Development Objective (PrDO) of the ECARES Program through the established PrDO indicators. The Regional Support Network will focus on creating the enabling environment for renewable energy through advisory support, country-level implementation support, knowledge exchange and capacity building, and monitoring, reporting, and verification of results. Several indicators will be used to track the support provided under the Regional Support Network will include: (i) number of renewable energy companies, government organizations, and financial institutions assisted by the Program; (ii) number of people trained (of which number of women); (iii) number of new or updated renewable energy strategies and plans; and (iv) number of knowledge exchange events organized with participation of several countries.

7. **The ECARES Regional Support Network will support all countries participating in the ECARES Program through a coalition of regional and global partners.** Through partnerships in the region and globally, the Regional Support Network will share knowledge and expertise across countries and projects, contribute to renewable energy project preparation and implementation, and monitor the overall results of the ECARES Program. A coalition of partners is essential to the delivery of such support and capacity building because of the activities envisaged under the network (see below) and the diverse needs of countries anticipated to join the ECARES Program. Partnering with regional knowledge brokers with country-level expertise will lead to economies of scale and faster delivery of results. One partner will be identified to serve as overarching Secretariat or Project Implementation Unit (PIU).

8. **The Regional Support Network will complement the World Bank Group's knowledge assets and be a critical delivery mechanism for learning and knowledge sharing agenda under the MPA.** By tapping into external knowledge, the WBG can ensure that its member countries have access to a wide range of perspectives and expertise. Regional and global knowledge partnerships can provide several benefits. They enable the sharing of local knowledge and experiences, which can be particularly valuable in addressing region-specific challenges especially. With the energy sector evolving at an extraordinary pace, global partnerships also play a pivotal role. It will enable world-class knowledge and expertise to enhance capacity development, foster innovation, facilitate dialogue and peer-to-peer learning, and connect global context to deliver local solutions. The Regional Support Network will serve as a mechanism to create a knowledge repository and promote learning across MPA participating countries.

9. **The Regional Support Network will finance and oversee technical assistance, capacity building and knowledge sharing, creating the enabling environment for all participating countries to effectively implement all three of the ECARES Program pillars through four components**:

(a) **Component 1: Knowledge exchange, skills development, consumer engagement, convening and partnerships.** This component will build data, knowledge, and skills for renewable energy planners, funders (e.g., domestic financial institutions), developers, and operators. It will enable participating countries to share both technical knowledge and experience in renewable energy supporting interventions, thus facilitating faster learning and replication of successful approaches. Depending on the needs of participating countries, it may also provide support to government agencies and partner organizations for consumer engagement, including awareness raising, and effective advocacy strategies to influence policies, commitments, and actions in support of renewable energy in the region. A Regional Data Repository could support ECA governments and their development partners working in the energy sector by facilitating access to up-to-date, reliable energy data and project information for evidence-based decision-making. It

may also develop a targeted skills development program for renewable energy to create more job opportunities in the sector, with particular attention to increasing employment opportunities in energy for women and youth. This will address the shift in the energy sector's employment trends as countries pursue the energy transition. It may support the reduction of gender gaps through (i) audits of gender policies in the renewable energy sector in participating countries; (ii) programs that attract women with STEM backgrounds to the energy sector; and (iii) regional support to develop women for energy-sector employment, including prospective leadership positions in the sector. This component will also disseminate intermediate results from operations in initial phases for the benefit of subsequent phases.

(b) **Component 2: Advisory support.** This component will support participating countries on strengthening the policy and regulatory environment for renewable energy. Specific activities will include support for (i) adopting a medium/long term vision and translation to executable targets and plans for renewable energy and network strengthening/flexibility; (ii) establishing a stable and comprehensive regulatory framework; (iii) developing competitive and transparent procurement processes, (iv) implementing power sector reforms; (v) identifying and addressing project specific risks; (vi) using risk mitigation measures such as credit enhancement mechanisms; (vii) achieving a wider, harmonized, integrated and more competitive market; (viii) undertaking market sounding and market research including analysis of value chain supply analysis, (ix) addressing country-risks, for example foreign exchange issues, and (x) developing and implementing climate resilient infrastructure and systems.

(c) **Component 3: Digital Monitoring, Reporting, and Verification for Renewable Energy and Climate Finance**. The Support Network will support countries with adoption of D-MRV systems and other digital technology to improve sector planning; implementation of project activities; MRV of countries' renewable energy deployment; and MRV to enable access to climate financing, including facilitating participation in carbon markets. The activities under this component may include (i) implementing an MRV system for the ECARES Program; (ii) developing dashboards for tracking progress under ECARES, data visualization, and information dissemination; (iii) facilitating adoption and operationalization of D-MRV at the country level; (iv) and supporting countries with a mechanism for carbon credits transactions.

(d) **Component 4: National implementation support.** Project preparation support will help governments in developing bankable, investment-ready projects through a demand-driven approach. The project preparation activities – which will be implemented in subsequent phases of the program – include: (i) support to national agencies (e.g., energy ministries, public utilities) on the design and implementation of renewable energy projects supporting ECARES Program objectives, per government requests, including technical, legal, and transactional support (ii) access to specific, just-in-time support for project design from a roster of experts, (iii) support, including standardized frameworks and templates for procurement, feasibility analysis, environmental and social safeguards, citizen engagement and gender and social inclusion, and guiding material for project operation manuals; and (iv) building project management expertise within PIUs implementing projects under the ECARES Program. This component will help reduce the capacity constraints of governments to prepare projects to the standards required to attract financing from both public and private sectors. This will specifically include support to government agencies to build capacity on environmental and social issues related to implementing ECARES activities.

At the time of identification of projects under the regional Support Network in the subsequent MPA phases, consideration will be given to country ownership, consistency and alignment of activities with the recipients' mandate, skills, and comparative advantage, as well as any risks and liabilities associated with Bank financing.

D. ECARES Regional Support Network Beneficiaries

10. The Regional Support Network's direct beneficiaries will be the government agencies and private-sector companies supported, as well as the trainees (including women and youth) instructed under the Regional Support Network's skills-building activities.

E. Institutional and Implementation Arrangements

11. **The MPA Regional Support Network will build a coalition of partners, both regional and global, to facilitate delivery of knowledge, capacity building and results supported under the 4 constituting components.** A regional knowledge exchange partnership will bring together countries, regional development bodies, country-level institutions, and other stakeholders to share knowledge, expertise, and resources to address shared challenges and promote development in the region. The support would be underpinned by the MPA's learning agenda which encourages participating countries and institutions to learn from each other and collaborate to disseminate new knowledge and develop innovative solutions. Given the plurality of needs supported under the 4 components of the MPA Regional Support Network, a number of complementary regional and global partners will be required to leverage scale and impact for participating countries. It is anticipated that the Regional Support Network and coalition of partners will be established in a progressive manner. The regional partners will be selected based on, among others, their existing relationship with countries, private-sector companies, and financial institutions in the region, as well as their track record of implementing World Bank–financed projects. Detailed implementation arrangements for the regional support will be provided in a future phase of the ECARES Program.

12. **Eligibility criteria for regional partners.** A coalition of regional partners will be identified and selected by the Bank, through an engagement and due diligence process against several criteria. First, the partner's legal status and ability to sign grant agreements with the World Bank and comply with Bank's fiduciary requirements will be needed. Second, the alignment of missions and vision of the organization with the objectives of the proposed MPA, and the expertise and experience in supporting renewable energy scale-up along the 3 Pillars of the ECARES MPA[22] will be needed. Third, the partner's knowledge management capabilities will be an important consideration as a strong learning agenda requires effective knowledge sharing and management systems. The ECARES MPA seeks partners that have robust knowledge management practices in place, such as knowledge bases, training programs, and continuous learning initiatives. Fourth, the partner's regional presence will be an important factor. Regional partners that understand the local market dynamics and cultural nuances can provide valuable insights and support for the knowledge agenda. Once identified and upon verification of eligibility criteria and interest, the Bank will proceed to the signing of partnership arrangements, as relevant, to secure long term commitment and clarify the implementation arrangements. Legal grant agreements will be signed upon confirmation of grant funds during the implementation of the MPA.

13. **One or more PIUs will be established with implementation partners experienced in coordination, technical knowledge, capacity building and project management.** As the consortium of partners is established, an overarching Secretariat or PIU will be appointed for overall coordination and management. Each PIU will appoint a project coordinator who will be supported by a team of experts to be retained by the PIU, adjusted to the type of activities to implement. The desired coordination experience would include a track record of working with national governments and their relevant institutions, development partners, and the private sector. The desired technical knowledge would include expertise in renewable energy and MDB project preparation; policy and regulatory frameworks; strategy development and planning standards; renewable energy procurement approaches; risk mitigation strategies and financial instruments; renewable energy integration; renewable energy finance; carbon markets; convening and advocacy; and digital monitoring, reporting and verification. The desired project management skills would include project coordination, procurement, financial management, environmental, social, gender, citizen engagement and communication, monitoring and evaluation, and legal.

14. **A Regional Support Network results framework will be developed for monitoring and evaluating the effectiveness of the Network**. A Project Operations Manual (POM) will be developed to document the approach for strengthening and expanding the activities of the Network and incorporating new partners. Additionally, a plan will be

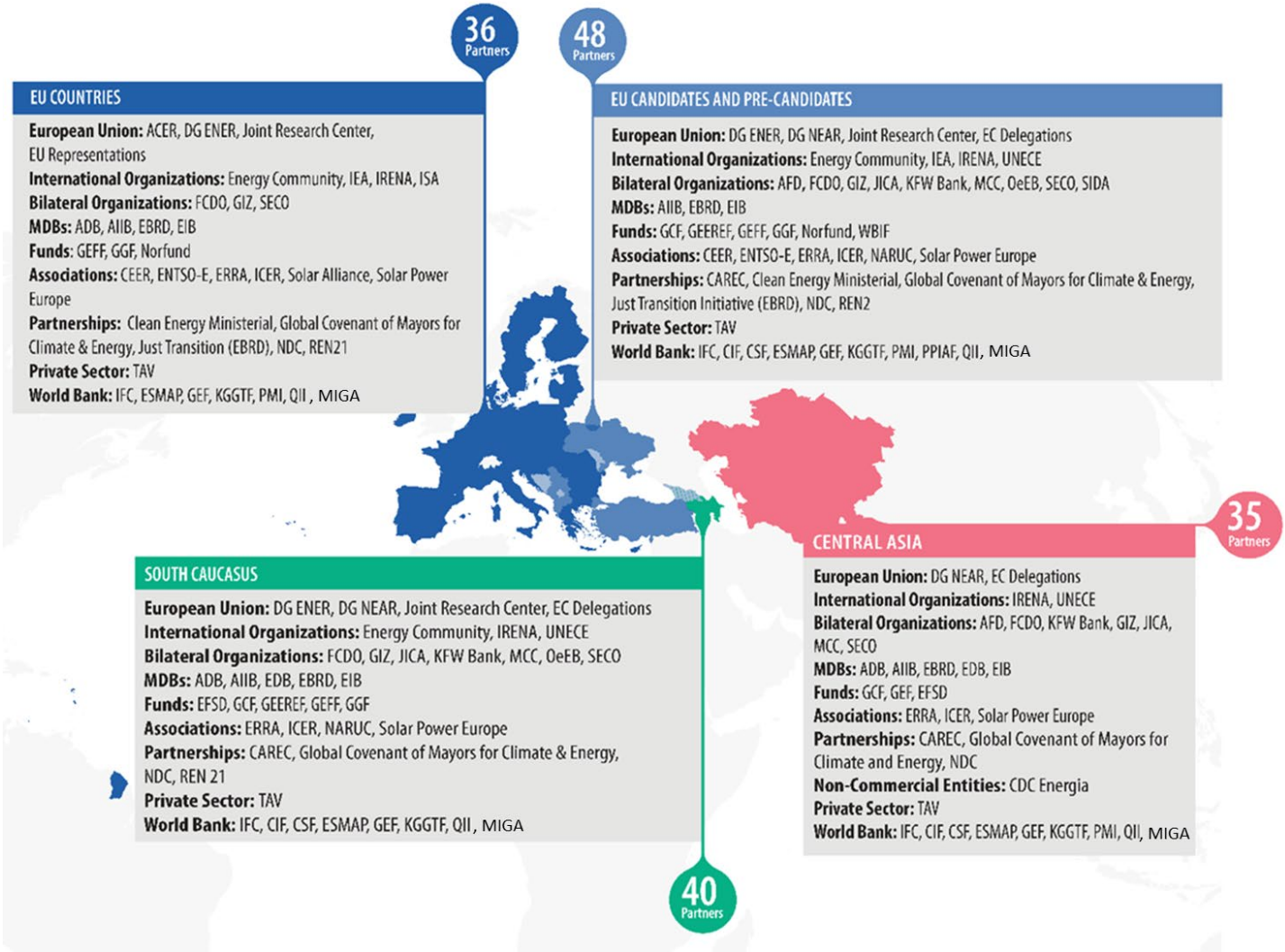
[22] This will be determined by reviewing their past projects, client testimonials, or case studies.

developed to identify potential partners which may include development partners, philanthropies, academic institutions, civil society institutions, private sector partners, etc.

15. **A grant in the amount of US$1 million has been secured and will be used to begin knowledge and capacity building engagements under Components 1 and 2**, and potentially support under Component 3 described above. The specific coordination, technical, and project management capabilities of an initial pre-identified partner will be assessed. Based on the assessment, recommendations will be made for strengthening the capabilities of the initial partner or including other partners with the necessary expertise.

16. **In subsequent Phases**, additional grant funding will be mobilized to strengthen the capacity of the PIUs as required and to fund the activities of additional partners. New partners may be added through Grant Agreements or funded by other donors. Based on the needs of the ECARES Program and the financing needs, the World Bank and the PIU will undertake specific fundraising initiatives throughout the program's duration. Figure A3.1 shows an initial mapping of potential global and regional partners across the ECA Region. A combination of partnerships will be needed to leverage resources and expertise for multiple countries to achieve greater scale and impact.

Figure A3.1: Example of potential partners for the ECARES Regional Support Network



F. Key Risks

17. **The overall risk for the Regional Support Network is considered Moderate.** The Regional Support Network will finance technical assistance with focus on knowledge exchange, capacity building, and replication of proven good practices. In addition, it will be implemented by implementing agencies with extensive experience in collaboration with governments and stakeholders in the region or globally on related technical topics. The E&S risk is Low. Future phases of the MPA will involve TA for project preparation, for which the E&S risks and impacts will be assessed at that time.

ANNEX 4. Accelerating the Market Transition for Distributed Energy (P176375) Türkiye

1. **This annex summarizes elements of the first phase operation under the proposed ECARES MPA, 'Accelerating the Market Transition for Distributed Energy' (P176375) Program-for-Results (PforR) in the Republic of Türkiye**.[23] Further to Annex 2 (Results Framework including the Monitoring & Evaluation Plan and Verification Protocol Table for Disbursement-Linked Indicators [DLIs]), this Annex 4 contains the: Program description; PDO and Theory of Change; Appraisal Summary including Paris Alignment, Program Expenditure Framework and Gender; Risks; and Program Action Plan.

2. **An accompanying Program Technical Assessment Document (PTAD), available in operation files and to be disclosed, provides further details.** The PTAD contains the Technical Assessment including: Strategic Relevance; Program Rationale; Program Scope; Theory of Change and PDO indicators; DLIs, and Disbursement Arrangements; Project Pipeline, Eligible Activities and Expenditure Framework; Implementation Arrangements and Capacity; Economic Evaluation and Justification. It also contains the Risks; Program Action Plan; Clean Technology Fund (CTF) assessment; TSKB Financial Intermediary (FI) Assessment; and TKYB FI Assessment.

3. **The World Bank has undertaken an Integrated Fiduciary System Assessment (IFSA) and Environmental and Social System Assessment (ESSA) for the Program.** The IFSA for each of TSKB and TKYB, and the ESSA, are summarized below and in the PTAD. The full IFSAs are in operation files with a disclosure date of January 26, 2024. The draft ESSA was disclosed on December 5, 2023 and the final ESSA on January 26, 2024.

Program Description

4. **Government program.** Türkiye has set an ambitious program in its 2022 National Energy Plan (NEP) with a target of achieving 52.9 GW total installed capacity of solar power by 2035, more than five times the capacity in 2022 (9.5 GW), alongside a tripling of wind power. The NEP also targets 7.5 GW battery capacity (assuming 2 hours charging time) and 1.7 GW demand-side response by 2035, in the context of assumed 3.5 percent annual average growth in electricity demand growth. About US$22 billion of additional investment would be required to achieve the 2035 target of 52.9 GW for installed solar capacity (including both bulk and distributed). World Bank and IFC market analysis in 2021 estimated Türkiye's DSPV market potential as at least 4.5 GW (upper end 8 GW) by 2030, requiring at least 750 MW of new DSPV per year and corresponding to a financing need of US$3.8 billion (upper end US$6.8 billion). Most of these investments will come from local renewable energy developers, consumers, and financial institutions. The government of Türkiye has requested the proposed Program-for-Results (the 'Program') as an important channel of climate finance for scaling-up renewable energy in line with the NEP, demonstrating business models that can succeed without need for capital subsidies. The proposed operation directly contributes to NEP implementation, including by helping unlock about 20 percent of solar capacity in the DSPV market (963 MW), over five years from 2024 to 2029. Table A4.1 presents the alignment of the proposed PforR with the government program.

5. **Moving to a fully-fledged commercial market for DER will require an incremental and phased approach, characterized by strong public support in the early days.** The figure below shows the key stages of such market transition, with the proposed Program targeting stage 1 and stage 2 for DSPV, in addition to piloting distributed battery energy storage systems (BESS). The Program will use Türkiye's two leading development banks, Industrial Development Bank of Türkiye (*Türkiye Sınai Kalkınma Bankası*, TSKB) and Development and Investment Bank of Türkiye (*Türkiye Kalkınma ve Yatırım Bankası*, TKYB), as Program Implementing Agencies (PIAs). For DSPV stage 1, the Program will leverage the PIAs' technical and fiduciary experience to have a demonstrative effect and provide dedicated financing for DSPV. In stage 2, the PIAs will establish a facility to lend to select firms (e.g., commercial banks, leasing companies, distribution companies)

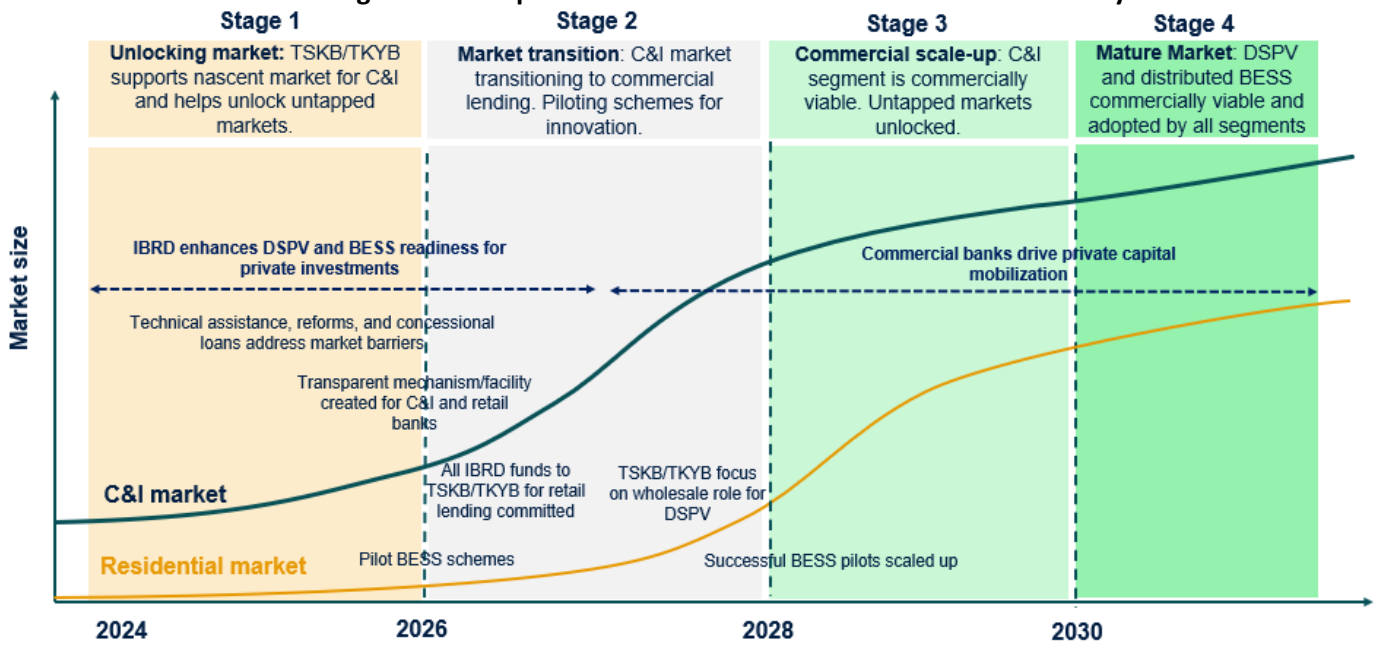
[23] In this annex, 'Program' (with an uppercase 'P') refers to the PforR, while the ECARES Program is referred to as the MPA where a distinction is needed. The word 'program' (with a lowercase 'p') refers to the government program which the PforR supports. This PforR was formerly titled 'Scaling-Up Distributed Solar PV' at concept and quality enhancement reviews (QER) stages.

as Facility Borrowers (FBs) to receive funds on-lent by the PIAs. This will enlarge the financing market for DSPV as the development banks transfer their technical and financial knowledge to other financiers operating in a market that most commercial banks are as yet unable or unwilling to tap with expected PCE of US$400 million. Subsequent phases (beyond the current operation) are expected to involve substantially less public or concessional support, with commercial financing growing until the market achieves full maturity.

Table A4.1. Alignment of Accelerating the Market Transition for Distributed Energy PforR with the government program

	Government program	PforR	Reasons for PforR Focus
Objective	2022 NEP targets 32.9 GW PV, 2.1 GW battery (assuming 2-hour charge duration) and 900 MW demand-side response by 2030 to meet 4.1% annual average growth in electricity demand growth	Expand the DSPV energy market and pilot distributed battery storage	Focus only on the subset of DER market
Duration	2022 NEP sets target for 2025, 2030 and 2035 on a path to net-zero emissions by 2053	2024–2029	PforR duration is from 2024 to 2029 while the NEP targets are up to 2035.
Geographic coverage	Nationwide	Nationwide	
Results areas	'Installed power capacity based on solar energy (MW) to achieve 52.9 GW by 2035' Update of the legislation governing unlicensed electricity generation and BESS	Specific focus on DER.	The PforR is a sub-set of the government program focusing on distributed solar and BESS.
Overall financing	Approximately US$22 billion to scale up from 10 GW to 52.9 GW for solar PV, of which about US$4–7 billion for DSPV.	US$1.01 billion	The PforR intends to finance a subset of GoT's NEP by focusing on DSPV and BESS.

Figure A4.1. Expected DSPV and BESS Market Transition in Türkiye



6. **The proposed Program will help create a large market for commercial financing of DSPV to support Türkiye's energy security and accelerate decarbonization.** It will leverage private sector financing to tap into the commercial and industrial (C&I) segment—the most financially viable segment—and have a demonstrational effect to anchor the development of the broader DSPV market. Supporting C&I clients will help develop the broader distributed solar generation ecosystem to lower overall costs and make the most challenging market segments viable as a customer base. It will also provide a premium to early movers who are taking the current market risk. In this context, the proposed financing structure will be instrumental for commercial banks and leasing companies to enter the market and meet emerging demands of small and medium enterprise (SMEs).

7. **The Program has clear financial and timebound delineation between the two stages and the role of TSKB/TKYB**. The transition from Stage 1 to Stage 2 will occur midway through the Program implementation period in accordance with dated covenants as captured in the legal agreements. The amounts for Stages 1 and 2 are independent and capped by the relevant DLI allocations. This achieves a balance between supporting and not distorting a nascent market. Stage 1 sub-loans will need to be signed within the first 24 months from Effective Date. Each PIA will prepare and adopt a Program Operation Manual (POM) as a condition of effectiveness, and together a common Facility Operation Manual (FOM) for Stage 2 within 24 months of the Effective Date. Bank staff will support the PIAs to prepare the POM and FOM specifying Program rules and details that are acceptable to the Bank, including clear criteria for sub-projects and participating sub-borrowers (see paragraphs below).

Program Development Objective and Theory of Change

8. **The proposed Program Development Objective (PDO) is to expand Türkiye's DSPV market and pilot distributed battery electricity storage to increase renewable energy.**[24] The project theory of change (Figure A4.1) constitutes a sub-set of the ECARES MPA's overall program framework. PDO indicators (Annex 2) will in turn contribute to the MPA indicators. By scaling-up a commercial market for DER and leveraging private sector resources, the proposed Program will support Türkiye's energy security and accelerate the transition towards clean energy. Each unit of power generated by DSPV will displace fossil gas generation (mostly imported), thereby advancing the country's decarbonization agenda while also supporting macroeconomic stability and energy independence. Disbursement-Linked Indicators (DLIs) (Annex 2) cover two results areas: the first is linked to the investments to scale up DSPV; the second targets financing barriers and innovation. The design is further summarized below, with details provided in the PTAD.

9. **The Program will focus on two results areas**. **Results Area 1 (RLA1) - Scaling-up distributed solar photovoltaic (DSPV)** will support the installation of grid-connected DSPV systems with sub-loans directly from the PIAs. These could include rooftop and ground-mounted facilities, as well as newer technologies such as façade PVs and floating PV. The systems installed will be primarily for self-consumption[25] and any grid connection would be at distribution level (36 kV or below). This results area targets the C&I market segments, which are essential to create the broader market ecosystem for DSPV. Eligible sub-borrowers may include any private entity that consumes grid electricity and private entities that own, operate, and maintain DSPV systems (individually or in aggregate) on behalf or in partnership with grid electricity consumers.

10. **Results Area 2 (RLA2) - Expanding the market and promoting innovation for distributed energy including battery energy storage systems ("BESS")** will help unlock commercial financing at scale for DSPV. Under this results area, (i) the two PIAs will set up a facility for eligible institutions (facility borrowers [FBs]) selected transparently and competitively, (ii) these institutions will finance DSPV projects of the same type as RLA1, in combination with their own co-financing. A

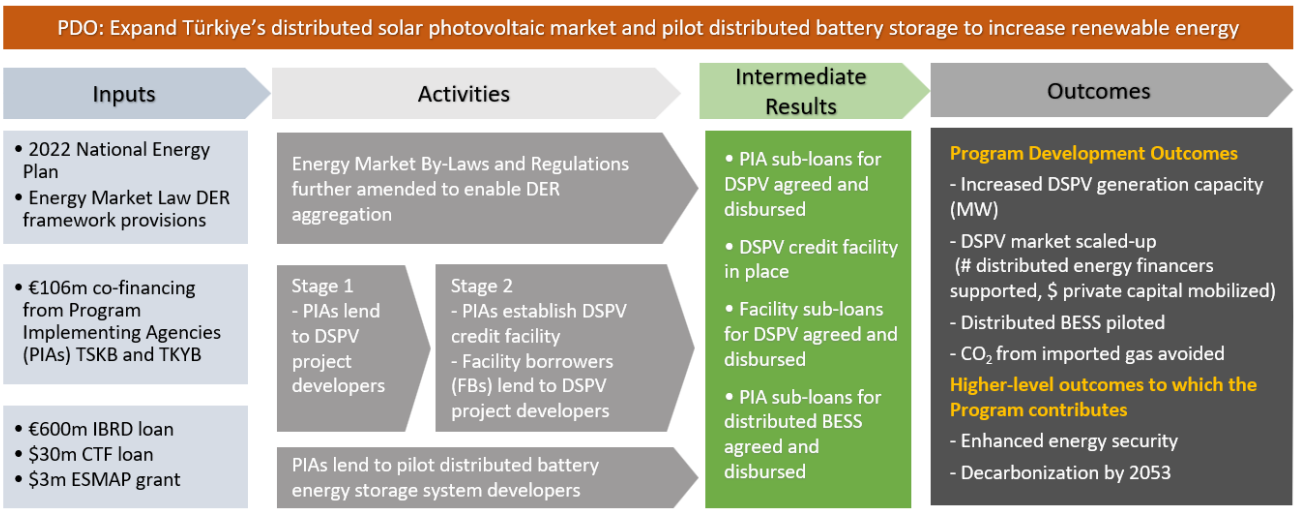
[24] For evaluation purposes, the two key expected outcomes of (i) DSPV market expanded and (ii) distributed battery electricity storage piloted, are weighted at 85 and 15 percent respectively.

[25] Only distributed PV subprojects that qualify for 'unlicensed' electricity production pursuant to the 'Unlicensed Electricity in the Electricity Market Production Regulation' published in the official gazette No. 30772 dated May 12, 2019, and its subsequent amendments, will be eligible for financing under the Program.

proposed recipient-executed grant of US$3 million from ESMAP will support development of the FOM including terms of reference for awareness raising and training provided to potential and selected FBs. This training and capacity building will support the Government's intent to have the private sector lead the financing for DSPV, thereby Maximizing Finance for Development (MFD).

11. **RLA2 will also support innovation for BESS.** A Clean Technology Fund (CTF) US$30 million loan will support BESS investments financed by the PIAs, having an important demonstrational effect for the market and the broader banking industry. Eligible sub-borrowers for battery storage may include private grid electricity consumers, distribution companies, or third parties such as renewable developers and aggregators.

Figure A4.1. Theory of Change of the Türkiye Program-for-Results



Appraisal Summary

12. **The PforR will finance technically proven, mature, widely marketed clean energy technologies (solar PV and lithium-ion battery storage).** A detailed list of eligible technologies is included in the PTAD and will be included in the POM. PV already has a long track record in Türkiye whereas experience with BESS installation is less common. However, BESS technologies are already mature in the international market, with a variety of international suppliers and integrators that can offer solutions. Many ECA countries are considering such technologies. TSKB and TKYB have strong initial pipelines of DSPV subprojects for C&I customers. Preliminary subproject pipeline estimates obtained from the borrowers indicate that there are about 55 subprojects, equivalent to almost 1 GW of DSPV. Both PIAs' pipelines include rooftop solar and ground-mounted installations. Eligible subprojects are limited to specific categories under Türkiye's regulation on unlicensed electricity generation, focused on those that offset annual electricity consumption of host facilities. Additional power fed to the grid, if any, will be at distribution level only (36 kV or below). For storage subprojects, the preliminary pipeline includes about 70 MW of subprojects, all of ground mounted type across different locations in Türkiye. To this end, the CTF concessional financing will be vital to scale up distributed BESS subprojects in coming years. At the current stage, this is a preliminary set of subprojects and final investment decision to finance a project will depend on detailed due diligence that will be carried out according to the criteria mentioned in the main text.

13. Paris Alignment. The project is consistent with the countries' decarbonization pathways and aligned with the goals of the Paris Agreement on both mitigation and adaptation. This program is consistent with Türkiye's climate action policies outlined in its NDC, CCDR, National Climate Change Adaptation Strategy and Action Plan (NAP) (2011) and Türkiye's 12th Development Plan 2024-2028. Specifically, and in line with Türkiye's NDC and CCDR, this operation champions

renewable energy by supporting distributed solar PV market expansion, thereby contributing to renewable energy and Türkiye's decarbonization pathway. The Program activities do not pose a material risk of having a negative impact on the countries' low-GHG-emissions development pathway given its contribution to the implementation of its NDC climate policies that aim to reduce 41 percent of the country's GHG emissions by 2030. Both DSPV and distributed BESS installations are under the 'universally aligned list' based on the 'Sector Note for Energy and Extractives. Therefore, the proposed operation is aligned with mitigation goals of the Paris Agreement. Regarding adaptation, the project is in line with the NAP by balancing risk reduction and renewable energy development in the country. Based on the climate and disaster risk screening conducted for this program, subproject locations may be exposed to extreme temperatures, extreme precipitation, and geophysical hazards and the potential risks of climate change to the program's components were found to be moderate. However, technical screening and eligibility criteria for sub-loans will consider such risks and require investment designs and equipment to meet appropriate standards. Such criteria will be specified in the POM which is an effectiveness condition. For example, buildings to install renewable energy and BESS will be selected based on a screening for potential flood and geophysical risks. Any buildings at high risk will be excluded from the Program. Such measures will reduce the Program's residual adaptation risk to an acceptable level, and thus align it with the adaptation goals of the Paris Agreement.

14. Program Expenditure. The proposed Program expenditure is US$1.01 billion. The Program expenditures will occur when PIAs disburse sub-loans directly or through FBs, which will be subject to their due diligence and approval processes. The Program Expenditure Framework is considered adequate to achieve the goal of the Program, in line with costs estimates of underpinning relevant investments in Türkiye and general practices from the PIAs. Through such expenditures, the Program will support TSKB, TKYB and the broader industry by mainstreaming green financing and increasing capacity to deliver new financial products for DER, thereby ensuring the program long-term sustainability. Table A4.2 shows the Program Expenditure Framework.

Table A4.2. Program Expenditure Framework (US$ million)

	Y1	Y2	Y3	Y4	Y5	Total
Sub loans and equity for DSVP under TSKB	96.2	180.3	109.8	78.9	22.3	487.5
Sub loans and equity for BESS under TSKB	0.1	0.0	3.5	8.8	5.3	17.6
Subtotal TSKB	**96.3**	**180.3**	**113.3**	**87.7**	**27.5**	**505.2**
Sub loans and equity for DSVP under TYKB	96.2	180.3	109.8	78.9	22.3	487.7
Sub loans and equity for BESS under TYKB	0.1	0.0	3.5	8.8	5.3	17.6
Subtotal TKYB	**96.3**	**180.3**	**113.3**	**87.7**	**27.5**	**505.2**
Technical Assistance and program management	0.5	3.5	0.5	0.5	0.0	5.0
Total	**193.1**	**364.2**	**227.1**	**175.9**	**55.1**	**1015.5**

15. **Fiduciary Assessment**. TSKB and TKYB will provide loans to eligible private sector sub-borrowers for the procurement of goods, works, and consultant services related to DSPV and BESS systems. The private sector sub-borrowers will handle most of the procurement activities, following established commercial practices. This includes procuring goods such as PV panels, inverters, cabling, transformers, and SCADA systems, as well as works contracts for construction, electrical works, and installation. Consultant services may involve engineering design, feasibility studies, and obtaining necessary permits. The procurement process in the private sector focuses on market analysis, negotiations, and establishing long-term relationships with providers to achieve value for money. The PIAs, TSKB and TKYB, will have limited procurement responsibilities, mainly hiring consultants. The existing financial management and procurement systems of the PIAs and eligible private sector sub-borrowers are deemed adequate. Some additional measures are specified in the Program Action Plan (PAP), provided below, and to be further reflected in the POM, to manage moderate fiduciary risk, including anti-corruption guidelines, grievance mechanisms, and provisions against forced labor. The borrower will include provisions in sub-loan agreements that require that neither the sub-borrowers nor their solar panel suppliers have or will have engaged in forced labor. *Disbursement arrangements*. After the World Bank formally considers the DLI met, the PIAs can then submit withdrawal applications for the disbursement of the relevant amount. Advances of up to 25 percent of

total IBRD financing, or US$150 million, will be made to the PIAs to ensure they have enough funds to commit to an initial set of sub-loans. This will also allow them to solidify the pipeline of projects and have an immediate demonstrational effect. Without such advances, PIAs won't have enough funding at scale to dedicated to DER. When the DLI(s) against which an advance has been disbursed is(are) achieved, the amount of the advance will be recovered from the total amount due to be disbursed under such DLIs.

16. **Environmental & Social (E&S)**. The PforR which constitute Phase 1 of the ECARES MPA shall have positive E&S impacts, such as reduction in local pollutants and GHG emissions, and improved access to renewable energy sources. The World Bank has prepared an Environmental and Social Systems Assessment (ESSA) to assess the adequacy of the E&S systems of the PIAs—TSKB and TKYB. The ESSA specifically assessed the E&S institutional and regulatory framework, and systems relevant to results areas under the Program, to effectively manage the above-identified E&S risks and adverse impacts. The ESSA also assessed TKYB's and TSKB's ESMSs. The ESSA found that implementing agencies have adequate systems to manage E&S impacts of the Program. The legally binding PAP, provided below, serves to strengthen these existing systems and ensure regular E&S performance monitoring and staffing to support E&S risk management. To further strengthen outreach under the program, participating implementing agencies will seek feedback collection for selected subprojects to improve future subproject investments. The ESSA has been disclosed on December 5th in English and Turkish[26] languages with consultations on December 11th and 13th, 2023. Internal and external stakeholder engagement and consultations took place throughout the ESSA preparation process. The Program will build on the lessons of other similar World Bank-financed projects and use other relevant measures, such as the POM, to mainstream environmentally and socially friendly practices in the Program.

17. **Gender.** While Türkiye's Women's Financial Inclusion (WFI) progress is notable, an estimated 35 percent of women do not have bank accounts as of 2021. Social norms play an important role in influencing men's and women's attitudes toward WFI in Türkiye and in understanding some of the barriers faced. Female entrepreneurs and already established women's businesses in Türkiye also face significant financial obstacles. In Türkiye, many more women than men report that access to finance represents a barrier to starting a business[27]. Indeed, it is estimated that women-led SMEs in Türkiye face a US$400 million financing gap. Additionally, in Türkiye, collateral is required more often for women-led businesses than for businesses managed by a man. About 58 percent of loans to businesses led by women require collateral whereas only 38 percent of loans to businesses managed by men require collateral. Lack of awareness and training about financial services can be a constraint for women-owned firms. Financial inclusion is a key enabler to reducing poverty and boosting prosperity. It means that individuals and businesses have access to useful and affordable financial services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way[28]. To become more active and confident participants in the financial sector need awareness, understanding, and knowledge about various financial opportunities [29].

18. In response to these gender-based disparities in economic opportunities and access to finance, the Program will: (i) survey a sample of existing and/or prospective client firms (DSPV developers and/or financiers) that have representative characteristics of Program participants, in order to ascertain the share that are gender-inclusive (based on qualifying criteria detailed below) and the extent to which they have participated in awareness raising or training activies on gender inclusion; (ii) target gender-inclusive firms for prospective Stage 1 sub-borrowers and Stage 2 facility borrowers in outreach campaigns and activities to raise awareness about financing options for DSPV investments; (iii) for each DSPV sub-borrower and facility-borrower, assess whether they qualify as gender-inclusive to report in year 1, mid-term and at program closure; and (iv) include training on gender-inclusion in capacity building activities for facility borrowers, with a curriculum to be detailed in the FOM. Through the PIAs, sub-borrower energy companies will also be invited to join the

[26] Respectively http://wrld.bg/qTsa50QfZcY and http://wrld.bg/nt3Q50QfZg5
[27] See forthcoming World Bank Group Systematic Country Diagnostic (SCD) for Türkiye.
[28] https://www.worldbank.org/en/topic/financialinclusion/overview
[29] https://documents1.worldbank.org/curated/en/901211472719528753/pdf/108104-BRI-FinancialEducationProgramsandStrategies-PUBLIC.pdf

Women's Empowerment in Sustainable Energy in Europe and Central Asia (WeSEE) network[30].To measure progress on the impact of these measures, the proposed indicator is 'Institutions receiving DSPV Sub-Loans or Facility Loans that are gender-inclusive (number)', with a baseline value of zero; and end target value of ten (10) by Program closing. The PIAs will identify which firms qualify as gender-inclusive based on available information or surveys as needed to fill information gaps. To qualify, a firm must meet at least one of the following criteria, either: (i) the firm has in place a gender inclusion policy and/or action plan; or (ii) at least one C-level manager is a woman; or (iii) at least 25 percent of mid-level managers are women; or (iv) the share of women employees among total employees has increased by at least 5 percent compared to the share three years earlier. Details to implement the above will be elaborated in the POMs.

19. **Key Risks. The overall risk rating of the proposed operation is considered Moderate, with all risk categories moderate except for macroeconomic risk, which is considered substantial.** Key macroeconomic risks to the project include (a) any further significant depreciation of the currency and high inflation could raise the construction cost and foreign exchange risk faced by project developers; and (b) supply-side constraints due to a spike in imported intermediate goods and equipment price and as a result of the elevated pricing uncertainty could lead to delays in project implementation; and (c) geopolitical tensions in the region adversely affecting commodity and energy prices and causing a slowdown in the EU and other major markets also represent risks to the project. The PIAs have strong internal risk-based control systems and are well-placed to manage the Program and macroeconomic shocks. The World Bank will also continue to monitor macro-financial risk, engage with the authorities on economic policies, and offer technical assistance as requested by the Government.

20. **Program Action Plan**. Table A4.3. presents the Program Action Plan, which will be reflected in the POMs.

[30] WeSEE is a regional initiative to strengthen women's employment in the energy sector in Europe and Central Asia (ECA) countries. The objective of the network is to understand better women's roles in the energy sector and their transition from school to work, to support the establishment of a network of partners that promote workforce participation of women in energy sector institutions, and to facilitate recommendations and actions for a safe and more inclusive work environment.

Table A4.3. Program Action Plan for Accelerating the Market Transition for Distributed Energy Program-for-Results

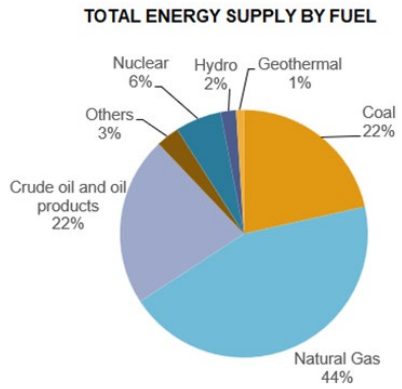
Action Description	Source	DLI#	Responsibility	Timing		Completion Measurement
Appoint and maintain competent environmental and social (E&S) staff to support Program implementation	Environmental and Social Systems	NA	TSKB and TKYB individually	Other	No later than 30 days after the Effective Date	Each of TSKB and TKYB maintain required E&S staffing during Program implementation
Facilitate dialogue toward the development and implementation of an industry solar PV panel recycling approach as described in the ESSA	Environmental and Social Systems	NA	TSKB and TKYB in coordination	Other	During Program implementation and before closing.	Program Reports describe support provided to develop and implement a solar PV panel recycling approach.
Have the Program audited in line with Bank requirements	Fiduciary Systems	NA	TSKB and TKYB individually	Other	At the time of engagement of auditors (before the end of related reporting period).	TSKB and TKYB have each issued an auditor's engagement letter that includes Program auditing requirements.
Increase eligible institutions' awareness of and capacity to participate in the credit facility for DSPV Subprojects under Results Area 2	Technical	NA	TSKB and TKYB in coordination	Other	Awareness and outreach delivered by March 2027 and training curriculum by March 2028	Results reports by TSKB and/or TKYB document full delivery of awareness, outreach and training to enumerated potential and/or selected Facility Borrowers in accordance with

						Terms of Reference specified in the POM.
Integrate Program budgeting, accounting and recording into the existing systems to facilitate monitoring and reporting of Program funds and expenditures	Fiduciary Systems	NA	TSKB and TKYB individually	Other	Prior to effectiveness of the IBRD loans and maintained during Program implementation. (The timing for this action is indicative and is not a condition for effectiveness of the loans.)	TSKB and TKYB's systems have each integrated a protocol for the Program, as demonstrated in the first and all subsequent Program Reports that TSKB and TKYB respectively furnish to the Bank.
Report on Environmental and Social (E&S) eligibility for each candidate Stage 2 DSPV Facility Borrower (FB)	Environmental and Social Systems	NA	TSKB and TKYB individually	Other	Before signing loan agreement with FBs	Submission by each of TSKB and TKYB to the Bank of the respective E&S eligibility report for each FB

ANNEX 5. ECA Energy Sector Context

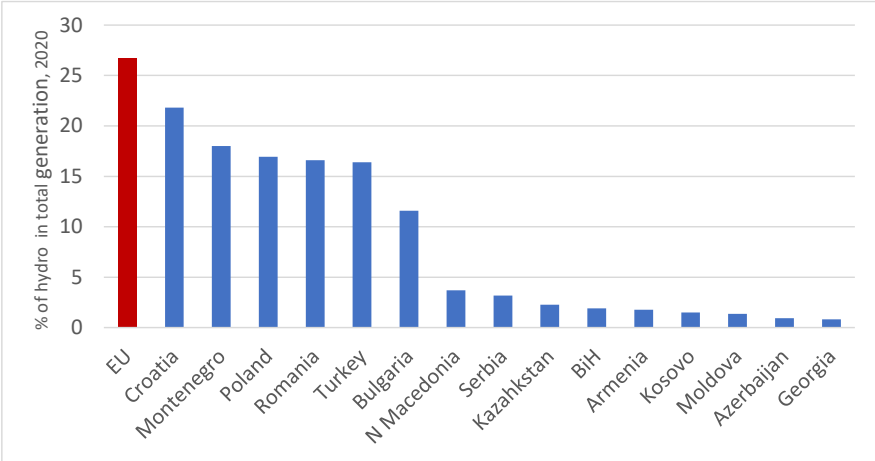
1. **Most countries in the ECA region have elevated scale-up renewable energy among their top priorities as a way to meet climate goals and increase energy security and resilience for their power systems.** Installed renewable capacity in the ECA region stands at around 200 GW, of which more than 50 percent is hydropower. The potential for renewable energy deployment is large, but progress over the past five years fell below expectations. Progress on renewable energy development has also varied greatly across the region: Türkiye, Poland, Ukraine and Romania have achieved significant progress in scaling up renewables. Türkiye has also announced one of the most ambitious plans globally to install 60 GW of generation capacity in renewable energy by 2035. Ukraine has given a prominent role to renewables in the recent energy strategy, aiming to add more than 15.0 GW by 2030. However, renewable capacity additions in other countries in ECA have been much slower. Less than 500 MW solar and wind capacity was added in the Western Balkans and only around 2.5 GW in the Caucasus and Central Asian countries over the last five years. Analysis conducted for the forthcoming ECA Energy Futures World Bank report suggests that renewable energy capacity needs to grow by nearly 40 percent by 2030 to reach the ambitious climate targets of the countries in the region. CCDR analysis for ECA shows massive renewable capacity increase needs also beyond 2030 – 153 GW (4-fold increase from current capacity) in Türkiye; 177 GW (45-fold increase) in Kazakhstan; 36 GW (37-fold increase) in Azerbaijan; 43 GW (5-fold increase) in Romania. Investment needs for upgrading and expanding transmission and distribution infrastructure are also substantial. Figures A5.1 through A5.8 below present the overall context of the energy mix in key ECA countries and evolution over recent years.

Figure A5.1. ECA's energy supply and demand profile



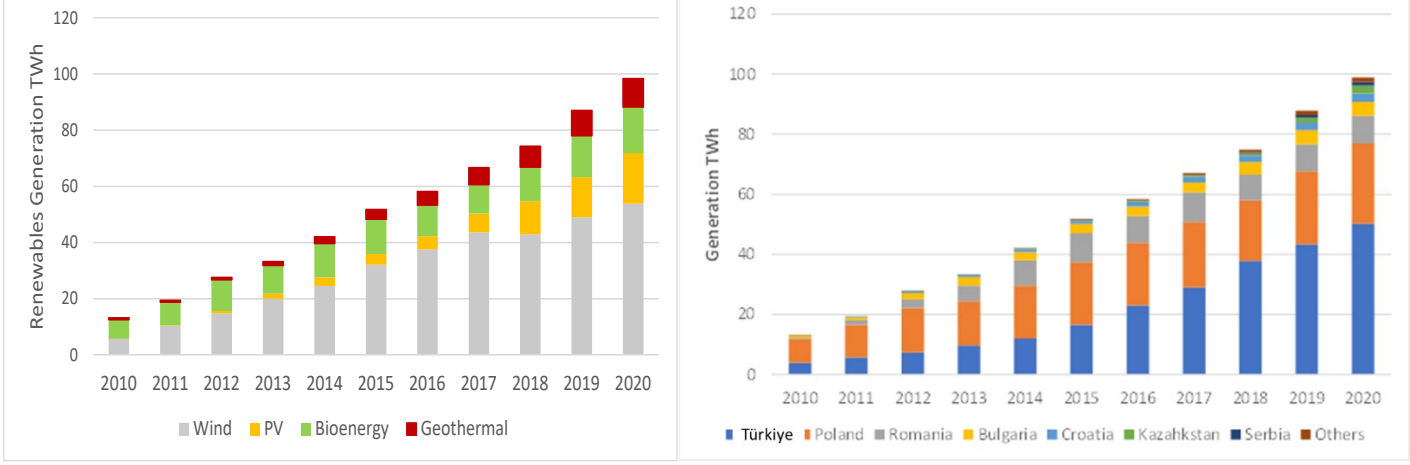
Note. 'Others' include biomass and other renewables such as solar PV and wind.
Source. IEA (2020). Energy Balance Data.

Figure A5.2: Shares of non-hydro renewables in generation, 2020



Source: IEA 2023.

Figure A5.3: Generation from non-hydro renewables in ECA countries, by technology and country, 2010 - 2020



Source: IEA 2023.

Figure A5.4: Hydro and wind generation for ECA countries, 2020

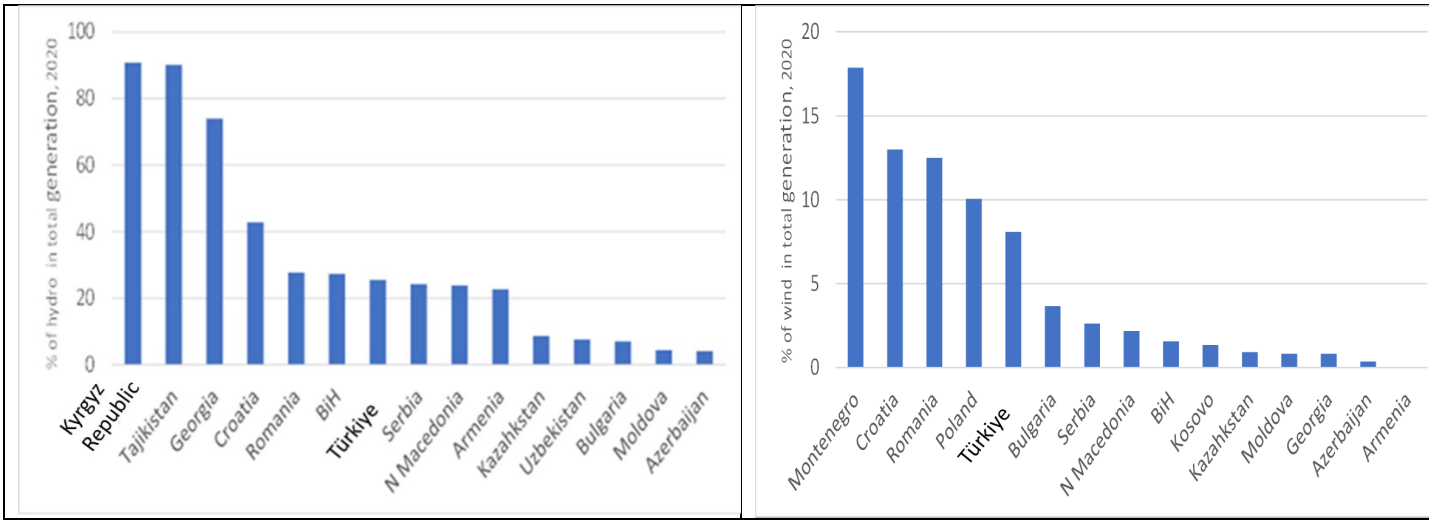
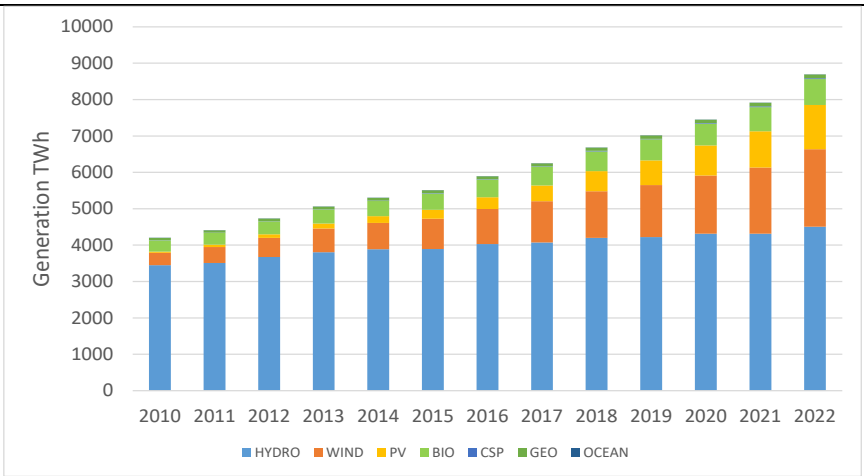
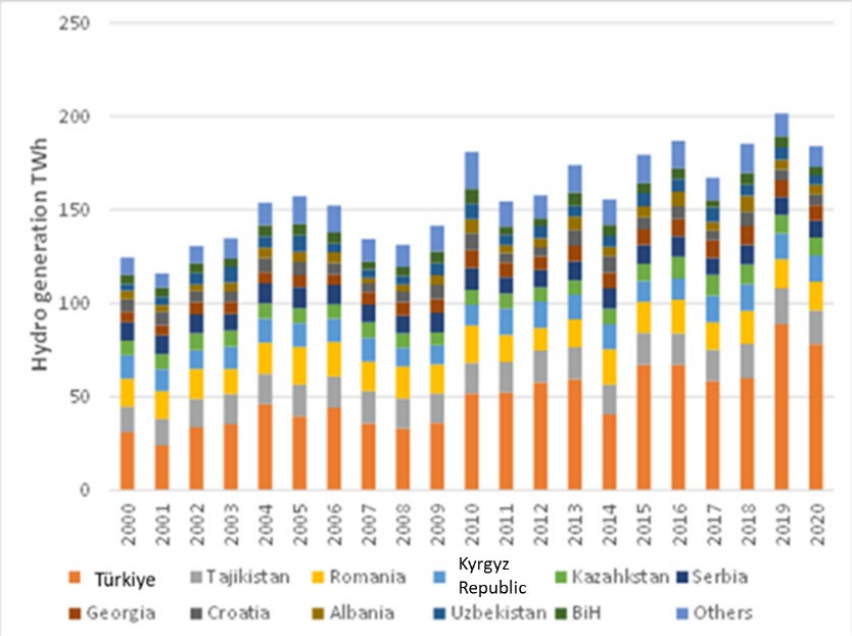


Figure A5.5: Global Renewables Electricity Generation, 2010 - 2022



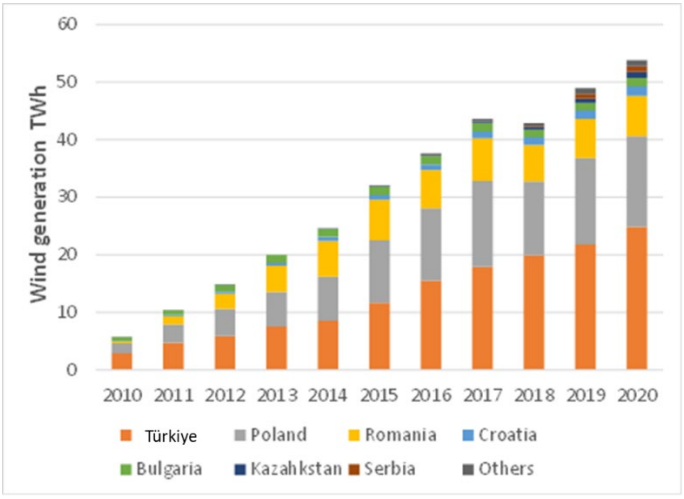
Source: IEA 2023.

Figure A5.6: Generation from hydro in ECA countries and percentage of hydro in total generation, 2010 - 2020



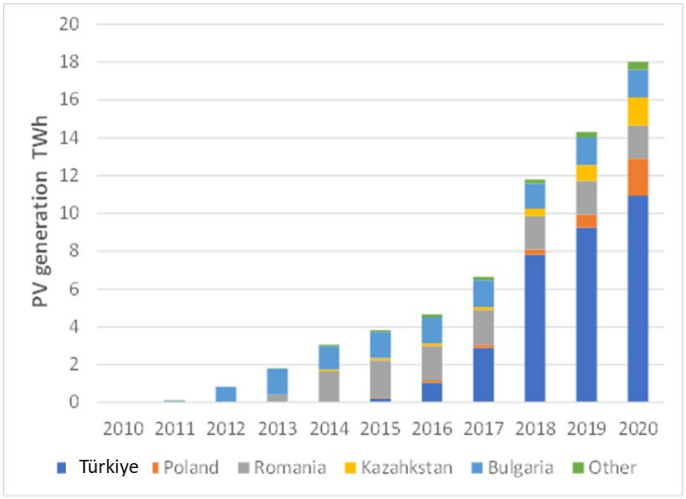
Source: IEA 2023.

Figure A5.7: Wind - generation and share of generation, 2010 – 2020



Source: IEA 2023.

Figure A5.8: Generation from solar PV in ECA countries, 2010 – 2020



Source: IEA 2023

2. **ECA countries are struggling to overcome policy, regulatory and institutional barriers that are slowing their power sector transition. Achieving the region's objective to rapidly scale up renewable energy calls for renewed efforts to address key constraints.** For most countries in ECA, further efforts are required to reform energy State-Owned Enterprises (SOEs), improve independence of regulators and sectoral governance, ensure financial sustainability of the sector and foster sound off-takers for renewable energy generation. While most ECA countries have begun serious efforts to develop a policy framework for renewables scale-up, these must be stepped up if ECA countries are to meet their climate objectives, as outlined in a recent market sounding study conducted by the Bank, building on World Bank's Regulatory Indicators for Sustainable Energy (RISE). See figure A5.9. Improvements across ECA are further necessary across a broad range of areas such as counterparty risk, incentives and regulatory support for renewables and carbon pricing. Government capacity is typically low in many countries, which makes a strong case for regional collaboration (e.g., for data management and planning, synergy in procurement, financial management, and knowledge sharing). While some of the barriers are common to all countries, RISE indicators (see table below) and a recent market sounding study for ECA countries reveals differences across the ECA region:

3. ***In Central Asian countries,*** power market reforms are still at an early stage, with limited progress in establishing liberalized energy markets with sound regulatory frameworks. Sound power system planning, and competitive auction schemes are required to bring down the costs, guarantee off take and grid access, and establish a scheme (either through tariffs or subsidies) to pay for the incremental costs of renewable energy generation at the initial stage (when renewables have not reached economies of scale, prevailing tariffs are not cost reflective and/or offtakers are financially weak, and perceived risks may lead to high financial costs). Land and grid access, as well as permitting process also remain substantial challenges.

4. ***In South Caucasus countries***, implementing agreed projects and translating targets into installed capacity have been slow, often due to limited execution capacity in key government counterparts and lengthy regulatory processes. Auctioning mechanisms for grid-scale projects have been introduced in Armenia and Georgia and both countries are transitioning to contracts-for-differences to promote wholesale market-integration, but in both countries the first projects selected through these schemes have yet to come online.

5. ***In Ukraine and Moldova***, renewable energy has clear economic and energy security advantages to replace domestic coal (only in Ukraine) and imported gas, but reducing cost, enhancing fiscal sustainability and consumer affordability remain challenging.

6. ***In the Western Balkans***, incentive schemes to support renewables development are seen as insufficient.

Figure A5.9: RISE Scores by Indicator for ECA Countries

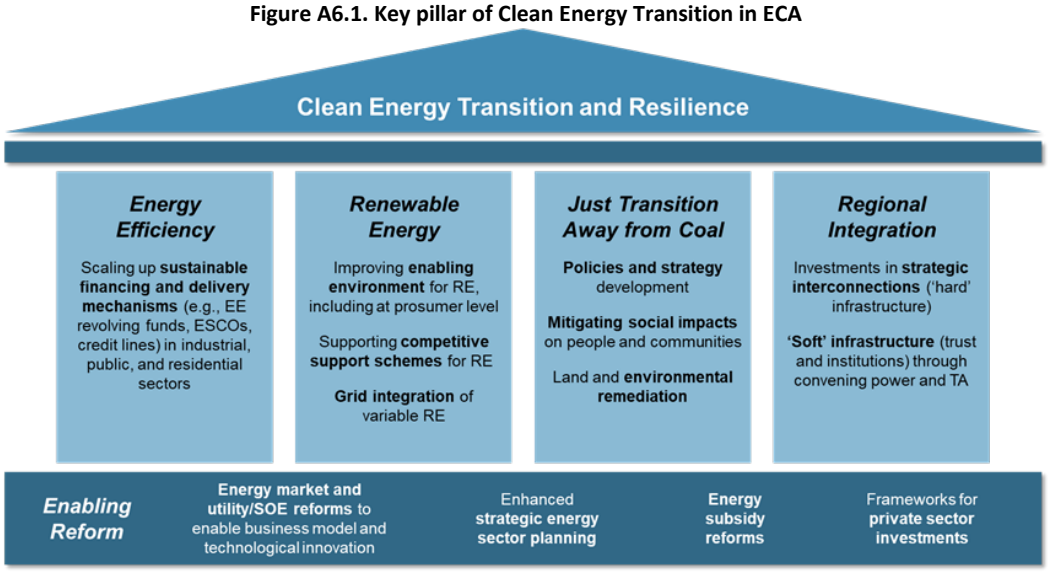
Country	Overall score	Indicator 1	Indicator 2	Indicator 3	Indicator 4	Indicator 5	Indicator 6	Indicator 7
Croatia	66	100	75	47	43	70	75	50
Montenegro	46	100	75	31	33	39	42	0
Poland	53	100	65	42	0	23	40	100
Romania	75	100	95	60	17	93	58	100
Turkey	78	100	95	54	90	82	74	50
Bulgaria	79	100	75	89	25	88	78	100
N Macedonia	43	80	55	23	27	24	42	50
Serbia	56	80	90	70	50	52	53	0
Kazahkstan	57	60	40	29	37	64	66	100
BiH	53	80	65	54	33	31	58	50
Armenia	64	80	80	65	80	30	63	50
Kosovo	44	80	80	50	25	32	42	0
Moldova	63	60	60	35	100	60	25	100
Azerbaijan	27	80	70	0	8	6	25	0
Georgia	28	80	45	15	8	17	31	0
Albania	51	80	45	53	37	59	35	50
Kyrgyz Republic	34	40	5	21	37	47	40	50
Tajikistan	26	40	30	13	0	29	23	50
Turkmenistan	10	20	0	0	10	27	17	0
Uzbekistan	36	100	45	8	0	26	21	50

Key: RISE Indicators 1: Legal framework for renewable energy; 2: Planning for renewable energy expansion. 3: Incentives and regulatory support for renewables; 4. Attributes of financial and regulatory incentives; 5. Network connection and use; 6. Counterparty risk; 7. Carbon pricing and monitoring

ANNEX 6: World Bank's energy sector engagement in the ECA region

1. **The World Bank engagement in the electricity sector in ECA is supporting Governments to deliver affordable, reliable, sustainable, and modern energy services for all in the region.** To achieve the same overarching objectives, the World Bank supports Governments through a variety of interventions and financing instruments both at country and regional levels, using a blend of horizontal and vertical MPAs, complemented with individual IPFs, PforRs and DPOs as needed, while capitalizing on the opportunities and available tools offered by the one World Bank Group. The engagements are closely coordinated with IFC and MIGA, who are analytically contributing to medium-term energy sector reform and investment plans and help attract private sector across the energy sector value chain, especially in generation. The energy engagement on clean energy transition strategy in ECA is structured along four pillars in most countries: energy efficiency, renewable energy, just transition and regional integrations (figure A6.1).

Figure A6.1. Key pillar of Clean Energy Transition in ECA



2. The focus of the engagement is adapted to the priorities of each the sub-region:

(a) **Eastern Europe.** In Eastern Europe (Ukraine and Moldova) Bank support was focused on supporting the liberalization of the energy sector, investment in transmission, energy efficiency, district heating and large hydro and battery storage investments as well as for the development of strategies for renewables. More recently, the support has focused on restoration efforts in Ukraine and continuation of the support to reforms (including social protection to vulnerable consumers), district heating and energy efficiency in Moldova. Also, the Bank is working with IFC and MIGA on an ambitious program to scale up renewables during the reconstruction phase.

(b) **South Caucasus**. The World Bank, IFC, and MIGA are providing joint support to private sector-led renewable energy development in the South Caucasus. In Georgia, the World Bank advised the government in coordination with IFC on a new auction-based renewable energy support scheme and is now providing advisory support for its implementation and the development of other sector reforms. In terms of investment, since 2011, IFC and MIGA have provided more than US$250 million in financing for renewable energy in Georgia, focused on hydropower. In Armenia, the World Bank has been supporting the government in improving the financial viability of the power sector and de-risking investments, including by providing TA to the country's first competitive renewable energy auction in 2018. In terms of investment, since 2015, IFC has provided about US$190 million in financing for renewable energy in Armenia, including for the first utility-scale solar PV project (Masrik-1) that is under construction. In Azerbaijan, a World Bank

Group-wide engagement supported an offshore wind resource assessment and the development of an offshore wind roadmap that was completed in 2022. The next phase of the engagement is under discussion with the government which includes World Bank support to building enabling infrastructure for offshore wind energy use developed by the private sector.

(c) **In the EU, the World Bank is providing timely support to selected countries to overcome the energy crisis while increasing energy security and accelerating progress towards their ambitious decarbonization targets**. In the aftermath of the recent energy crisis, the European Commission launched the REPower EU plan, a comprehensive and ambitious plan to accelerate the implementation of energy security strategies and limit the dependence on fossil fuels. The WB's engagement was decisive to define the national REPower EU plans in Romania and Bulgaria, identifying high-impact areas of opportunity to ensure energy supply in the short and midterm, and accelerate the energy transition while reducing dependency from fuel imports in the medium-to-longer term. As part of this dialogue, the Bank is currently implementing a EUR3 m RAS to support the development of geothermal energy in Bulgaria and may further engage with different instruments in this agenda. In Romania, the WB is supporting the design of a new legal framework for offshore wind and the regulatory framework for green hydrogen and hydrogen-ready CCGT (Combined Cycle Gas Turbine) with CCU (Carbon Capture Utilization)/CCUS (Carbon Capture Utilization and Storage), and is discussing further engagement in a RAS and other instruments for the evaluation of RE projects, development of sustainable heating from renewable resources, and implementation of the Modernization Fund. The comprehensive technical assistance and advisory services provided in the energy sector in Romania has translated into relevant decarbonization Prior Actions in the Romania Development Policy Loan (DPL) series (aggregated amount USD1,316.0 m) which entailed the *Romania Inclusive and Green Growth DPF (P178912, FY22)* and the *Romania Second Programmatic Inclusive and Green Growth Development Policy Loan (P179297, FY23)*, and the DPL in preparation *Romania Fiscal Management and Green Growth Development Policy Loan (P181517, FY25)*, with an anticipated amount of USD500.0 million.

(d) **In the Western Balkans Six (WB6) countries**, the World Bank is providing lending and programmatic ASA support for the design and implementation of medium- to long-term strategies to ensure energy security and resilience while meeting decarbonization and sustainability objectives. In five out of six countries, EE lending operations are active, with a recent shift from public building renovation projects to loans supporting clean energy investments in the residential sector. A regional CCDR is ongoing with energy modeling providing the analytical foundation for coal phase out, the preparation of lending for renewable energy scale up on idle mining land and repurposing of assets, as well as pipeline preparation of large projects (notably in the wind sector) to be auctioned to private developers. Regional integration with the EU energy market has gained prominence with the recent adoption of the electricity market integration package by the Energy Community and is supported by the World Bank in partnership with the Energy Community Secretariat and institutions such as ENSTO-E and ACER.

(e) **In Türkiye**, the World Bank has provided broad-based technical assistance and lending support towards building capacity in energy institutions, including to develop carbon markets and leverage private capital mobilization through financial intermediaries, as well as fostering RE development through grid strengthening and innovative distributed solar business models. In terms of energy efficiency, the World Bank has supported various TA activities, including identification of financing and implementation schemes for public buildings, assessment of waste heat and ground source heat pump potential, and development of the second National Energy Efficiency Action Plan (NEEAP), as well as lending to support energy efficiency in industry/SMEs and public buildings, with currently three ongoing operations that support energy efficiency and on-site renewable energy in public facilities.

(f) **In Central Asia,** the World Bank engagement provides comprehensive support both at country and regional level. At country level, efforts include supporting improvement in sector governance and financial viability through least cost planning, assessment of RE resources, supporting the implementation of best-practice tariff methodologies and progressive cost recovery, while protecting the vulnerable, including through technical assistance, DPOs and PforR instruments. Investments in clean energy resources towards increased energy security and affordability, have been

through hydropower modernization and development as well as Scaling Solar approaches (in Uzbekistan and forthcoming in Kyrgyz Republic), and energy efficiency initiatives (district heating, public buildings). Additionally, at the regional level, the Bank is supporting regional integration through the development of a power market, the financing of large interconnection infrastructure, and the promotion of clean generation assets that aim at supplying electricity to several countries.

MIGA PRODUCTS AND RENEWABLE ENGAGEMENT in ECA REGION

3. MIGA can offer products (insurance and guarantees) to cover various risks as follows:

(a) **CURRENCY INCONVERTIBILITY AND TRANSFER RESTRICTION (CITR).** Currency Inconvertibility and Transfer Restriction Coverage protects against (i) the inability to convert from local currency into guarantee currency, loan payments, dividends, profits, and proceeds from the disposal of the guaranteed investment, and (ii) host government actions that prevent the transfer of the guarantee currency outside the host country, including the failure of the government to grant an authorization for the conversion or the transfer of such currency. Compensation is based on the guaranteed percentage of any payments that cannot be converted or transferred.

(b) **EXPROPRIATION (EXP).** Expropriation Coverage protects against losses attributable to measures taken or approved by the host government that deprive the guarantee holder of its ownership or control over its investment, or in the case of debt, results in the project enterprise being unable to meet its obligations to the lender. Both direct and indirect (creeping) expropriation are covered. Compensation for equity is based on the guaranteed percentage of the net book value of the guaranteed investment in the project enterprise. For debt, compensation is based on the guaranteed percentage of the principal and interest that is in default as a result of expropriation.

(c) **WAR AND CIVIL DISTURBANCE (WCD).** War and Civil Disturbance Coverage protects against losses arising as a result of military action or civil disturbance in the host country, including sabotage and terrorism, that destroys or damages tangible assets of the project enterprise or interferes with its operations (business interruption), or, in the case of debt, results in the project enterprise being unable to meet its obligations to the lender. Compensation is based on the guaranteed percentage of the value of the assets destroyed or damaged or, in the case of business interruption, the net book value of the guaranteed equity investment. For debt, compensation is based on the guaranteed percentage of the principal and interest that is in default as a result of war and civil disturbance.

(d) **BREACH OF CONTRACT (BOC).** Breach of Contract Coverage protects against losses arising from a repudiation or breach by the host government of a contract entered with the guarantee holder, provided that a final and binding arbitration award or judicial decision has been rendered in favor of the guarantee holder and cannot be enforced against the host government. Compensation is based on the amount that the guarantee holder is entitled to recover from the host government in accordance with the terms of the arbitration award or judicial decision.[31]

(e) **NON- HONORING OF SOVEREIGN FINANCIAL OBLIGATIONS (NHSFO).** Non-Honoring of Sovereign Financial Obligation Coverage protects against losses resulting from a government's failure to make a payment when due under an unconditional financial payment obligation or guarantee given in favor of a project that otherwise meets all of MIGA's normal requirements. It does not require the investor to obtain an arbitral award. This coverage is applicable in situations when a sovereign's financial payment obligation is unconditional and not subject to defenses. Compensation is based on the amount that the guarantee holder is entitled to recover from the host government pursuant to the terms of the obligation.

(f) **NON-HONORING OF FINANCIAL OBLIGATION BY A STATE-OWNED ENTERPRISE (NHSOE).** Non-Honoring of Financial Obligation by a State-Owned Enterprise Coverage protects against losses resulting from a state-owned enterprise's failure to make

[31] MIGA's Convention provides for coverage under Breach of Contract in three different scenarios: (i) when the Guarantee Holder does not have recourse to a judicial or arbitral forum to determine the claim; (ii) a decision by such forum is not rendered within a reasonable period of time; or (iii) such a decision cannot be enforced.

a payment when due under an unconditional financial payment obligation or guarantee given in favor of a project that otherwise meets all of MIGA's normal requirements. It does not require the investor to obtain an arbitral award. This coverage is applicable in situations where the financial payment obligation is unconditional and not subject to defenses. Compensation is based on the amount that the guarantee holder is entitled to recover from the state-owned enterprise pursuant to the terms of the obligation.

4. Through these products, MIGA is supporting renewable energy scale-up in ECA countries as summarized in Figure A6.2.

Figure A6.2. MIGA Program relevant for the country's renewable energy development, and MIGA ECA priorities

Country	MIGA Program relevant for the country's RE development						Comments
	PRI				NH		
	BoC	Exp	TR	WCD	NHSFO	NHSOE	
Azerbaijan	v	v	v	v	v	v	Can support the off shore wind program and grid development via NHSFO for sovereign government, NHSOE for eligible state-owned entities or PRI for foreign private invetsors in off shore wind projects.
Bosnia and Herzegovina	v	v	v	v	N/A	N/A	Can support the RE IPPs (includiing the ones developed by IFC) by providing PRI for foreign private invetsors.
Kosovo	v	v	v	v	N/A	N/A	Can support the solar and wind IPPs (includiing the ones developed by IFC) by providing PRI for foreign private invetsors.
Montenegro	v	v	v	v	N/A	N/A	Can support the RE IPPs (includiing the ones developed by IFC) by providing PRI for foreign private invetsors.
Serbia	v	v	v	v	v	v	Can support the RE program and transmission development via NHSFO for sovereign government, NHSOE for eligible state-owned entities or PRI for foreign private invetsors in RE projects.
Kyrgyz Republic	v	v	v	v	N/A	N/A	Can support the hydro and solar IPPs (includiing the ones developed by IFC) in close collaboration with WB/IFC by providing PRI for foreign private invetsors.
Georgia	v	v	v	v	v	v	Can support the RE program and transmission development (incl. undersea cable or regional connection) via NHSFO for sovereign government, NHSOE for eligible state-owned entities or PRI for foreign private invetsors in RE projects.
Ukraine	v	v	v	v	N/A	N/A	Exploring opportunites to support the wind and solar IPPs by providing PRI for foreign private invetsors, in close collaboration with WB/IFC.
Uzbekistan	v	v	v	v	v	v	Can support the RE program and transmission development via NHSFO for sovereign government, NHSOE for eligible state-owned entities or PRI for foreign private invetsors in RE projects.
Türkiye	v	v	v	v	N/A	N/A	Türkiye currently ranks as the MIGA's largest gross exposure globally. Given the high existing exposures, MIGA will continue to look for opportunities to support RE projects subject to headroom and reinsurance capacity.

Note: 'v' indicates relevance. 'PRI' = Political risk insurance. 'BoC' = Breach of Contract. 'Exp' = Expropriation. 'TR' = Transfer restriction. 'WCD' = War and civil disturbance. Non-honoring (NH) is subject to MIGA internal credit rating. 'NHSFO' = NH of Sovereign Financial Obligations. 'NHSOE' = NH of Financial Obligation by a State-Owned Enterprise.

IFC RENEWABLE ENERGY ENGAGEMENT IN ECA REGION[32]

5. **Across the ECA region, IFC's Infrastructure team is actively investing in (debt and equity)** renewable energy generation assets, with storage where possible, and exploring ways to support innovative projects for instance in the green hydrogen space. Recent commitments include the 140 MW Karavasta Solar project in Albania, a pilot hydrogen project in Poland, as well as the first domestic green bond issuance in Georgia with Georgian Renewable Power Operations (GRPO), among others. For most of these transactions, IFC also provides **pre-investment support** to remove bottlenecks hindering project bankability. For instance, IFC is currently supporting a renewable energy client in developing its energy price hedging strategy, procuring corporate PPAs and reviewing feasibility of on-site battery storage, ahead of structuring and arranging their solar PV project financing in Bulgaria. Also, Ukraine is currently a key country of focus for IFC in the renewable energy space; since Russia's invasion of Ukraine IFC has signed three pre-investment projects, developed a solid investment pipeline for supporting incumbent producers in the short term and is working together with IBRD and

[32] https://www.iea.org/news/iea-ifc-joint-report-calls-for-ramping-up-clean-energy-investments-in-emerging-and-developing-economies

MIGA on an ambitious program to scale up renewables much further during the reconstruction phase (the RENEW program).

6. **IFC, in conjunction with World Bank and ESMAP, has also been active in the offshore wind space**, having developed offshore wind roadmaps in Azerbaijan, Romania and currently considering Ukraine. In Poland, IFC is well positioned for the upcoming financing of ~1.4 GW of offshore wind, where IFC is supporting one of the largest developers in establishing its local benefit sharing strategy.

7. **On the transmission and distribution side**, IFC is engaging with both private and state-owned (but commercially run) transmission and distribution companies via IFC's new NEXTGEN platform which offers a wide range of pre-investment support, for instance to address on grid enhancement and digitization, climate change adaptation, ESG support, sustainable finance, among others, with the goal of providing long term finance to these clients.

ANNEX 7. Key takeaways from the Bank's paper, "Scaling Up to Phase Down: Financing Energy Transitions in the Power Sector".

1. **The energy *transition* in low- and medium-income countries will entail an unprecedented expansion and transformation of power sector infrastructure**. This transformation will require a massive scaling up of renewable energy and energy efficiency to meet rapidly growing demand, followed by a phasing down of coal-fired power generation. Critical support to overcome barriers are shown in figure A7.1 and include the following.

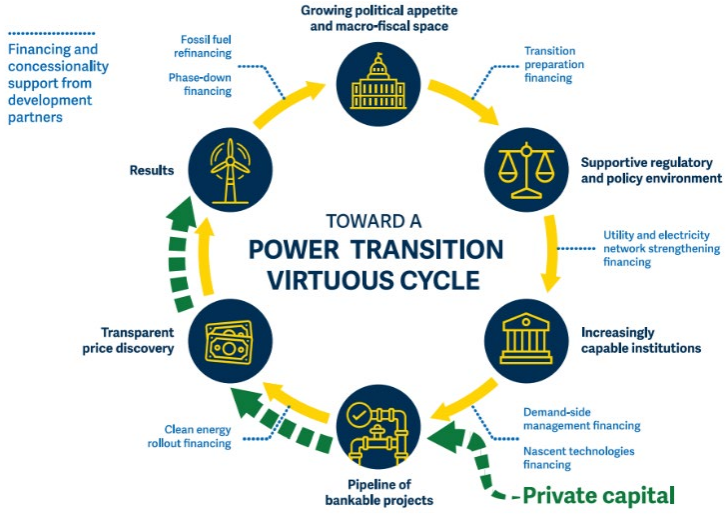
(a) **Sector reforms, integrated planning, and capacity building to mitigate the risks of investment in a clean energy supply.** This includes improving electricity pricing by strengthening electricity markets and reforming subsidies to better support policy goals. Comprehensive power sector planning is needed to guide development and minimize capital requirements for the power sector transition and for integrating larger volumes of renewable electricity and storage. Strengthening core sectoral institutions, particularly utilities, is needed to reduce developers' risks.

(b) **Reduction of the up-front costs of clean technologies to enable cost-competitive, affordable, and reliable clean energy.** Projects must be delivered at the least cost to consumers, including through market competition and transparent auction approaches. Where risks and costs have been reduced to the extent possible, the adoption of promising emerging technologies can be accelerated using so-called viability gap funding until costs fall and markets mature.

(c) **Frameworks to phase down the use of coal-fired electricity are needed in order to manage the financial and societal challenges of power sector transition and reduce the risk and impact of stranded assets.** These challenges include: a. Ensuring that planning covers the risks of stranding new thermal generation plants, and the timeframe for retiring or repurposing existing plants; b. Preparing just transition programs as coal-fired power plants are retired or repurposed to manage the social, environmental, and distributional impacts; and c. Initiating policies and institutional reforms, and communicating strategies to retire and repurpose coal-fired generation at scale so stakeholders can prepare and minimize exposure to losses.

2. **To create conditions for enabling the largest possible amounts of private capital, the use of concessional finance must be scaled up, sustained, coordinated, and carefully programmed.** Existing schemes that optimize multiple sources of capital include (i) engagements that tailor needs to country contexts to support the virtuous cycle; and (ii) global technology demonstration partnerships.

Figure A7.1. Virtuous cycle to propel power sector transition.



Source. World Bank (2023). Scaling up to Phase down: Financing Energy Transitions in the Power Sector

ANNEX 8: Pipeline of Participating Countries in ECARES MPA

1. Table A8.1. shows a summary of the projects that are expected to be presented for approval in subsequent phases of the ECARES MPA, including expected RE enable, PCM and PCE targets. The operations are briefly presented in the sections below.

Table A8.1. ECARES Project Pipeline

Country	Alignment with MPA Pillar 1 Policy and institutions	Alignment with MPA Pillar 2 RE integration	Alignment with MPA Pillar 3 RE financing and risk mitigation	Official letter of request received	Tentative lending/ grant amount (US$ million)	Expected additional RE enabled by 2034 (GW)	PCM (USD million)	PCE (USD million)
Türkiye Accelerating the Market Transition for Distributed Energy PforR	Yes	Yes	Yes	Yes	664.4 (IBRD), 33 (other)	1.0	259	400
Armenia energy PforR	Yes	Yes	No	Yes	40	0.5	0	250
Azerbaijan Grid Strengthening for Renewable Energy Integration Project	Yes	Yes	No	Yes	82	1.5	0	500
Kosovo Renewable Energy Development Project	Yes	No	No	Yes	1.2 (RETF)	0.5	0	250
Kyrgyz Republic Renewable Energy Development Project	Yes	Yes	Yes	Yes	300	1.0	0	250
Tajikistan Solar Project	Yes	Yes	No	Yes	10 (IDA), 11 (GCF)	0.2	100	0
Ukraine Additional Finance to Battery Storage Project	Yes	Yes	No	Yes	70 (CIF)	1.0	0	0
Uzbekistan Scaling Solar 3 Project	No	No	Yes	Yes	4	0.1	30	0
Uzbekistan Additional Support through Scaling Solar and Wind Project	Yes	No	Yes	Yes	150	2.5	750	250
Türkiye Modernizing and Digitizing the Transmission Grid for Renewable Energy Integration 1 Project	Yes	Yes	No	No	750	6.0	0	2,500
Ukraine RENew Project	Yes	No	No	No	4.5 (RETF)	1.0	400	100
Total						15.3	1,539	4,500

2. Countries for which requests letters for Bank lending have been received.

(a) **Armenia energy PforR (letter of request received, amount US$40 million, P179336).**

- ***Context:*** The Government of Armenia requested financing support from the Bank to further strengthen its power transmission network and improve the reliability of the power supply. The planned PforR is aimed at preparing the energy sector for private investment in grid-scale renewable energy.
  The government has an ambitious plan to increase renewables to 66 percent of the power generation mix by 2036 (from 7 percent in 2012) which includes small hydro, wind and solar PV resources, but excludes biofuels. To reach this target, Armenia will need to have 2 185 MW of new renewable energy capacity installed by 2036. Estimated projected capacity additions comprise 50 MW of small hydro and 141 MW of large hydro, 500 MW of wind, and 950 MW of solar PV.

- ***PDO (to be confirmed):*** The PDO is to support Armenia's efforts to strengthen power transmission infrastructure for renewable energy integration and improve the commercialization of state-owned companies in the power sector.
- ***Alignment with MPA pillars:*** The Disbursement-Linked Indicator (DLI) matrix will consist of two results areas. Results Area 1, consistent with Pillar 2, would provide funding for the rehabilitation of transmission substations enhancing the reliability of electricity supply with increased renewable energy integration. Results Area 2, consistent with Pillar 1, would support institutional strengthening measures to be implemented at the national transmission system company High Voltage Electricity Network (HVEN), including improving the company's financial viability, digitization of operational processes, modernization of maintenance procedures, contract management, corporate procurement, financial management, and environmental and social risk management. Results Area 2 will also promote sectoral reforms to ensure the state-owned enterprises (SOEs) in the power sector operate in a commercially viable manner and are prepared to access non-guaranteed financing. HVEN will be the implementing agency for the PforR Program. The PforR expenditure framework will comprise expenditures for transmission substation rehabilitation as well as PforR Program implementation, technical assistance, and capacity-building expenditures.
- ***Impact and further project details:*** Expected PforR Program outcomes comprise an enhanced ability to absorb grid-scale renewable energy and institutional readiness for the energy transition.

(b) **Azerbaijan Grid Strengthening for Renewable Energy Integration Project (letter of request received, tentative lending amount US$82 million, tbc).**

- ***Context:*** The Government of Azerbaijan requested financing support to the World Bank for a grid strengthening project to enable renewable energy integration. In line with the Government's ambitions to develop a green energy corridor, significant investments will be needed in grid reinforcements and modernization to enable the integration of up to 2 GW of Variable Renewable Energy (VRE) by 2030, and to develop and strengthen cross-border infrastructure for future electricity exports. The World Bank is working closely with the national utility Azenerji and the Ministry of Energy on the completion of a VRE integration study by May 2024. The least cost transmission investment plan prepared in the framework of the study will then be the basis to define the scope of the proposed project.
- ***PDO (to be confirmed):*** The PDO is to support Azerbaijan's efforts to strengthen power transmission infrastructure for the purpose of renewable energy integration.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1 and 2 of the ECARES MPA and would support the modernization and expansion of transmission infrastructure enhancing the reliability of electricity supply with increased renewable energy integration.
- ***Impact and further project details:*** To be determined as part of project preparation.

(c) **Kosovo Renewable Energy Development Project (letter of request received, amount US$1.2 million ESMAP RETF).**

- ***Context:*** The Government of Kosovo has requested grant financing support to develop several sites for wind energy development. The proposed project will support the government of Kosovo to develop a pipeline of renewable energy projects through technical assistance to the Ministry of Economy to carry out technical and environmental to design and implement at least two wind sites (up to 200MW).
- ***PDO (to be confirmed):*** The PDO is to support Kosovo in further developing its wind energy potential and facilitate private sector participation.
- ***Alignment with MPA pillars:*** The project is consistent with Pillar 1 of the Program.

- ***Impact and further project details:*** The studies will be shared with all interested developers/bidders and will help reduce technical risks perceived by bidders, and in this way reduce the bid price per kWh and lower the cost of the energy transition. The sites will be selected in consultation with the Government based on the outcomes of an on-going EU funded study that reviewed and ranked a dozen of potential sites. The project will finance topographic, geotechnical, seismic, hydrological, and de-mining studies as well as a preliminary environmental assessment. Subject to the satisfactory completion of the studies, the project could be expanded to provide transaction advisory services. The recipient-executed TF will be complemented by a Bank-executed technical assistance program (US$1 million).

(d) **Kyrgyz Republic Renewable Energy Development project (letter of request received, amount c. US$300 million)**

- ***Context:*** The Government of the Kyrgyz Republic has requested financing support from the Bank for strengthening the transmission system for renewable energy integration. The proposed financing will prepare the power system for increased deployment and integration of variable renewable energy, in line with the Government's targets to deploy 700 MW of solar and wind energy by 2030. Specifically, the financing will support both grid strengthening and reinforcement, and technical assistance to improve the system operation environment and enhance institutional capacity to facilitate renewable energy integration. Additionally, the Government requested a World Bank guarantee to support a pilot solar project of about 150 MW.
- ***PDO (to be confirmed):*** The PDO is to support the Kyrgyz Republic efforts to strengthen power transmission infrastructure for the purpose of renewable energy integration and pilot a first private-sector investment in utility-scale solar renewable energy.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1, 2 and 3 of the ECARES MPA.
- ***Impact and further project details:*** To be determined as part of project preparation.

(e) **Tajikistan Solar Project (letter of request received, amount GCF US$11 million, IDA US$10 million tbc)**

- ***Context***: At government request, the WB is preparing an operation to support development of a 200 MW solar plant in Sughd region through private sector investment. Based on request from the Government of Tajikistan, a project preparation fund of US$1.5 million was approved on January 18, 2023, to support preparatory studies particularly preparation of feasibility study, environment and social studies, and preparation of the procurement and commercial documents.
- ***PDO****:* The PDO is to increase solar electricity generation in Tajikistan through private sector participation.
- ***Alignment with MPA pillars:*** This project is consistent Pillar 1 and 3 of the Program.
- **Impact and project details:** The operation aims to partially de-risk the solar development and to create a conducive environment for the private sector to commit large amount of capital. These may include provision of financing to support construction of associated infrastructures for connection of the plant to the grid, provision of financing to support the off-take tariff (viability gap financing), provide guarantee to backstop payment obligation of the off taker, and support project management and capacity building. A US$11 million GCF guarantee is approved to provide risk mitigation support to the private sector that would be design based on market sounding and consultation with Government. The project is expected to contribute to the strengthening of supply security and contribute to mitigating supply deficit in northern Tajikistan through capacity increase and diversification of the current energy mix. It will also contribute to the reduction of greenhouse gas emissions.

(f) **Ukraine Additional finance to battery storage project (letter of request received, amount CIF US$70 million)**

- ***Context:*** In 2021, the World Bank agreed to finance 212MW of battery storage for Ukrhydroenergo (UHE) for provision of frequency regulation services, with IBRD/CTF loans/grant in the amount of US$212 million. Following Russia's invasion of Ukraine, the borrower had to reallocate part of the funds to the restoration of damaged hydropower plants. To address the financing gap caused by the reallocation, the Government of Ukraine is exploring various financing options, one of which is the additional finance from Clean Investment Fund's (CIF's) Renewable Energy Integration (REI) window. Based on the discussions held during several missions, the GoU has requested the Bank to prepare the Investment Plan for the CIF REI financing in the amount of $70 million for the UHE battery storage project.
- ***PDO:*** The PDO is to enhance the flexibility of the Ukrainian power grid through storage investments and market expansion to support synchronization with the European electricity grid and decarbonization of the power sector.
- ***Alignment with MPA pillars:*** This project is consistent with Pillar 1 and 2 of the Program.
- ***Impact and project details:*** This strategic operation support the widespread deployment of energy storage solutions, with a particular focus on battery storage technology, through the public investment to address the most urgent flexibility needs and the planned technical assistance to create enabling environments for private energy storage investments.

(g) **Uzbekistan Scaling Solar 3 Independent Power Producer Project (letter of request received, amount US$4 million IBRD Guarantee).**

- ***Context:*** The Government of Uzbekistan has requested financing support from the Bank to develop 2,000MW of solar and 500MW of wind generation on competitive basis, with private sector participation, to support its energy transition efforts. Building on the success of previous IBRD guarantee operations[33], the WB is currently preparing an operation to provide a payment guarantee of US$4 million to the Khorezm Solar IPP (100MW, Khorezm Project).
- ***PDO (to be confirmed):*** The PDO is to increase renewable energy capacity though private sector participation in Uzbekistan.
- ***Alignment with MPA pillars:*** This project is consistent with Pillar 3 of the Program.
- ***Impact and further project details:*** The expected renewable energy generation averages 261 GWh per year, leading to avoiding 28.3 thousand tons GHG emissions annually and mobilizing about US$84 million of total financing and US$30 million of PCM. Long term outcomes of the project are increased energy security and reduced greenhouse gas emissions. With commissioning scheduled for 2025, the project contract includes the design, construction, financing, ownership, operation and maintenance of the power plant and the design, financing and construction of the off-taker interconnection facilities. The proposed IBRD payment guarantee will backstop payment obligations undertaken by the off-taker and increase the attractiveness of the renewable investment opportunities, resulting in increased competition and lower tariffs.

(h) **Uzbekistan Additional Support Through Scaling Solar and Scaling Wind Project (letter of request received, amount c. US$150 million to be confirmed)**

- ***Context****.* As part of Uzbekistan's clean energy transition, the GoU has requested the Bank involvement in the implementation of the renewable energy deployment target of 30 percent of power mix by 2030. To this end,

[33] Previous support includes the Navoi Scaling Solar 1 IPP (100MW approved 2020, 170598), Scaling Solar 2 IPPs (440MW approved 2023, P174322,) and Uzbekistan Solar and Renewable Energy Storage (USRES) Project (250MW of solar and 63MW of BESS, approval expected in Dec 2023, P181434).

the WB has been requested to provide credit enhancement/guarantee products targeting 1000MW of solar and 500 MW of wind (+ BESS component) through private sector participation over the next 3-4 years.

- ***PDO (to be confirmed):*** The PDO is to increase renewable energy capacity though private sector participation in Uzbekistan.
- ***Alignment with MPA pillars:*** This project is consistent with Pillar 3 of the Program.
- ***Impact and project details.*** The planned solar energy projects will be developed based on the principles and lessons learned from the WBG Scaling Solar initiative, bringing together a suite of WBG services under a single engagement, by combining IFC transaction advisory support for Uzbekistan to prepare and tender projects with offers of IFC financing and credit enhancements and guarantees from the World Bank and MIGA. The planned WB guarantee operations under Uzbek Solar 4 (1,000 MW) and Scaling Wind (500 MW) expect to require up to US$150 million of credit enhancement/guarantee products. For these transactions, a portfolio approach for provision of IBRD guarantees, procurement of LCs and advisors will be explored to allow for accelerated scale-up.

(i) **Türkiye Modernizing and Digitizing the Transmission Grid for Renewable Energy Integration 1 (letter of request received, US$750 million).**

- ***Context:*** The Government of Türkiye has requested financing support from the Bank for an extensive modernization, digitization and expansion of the transmission grid in order to enable the integration of an ambitious 60 GW of wind and solar generation by 2035. Additional support on the policy or risk mitigation aspects will be explored.
- ***PDO (to be confirmed):*** Enable RE development through modernization and expansion of Türkiye's electricity transmission grid.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1 and 2 of the ECARES MPA.
- ***Impact and further project details:*** To be determined as part of project preparation.

(j) **RENew Ukraine Program (RENew) (US$4.5 million, to be confirmed).**

- ***Context:*** The RENew initiative proposes One World Bank Group services and products to create a market for grid-connected renewable energy plus storage projects at scale and at competitive tariffs to support the reconstruction of Ukraine.
- ***PDO (to be confirmed):*** The PDO of the initial operation (technical assistance) under the RENEW initiative aims to be implemented pre-reconstruction to enable RE development through enhanced indicative planning for power sector, improved auction design, and elimination of legal and regulatory barriers.
- ***Alignment with MPA pillars:*** This project is consistent with Pillar 1 of the ECARES Program.
- ***Impact and further project details:*** The results expected from RENew-1 technical assistance project (phase-1) are a strengthened regulatory framework and a design to enable up to 20 GW of renewable generation and 5 GW of battery storage. The program, will aim to scale up substantially the development of solar, wind and battery storage by 2040, in line with Ukraine energy strategy, by combining public, private, and concessional resources to leverage maximum private capital. Success would be measured based on: (i) GW installed; (ii) private capital mobilized; and (iii) level of electricity prices and related impact on tariffs. In the first phase, grants would be secured to (i) identify and prioritize locations for projects as well as analysis of transmission grid constraints; based on indicative planning drafted in collaboration with Ukrenergo and leveraging prior planning analysis by World Bank (WB); (ii) support the design an auction mechanisms; (iii) define financial products and (iv) engage with donors to secure contributions towards the financing scheme. The recipient-executed TF will be complemented by a Bank-executed technical assistance program (around US$0.5 million).

Other countries expected to join the Program in the context of possible Additional Financing to the MPA:

Bosnia and Herzegovina (BiH) Renewable Energy IPF (amount to be determined).

- ***Context:*** [A request letter from the Government of BiH is expected by end calendar 2024]. In support of the Government of BiH's decarbonization agenda, which is one of the main pillars of the BiH's energy sector reform strategy, the proposed BiH Renewable Energy Project aims to green the power generation mix through rehabilitation and installation of floating solar PV at select hydropower plants and through scale up of rooftop solar in the residential sector.
- ***PDO (to be confirmed):*** The PDO is to support the country's efforts to integrate variable renewable energy through rehabilitation of hydropower and scale-up of rooftop solar in the residential sector.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1, 2 and 3 of the ECARES MPA.
- ***Impact and further project details:*** To be determined as part of project preparation.

Türkiye Modernizing and Digitizing the Transmission Grid for Renewable Energy Integration 2 (US$750 million).

- ***Context:*** The Government of Türkiye has requested financing support from the Bank for an extensive modernization, digitization and expansion of the transmission grid in order to enable the integration of an ambitious 60 GW of wind and solar generation by 2035. Additional support on the policy or risk mitigation aspects will be explored.
- ***PDO (to be confirmed):*** The PDO is to support the Government of Türkiye's efforts to strengthen power transmission infrastructure for the purpose of renewable energy integration.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1 and 2 of the ECARES MPA.
- ***Impact and further project details:*** To be determined as part of project preparation.

(k) **Uzbekistan Additional finance for ESTART (US$300 million IBRD loan)**

- ***Context:*** The Electricity Sector Transformation and Resilient Transmission (ESTART) Project was approved by the Bank Board of Directors in June 2021 and is now in the active implementation stage. The project is aimed at improving the capacity and reliability of the power transmission system to integrate large scale renewable energy sources through financing the transmission network strengthening and the enhancement of power system monitoring and control. In the meantime, the Transmission Master Plan prepared with the Bank support identified that a significant amount of investment in the amount of $5.5 billion in the national transmission network is needed until 2030. The Bank started discussions with the ministries and the implementation agency on the potential additional financing in the amount of up to US$250 million to scale up the renewable energy integration investments.
- ***PDO (to be confirmed):*** The PDO is to improve the capacity and reliability of the power transmission system to integrate large scale renewable energy sources.
- ***Alignment with MPA pillars:*** The financing under the project is consistent with Pillar 1 and 2 of the ECARES MPA.
- ***Impact and further project details:*** To be determined as part of project preparation.

ANNEX 9: Leveraging of Concessional Climate and Carbon Finance Resources for the MPA

I. Potential Sources of Concessional Financing for Renewable Development

1. **The ECARES MPA aims to leverage c. US$200 million in grants, concessional and climate finance from the following initiatives,** which would be dedicated to incentivizing and de-risking investments under Pillar 2 and 3 as well as to funding the Regional Platform.

(a) **ESMAP Sustainable Energy Risk Mitigation Initiative (SRMI) Financial Innovation Window (RETF).** With the *Financial Innovation Window* hosted under the World Bank ESMAP Trust Fund, SRMI aims to unlock privately-owned VRE investments by structuring tailored risk mitigation instruments and financing support to spur innovation. The Window aims to provide an agile way to address these risks by providing grant financing easily and timely accessible when projects are reaching financial closure. The main categories of the US$500 million window are:

(i) **Risk Mitigation Instruments:** new credit enhancement mechanisms to address the residual risks perceived by private investors (such as liquidity guarantee for payment risk, tariff buy-down, FX instruments, and demand risk for mini-grid instruments), having enough flexibility to create innovative instruments when new risks arise;

(ii) **Battery Storage**: To target the innovation risk, increase penetration of VRE and reduce the risk perceived by most countries in new battery storage technologies, provide CAPEX buy-down for battery storage equipment to Governments and utilities; and

(iii) **Small Island Development States (SIDS):** provide resilience and adaptation financial support to SIDS for their energy transition, tailoring to the SIDS needs the first two categories (risk mitigation instruments and battery).

(b) **The Climate Investment Funds (CIF)[34], managed by the World Bank, include several programs that could potentially offer concessional funding to ECARES MPA:**

(i) **CLEAN TECHNOLOGY FUND**: Supports fossil fuel-dependent countries with the deployment of low- carbon technologies with significant potential for reducing long-term greenhouse gas emissions. It provides concessional financing to large-scale renewable energy, energy efficiency, and sustainable transport projects.

(ii) **GLOBAL ENERGY STORAGE PROGRAM**: A funding window under the Clean Technology Fund, this program supports clean energy storage technologies to expand integration of renewable energy into developing countries. Funding from this program is expected to mobilize a further $2 billion in private and public investments.

(iii) **RENEWABLE ENERGY INTEGRATION PROGRAM**. Supports fossil fuel-dependent economies by enabling them to integrate renewable energy into their economies. This can include funding projects, such as enhancing the existing infrastructure to be renewable energy-ready or addressing potential regulatory barriers to a smooth transition.

(iv) **SCALING UP RENEWABLE ENERGY PROGRAM IN LOW INCOME COUNTRIES.** Supports the deployment of renewable energy solutions, such as solar, geothermal, and wind, in order to increase energy access for the many global communities with no access to power. The program is one of the biggest global funders of mini-grids, with projects in 14 countries.

(v) **SMART CITIES PROGRAM**. Will help countries undergoing challenges from rapid urbanization to support their newly emerging cities, while they are still in development, by ensuring that their growth is managed in climate-smart, green, inclusive, and sustainable ways.

[34] Initiated by the US, the UK and Japan, the Climate Investment Funds (CIF) were set up to be managed by the World Bank. In July 2008, the CIF were approved by the World Bank's Board of Directors.

(c) **The Green Climate Fund (GCF)** – a critical element of the historic Paris Agreement - is the world's largest climate fund, mandated to support developing countries to raise and realize their Nationally Determined Contributions (NDC) ambitions towards low-emissions, climate-resilient pathways. GFC finance project that include:
   (i) Transformational planning and programming: by promoting integrated strategies, planning and policymaking to maximize co-benefits between mitigation, adaptation and sustainable development.
   (ii) Catalyzing climate innovation: by investing in new technologies, business models, and practices to establish a proof of concept.
   (iii) De-risking investment to mobilize finance at scale: by using scarce public resources to improve the risk-reward profile of low emission climate resilient investment and crowd-in private finance, notably for adaptation, nature-based solutions, least developed countries (LDCs) and small island developing states (SIDS).
   (iv) Mainstreaming climate risks and opportunities into investment decision-making to align finance with sustainable development: by promoting methodologies, standards and practices that foster new norms and values.

(d) **Scaling Climate Action by Lowering Emissions (SCALE),** an umbrella multi-partner trust fund, is the "one-stop shop" for all World Bank-administered results-based climate finance programs. SCALE is not just a source of climate finance, but also an instrument for policy dialogue and broader engagement to incentivize low carbon development. The SCALE partnership will pool funding from the global community – including donor countries, the private sector and foundations - and make it available for the most impactful programs that reduce greenhouse gas emissions. The initial funding target is $1 billion by the end of 2023 - providing an average of $50 million in grants per project in the form of results-based climate finance. The medium-term ambition is to reach $5 billion. SCALE supports just and inclusive transitions towards reduced greenhouse gas emissions in three major areas:
   (i) Natural Climate Solutions (e.g., changes in land use practices to maximize carbon sequestration from forest landscapes, including mangroves; emission reduction efforts in agriculture; etc.).
   (ii) Sustainable Infrastructure Solutions (e.g., transformations that include deep decarbonization of the power sector; modal shift and electrification in transport; emissions reduction efforts in industries, waste management, and water supply; etc.).
   (iii) Fiscal and Financial Solutions (e.g., strategic policy changes involving fossil fuel subsidy reform, carbon taxation; green bonds; financial sector reform).

II. Monetizing climate benefits from renewable energy investments under the ECARES MPA

2. The ECARES MPA's proposed funding envelope is US$2 billion in IBRD/IDA funds, with the goal of leveraging additional US$6 billion from private financing sources to support the development of sustainable programs for renewable energy investments. An important component of ECARES' strategy is to leverage additional financing through the monetization of emission reductions associated with ECARES' renewable energy by accessing results-based climate finance sources and carbon markets (as well as mobilizing other forms of climate finance).

3. In countries with fossil fuel dominated grids (as is the case of countries covered by the ECARES MPA), dedicated programs to help shift power generation towards renewable sources can lead to significant reduced or avoided greenhouse gas emissions. In the case of ECARES, preliminary estimates suggest that its contribution to global GHG mitigation could

amount to around 12 million metric tons per year, which would translate to a cumulative projected lifetime (20-year) GHG emission reduction of 240 million tons by the year 2034 [35].

4. To position the ECARES-supported activities so that they can generate emissions reduction credits (ERCs) that can be monetized and generate carbon finance revenues, it is important to understand the potential avenues for the monetization, as well as the implications and requirements of different options, including the necessary institutional, regulatory frameworks and decision points. The readiness for monetization of ERCs also requires putting in place a robust ERC asset creation infrastructure. The latter refers in large part to monitoring, reporting and verification (MRV) systems, which are one of the key pieces to unlock climate/carbon finance, as they provide proof of the environmental integrity of the ERCs generated and sold (and potentially transferred[36]) to the buyers. Emission reduction credits need to have a real mitigation impact and need to be measured, reported, and verified, through a system that is easy to prove and defensible against claims of greenwashing and double counting.

5. In carbon markets, with no exception, communication between platforms (MRV systems, project registries[37], transaction registries[38], auctions platforms, exchanges, etc.) is vital for their secure, transparent, and agile development. In addition to support the development and strengthening of carbon market regulatory and institutional frameworks, it is proposed that the digitization of the MRV system and ERC asset creation process constitute a critical element of ECARES's approach to mobilizing additional sources of financing – in this case carbon finance – to increase renewable energy capacity and generation in ECA.

6. The proposed carbon finance readiness activities are envisioned to largely be carried out under the MPA's Pillar 1 and build on the role envisioned for supporting regional entities to facilitate the development of common documentation and procedures and also the potential regional aggregation of MPA data for covered countries – which could be particularly important for the smaller countries. Under this Pillar, the selected regional entity (or entities), with technical support from the Bank, will also engage with individual countries to build capacity and the required enabling environment for facilitating access to carbon markets for the monetization of emission reductions associated with ECARES-supported investments in each country.

Options to monetize climate mitigation benefits associated with renewable energy investments

7. The landscape of opportunities to monetize emission reductions is evolving, including requirements and prices, and the avenues for monetization can be divided into 3 main categories[39] outlined below:

(a) **Compliance carbon markets (CCM)** – CCMs are regulated systems, where ERCs (with each credit representing one tonne of CO2-equivalent) are used to achieve compliance. For example, some countries may impose a GHG emission-related compliance obligation (e.g., domestic emissions trading schemes or carbon taxes) to its entities

[35] While the calculations will need to be revised based on appropriate crediting methodology, it is useful to get a sense of the potential carbon revenue that could be generated if the ECARES MPA succeeded in deploying its targeted 15 GW of renewable energy capacity. Using figures from past renewable projects, it can be estimated that each MW of renewable energy could result in between 800 and 1,500 tCO_2 emissions reductions per year. This would mean, for example, that at a price of $5/tonne CO2, potential carbon revenues could amount to $60 million to $120 million (assuming that the full potential is installed and operating) and at a price of $10/tCO2, $120M to $240M could be generated under these assumptions per year. Even if half of this rough volume estimate could ultimately be monetized, it would still make an impactful contribution, rendering emission reduction monetization efforts under ECARES worthwhile.

[36] As explained further down in the Note, not all ERCs generated and for which a payment is made by a buyer, need to be transferred to the relevant buyer's emissions account. This is the case for example, of ERCs paid through a Results-Based Climate Finance mechanisms and some ERCs transacted under the Voluntary Carbon Market.

[37] A project registry (or register) is a database of project and associated emission reduction information which can record the issuance of emission reduction credits from registered projects.

[38] A transaction registry records the buying and selling of emission reduction credits.

[39] Source: WBG (2022), Defining Results-Based Climate Finance, Voluntary Carbon Markets and Compliance Carbon Markets.

that can be met (partially) through purchases of ERCs. At the international level, the Paris Agreement's Article 6 allows countries to cooperate with each other to achieve emission reduction targets set out in their Nationally Determined Contributions (NDCs)[40]. This means that a country (or countries) may "authorize"[41] the transfer verified emission reduction credits to another country(ies), enabling mitigation action where it is most cost effective to do so and, through this trading of ERCs, reduce the overall cost of meeting climate targets[42]. Specific accounting of such trading (through "corresponding adjustments") is required to avoid double counting. See Box A9.1.

(b) **Voluntary carbon markets (VCM)** – VCMs operate in parallel to compliance markets. VCMs are not regulated by governments and buyers are typically corporates pledging "net zero" or other voluntary mitigation commitments (i.e., ERCs are not required by any regulated system), who are the ones driving the demand for ERCs in the VCM. Projects seeking to monetize their ERCs in the VCM are certified by an independent crediting standard[43]. The resulting issued ERCs (after verification) may be "claimed" by the buyer and may not require the authorization and corresponding adjustment from the host country (i.e., the resulting issued ERCs may be used to contribute towards the host country's NDC). Some buyers may prefer ERCs with corresponding adjustment to "count" them. "Claimed" ER transactions in the VCM (i.e., without corresponding adjustments) will typically fetch lower prices than "counted" ER transactions (i.e., with corresponding adjustments).

(c) **Results-based climate finance (RBCF)** – RBCF refers to a mechanism whereby payments are provided upon verification of achievement of agreed climate results (typically verified GHG emissions reduced or removed) but does not involve the transfer of "title" to claim the emission reduction credits or carbon assets from the recipient project[44] and does not involve "corresponding adjustments". The Bank's Scaling Climate Action by Lowering Emissions (SCALE) Trust Fund is one option to monetize emissions reductions through RBCF, in which climate finance is brought directly into the operation to disburse against ER results which the client can use for reaching NDC compliance. Indeed, SCALE is expected to provide RBCF payments for a portion of the emissions reduced by SCALE-supported programs – including ECARES - to be counted towards NDC's achievement of the country hosting the project. The surplus emissions reductions may be used by the host country for other purposes, including for transactions in the voluntary or compliance carbon markets following relevant procedures that may apply. (The ECARES MPA would be supported under SCALE's "Sustainable Infrastructure Solutions" target area. See Box A9.3 below).

Box A9.1: Article 6 of the Paris Agreement – and governance implications for host countries

Article 6 pertains to the establishment of international compliance carbon markets governed by the rules of the Paris Agreement where countries can trade carbon credits. Article 6 of the Paris Agreement establishes the framework for cooperation between countries in achieving their climate change targets, as set under each country's NDC.

Article 6.2 is designed to allow for international cooperation in carbon markets through decentralized governance, whereby cooperation by participating parties can be established through a mutually agreed policy and governance framework. Such decentralized architecture requires a considerable level of engagement and oversight from participating parties (especially compared the governance and oversight model of the Kyoto Protocol's Clean Development Mechanism which was largely

[40] There are also domestic compliance markets, such as the EU Emissions Trading System.
[41] CCM under Article 6 require authorization (and not necessarily certification, as is the case for voluntary carbon markets).
[42] The Paris Agreement, through Article 6, is growing compliance markets, which are estimated to help save in the order of $300 billion/year by 2030 in the cost of meeting NDC goals.
[43] Examples of independent carbon standards include the Gold Standard, Verra and the Climate Action Reserve.
[44] Sovereign providers of RBCF to developing countries may report RBCF as a contribution of financial resources under Article 9 of the Paris Agreement (which specifies that developed countries shall provide financial resources to assist developing countries in respect to both mitigation and adaptation).

centralized at the UNFCCC level). This means that participating parties will largely be responsible for the decision on how to quantify, monitor, verify and report emission reductions under Article 6.2.

Article 6.4 is also designed to allow for international cooperation in carbon markets, but through a centralized governance (the "Supervisory Body" set up under the UNFCCC). Nonetheless, it is expected that host countries would play a much bigger role compared to their role under the CDM.

Under both Article 6.2 and Article 6.4, any transfer of emission reductions (referred to as "internationally transferred mitigation units") would trigger a GHG account procedure (double-entry bookkeeping), called "corresponding adjustment", of the host country's Nationally Determined Contribution (NDC). Such corresponding adjustment (which did not exist under the CDM) is to be "authorized" by the host country who will need to closely monitor the authorized corresponding adjustments to ensure that transfers of emission reductions do not compromise its ability to meet its NDC goals.

This means that countries planning to engage in "compliance markets" in line with Article 6 of the Paris Agreement will need to develop a domestic institutional and governance framework to enable such participation. This would include the development of robust, secure and transparent accounting systems and having access to emission reduction credit transaction registries (which may be housed in the host country or elsewhere, such as a regional registry that could be operated by a selected regional entity) to avoid double counting.

Such a framework will help provide clarity to market players who may be interested in engaging with the given host country.

Source: World Bank and Climate Warehouse (2020), *Country processes and institutional arrangements for Article 6 transaction*, Article 6 Approach Paper Series - Paper two

8. It is important to note the current low level of appetite of the carbon market for ERCs from grid-connected renewable energy projects – and this is reflected, at present by low prices for ERCs for these types of projects. Two of the most used voluntary carbon standards (Verra and Gold Standard) are no longer accepting grid-connected renewable energy (e.g., wind and solar) projects in most countries. This is due to the perception that the opportunity to earn carbon credits is becoming less indispensable to renewable energy development and that grid-connected renewable energy projects are now considered cost-competitive with fossil-fuel power generation and thus raising questions on their "additionality". However, the Qatar-based Global Carbon Standard still accepts grid-connected renewable energy. The compliance carbon market, under Article 6 of the Paris Agreement, which is still in development, has not set such restrictions on grid-connected renewable energy projects.

9. Given this carbon market context – which will evolve but difficult to predict – and potential challenges with demonstration of the role of revenues from carbon markets to make renewable energy projects viable (so called 'additionality' demonstration), the Bank is of the view that it may be strategic to work on the development of *sectoral* or *jurisdictional* approaches where renewable energy targets at the sector/national level (e.g., share of the country's power generation coming from all or specific technology based renewable energy sources) would be assessed and considered for carbon crediting purpose. See Box A9.2. As such, the individual phases under the MPA will ensure that trends and data are collected and tracked at the level of individual investments, but also at the sectoral level to enable robust environmental integrity claims associated with the MPA.

Box A9.2: Overview and rationale for developing a sectoral or jurisdictional approach for emission reduction crediting

A crediting approach defines how GHG emission reduction credits are generated and specifies the required quantification approach.

Project-based crediting typically focuses on individual investment projects. This has been a common form of crediting, but has also led to some concerns that it does not ensure that GHG-emitting activities are not simply being displaced by the project-based credited investment.

There have thus been efforts – including from the World Bank- to develop broader scope crediting approaches as a response to the risk of simply displacing GHG-emitting activities and not leading to true mitigation. Sectoral crediting and jurisdictional crediting are two such approaches:

Sectoral crediting is based on a target set according to the aggregation of emissions in a defined economic sector or sub-sector (e.g., power generation sector; residential buildings sector). Such crediting incentivizes and rewards mitigation achieved at a sectoral level relative to a sectoral crediting baseline.
Jurisdictional crediting is based on aggregate emissions in a jurisdiction typically comprising both a physical area and a legal entity, such as a city or a state in a country. Jurisdictional crediting can focus on all categories of emissions and removals or target specific categories. Jurisdictional crediting has been discussed mostly in the context of REDD+ (targeting emissions from deforestation and forest degradation). An important reason for moving to a jurisdictional crediting approach in REDD+ has been to overcome the risk of leakage in project-based forestry projects, in addition to scaling mitigation beyond the project level. As in sectoral crediting, jurisdictional crediting is based on changes in overall emissions in a whole segment of the economy and not in attributing mitigation effects to concrete and predefined mitigation actions.

10. Ultimately, it is each host country's decision to select the avenue(s) for the monetization of their emission reduction credits, taking into account their national requirements, implications, and pricing. The ECARES MPA will help build the structure required for the monetization of emission reduction that will support individual countries' decisions through an aggregation approach which will help reach scale, access more buyers, and potentially fetch higher prices. The World Bank – and activities proposed under the ECARES MPA – are effectively agnostic to the ultimate decisions on the avenues selected to monetize emission reduction credits and will be able to support any decision taken. To keep all options open, the ECARES MPA proposes to provide technical assistance[45] support to help inform decisions, build capacity and readiness for participating in Article 6 transactions – which are the most demanding for host countries – given "authorization" and "corresponding adjustments" requirements-, but are expected to fetch higher prices and thus generate higher revenues[46]. Under the ECARES MPA, technical assistance support will be provided for exploring and developing a carbon market digital ecosystem which would seek to leverage ECARES' regional mechanisms (once these are established) for coordination and harmonization and aggregation efforts, while also facilitating country-level engagement and participation. Technical assistance support will also be provided to inform and facilitate outreach with carbon markets/buyers.

Box A9.3: World Bank Scaling Climate Action by Lowering Emissions (SCALE)

The Scaling Climate Action by Lowering Emissions partnership, or SCALE, is a new multi-partner fund. SCALE supports countries to monetize verified emissions reductions and to access international carbon markets. By building country capacity throughout and supporting their navigation of this complex space, SCALE works to bridge the financing gap and mobilize public and private sector investments for low-carbon development. It builds on the World Bank's 20 years of experience in emissions reductions crediting.

SCALE will support country access to carbon markets while incentivizing ambitious Nationally Determined Contributions (NDCs). By building capacity and aiming to generate excess high quality emissions reduction credits that can be commercialized in carbon markets, results-based climate finance accelerates the development of international carbon markets. SCALE-supported programs will generate excess emissions reductions, which may then be used towards a country's NDCs, or sold to a third-party buyer or in the carbon markets.

SCALE supports just and inclusive transitions towards reduced greenhouse gas emissions in three major areas:

- **Natural Climate Solutions**: SCALE will support carbon sequestration and climate-compatible programs in agriculture, forestry, and other land use as well as carbon stored in coastal and marine ecosystems (blue carbon), enhanced agricultural productivity, ecosystem conservation, and resilient marine economies.

[45] The Bank's Climate Change Group is providing technical support to the ECARES MPA. In addition, technical assistance resources are expected to be mobilized.
[46] ECARES countries may also decide to sell ERC without corresponding adjustments on the VCM and the proposed dMRV infrastructure would also enable it.

- **Sustainable Infrastructure Solutions**: SCALE will incentivize transformative climate action with coordinated efforts on institutional strengthening, implementation of low-carbon policies, improved enforcement of standards and regulations, investment in programmatic activities, integrated jurisdictional planning and GHG emissions monitoring.
- **Fiscal and Financial Solutions:** SCALE will work with country governments to ensure their policies and regulations make the true costs of emissions apparent and stimulate private sector-led emissions reduction actions through de-risking and other tools. Green financial sector reform helps to tap public and private sector funds seeking green investment opportunities to increase finance for climate action.

Social inclusion is a central element of the design of all SCALE programs. An associated fund - **Enabling Access to Benefits while Lowering Emissions (EnABLE)** – will enhance the inclusion of marginalized communities and indigenous peoples through specially designed benefit sharing arrangements.

See: https://www.worldbank.org/en/programs/scale/overview

ECARES' Approach to climate and carbon finance

11. The generation and monetization of ERCs through accessing the carbon market may have significant potential for the ECARES program, but it can also be a complex process. This will be further assessed and elaborated during the implementation of the MPA, and will start with an assessment of the ERC potential to justify the Bank's engagement in climate and carbon finance under the MPA. The experience with the first phase will inform and help simplify (and accelerate) the process for subsequent phases. Specifically, this includes:

(a) **ERC creation** – This involves adapting relevant methodologies (to be assessed and determined) to define a programmatic approach for estimating emission reductions from the MPA, using a suitable crediting approach (or approaches)[47].

(b) **ERC infrastructure** – developing the necessary ER infrastructure including monitoring, reporting and verification (MRV) systems to generate high quality (credible) emissions reductions during the MPA's implementation. The aim is to standardize digital MRV[48] (dMRV) systems to facilitate transparent and consistent aggregation of data (from countries and the private sector).

(c) **ERC monetization technical and readiness support** (at country and regional levels) – building and strengthening institutional and governance frameworks and capacities to assess, inform decisions and access avenues for the monetization of ERCs. This will help create an enabling environment for countries' participation in carbon markets.

Emission reduction credit asset creation process and its main components

12. The development of emission reduction assets includes a number of elements and steps, as summarized in Table A9.1 below.

13. Under the Paris Agreement, bilateral or plurilateral cooperation between participating parties can be established through a mutually agreed policy and governance framework and reflected in the agreement between the parties involved. This decentralized architecture requires considerably higher levels of engagement and oversight from participating parties. The context for setting institutions and approval procedures at the domestic level necessary to establish the enabling environment is fundamentally rooted in each country's national climate strategy and its NDC. A country participating in the carbon market should have a clear strategy that guides how its participation will help the country achieve its overall climate change commitments and targets.

[47] Crediting approaches may include: (i) project-based crediting; (ii) programmatic crediting; (iii) policy crediting; (iv) sectoral crediting; (v) jurisdictional crediting, and (vii) economy-wide crediting. (N.B. these 6 crediting approaches are also included in the SCALE Crediting Framework).
[48] Transparent and robust MRV is a critical component of any emission reduction credit generation effort.

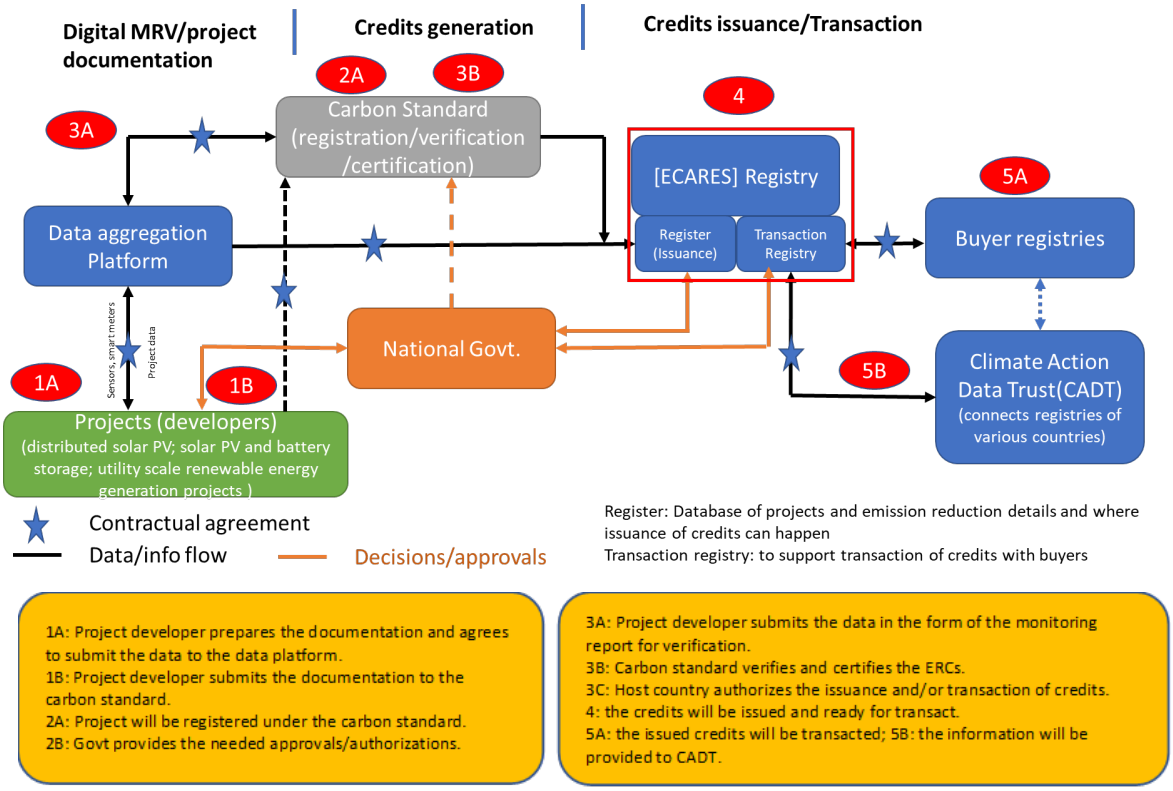
Table A9.1: Overview of key steps and elements in the ERC asset creation process

Key elements and steps in emission reduction asset creation process	Applicability
a) Crediting approach and methodological framework: Set outlines of methodological principles needed to guide the quantification of the GHG mitigation impact of projects and MRV procedures (see below).	(d) CCM (e) VCM (f) RBCF
b) **Validation**: An independent evaluation of the project activity proposed to generate ERCs against applicable rules and requirements of the standard/mechanism and applicable methodology. At the end of this process, the project activity may be registered (by a carbon standard, or a similar step by the host country)	
c) Registration: A project activity, after successful validation, may be registered in the host country's registry (if it has one), the carbon standard's registry, or other registry selected by the host country/project developer	
d) Monitoring and reporting: Project developers need to regularly monitor and periodically report on the performance of the project activity and associated emission reductions according to the applicable methodology	
e) **Verification**: Periodic assessment of monitored and reported emission reductions that have occurred as a result of the registered project activity. It can be described as an audit of emission reductions reported, ensuring that procedures specified in respective methodology were followed. (Monitoring, reporting and verification, referred to as "**MRV**", is a core component of the regulatory framework of carbon market mechanisms – VCM and CCM alike. MRV describes measures to collect data on project performance and emissions. It includes information on methodologies, assumptions, and data parameters used)	
f) **Issuance**: A specified quantity of serialized verified emission reductions is "issued" to project participants' accounts (located in a registry)	(g) CCM (h) VCM
g) Labelling: Standards/mechanisms may choose to "label" the ER units to indicate compliance with the Paris Agreement or other uses and to highlight key attributes. Such labeling is intended to make a distinction among different use cases by transparently listing the ER unit's characteristics.	- CCM/VCM: Not mandatory; but ERC units may or may not be labelled. - Labelling of certain ERCs may help fetch higher prices
h) **Authorization**: The written authorization by a host country – through a Letter of Authorization - of emission reduction units or activities that are subject to the regulatory requirements of Article 6 of the Paris Agreement of other specific uses.	-CCM: all ERCs transacted under Article 6 require Authorization. - VCM: ERCs transacted may or may not require Authorization (with ERCs with Authorization expected to fetch higher prices than those without it)

14. The host country is solely responsible for authorizing and transferring emission reduction credits for the CMM, as well as for applying corresponding adjustments, if applicable. To support transactions under the ECARES program, decision-making arrangements at the country-level (including institutional roles and responsibilities) will need to be clarified early in the implementation of the MPA and efforts will be made, through the regional platform, to help standardize documentation and procedures. However, the way in which an emission reduction becomes an emission reduction credit

(ERC) impacts what is required for decision-making. In other words, ERCs produced through a national standard.[49] may differ from those that rely on the Article 6.4 (United Nations) mechanism.[50] of the Paris Agreement and may differ from those that rely on independent carbon standards[51]. Figure A9.1 illustrates the ERC creation process, noting that countries (or a group of countries under ECARES) would likely benefit from aggregation efforts, including to collect the necessary data and potentially to develop a common registry (e.g., in the case of smaller countries), to enable accessing carbon markets at lower transaction costs. This will be further explored during the ECARES implementation.

Figure A9.1 – Emission Reduction Credit Creation Process Flow Chart



15. Discussions to clarify (carbon) benefit sharing arrangements will also be pursued during the implementation. In addition, the governance of the ERC creation process will also be determined during implementation, based on discussions with individual countries, and as appropriate, regional entity(ies) supporting ECARES. Typically, key roles and responsibilities would include:

(a) A high-level *decision-making body* with overall authority to oversee the cooperation between different carbon market participants (e.g., sellers, buyers, aggregators, etc.) under the ECARES MPA – including potential impacts on NDC targets.

(b) An *administrator* to execute the rules and guidance decided/provided by the high-level decision body for aggregating and transacting ECARES-generated ERCs; and

[49] e.g., Standardized Carbon Framework, https://www.ci-dev.org/standardized-crediting-framework
[50] https://unfccc.int/process-and-meetings/the-paris-agreement/article-64-mechanism
[51] e.g., Gold Standard, https://www.goldstandard.org/; or Verra, https://verra.org/

(c) A *technical committee* to advise on any technical matters related to the digital data platform and the registry that will be established.

16. To the extent possible, these arrangements would build on existing institutional arrangements to minimize any additional burdens and delays for participating in carbon markets.

Reaching potential buyers: Next steps on market outreach

17. It is ultimately the decision of individual host countries to approve the sale and transfer of ERCs associated with ECARES-supported interventions implemented within their respective borders. As noted above, the World Bank proposes to help identify monetization options and their respective terms, requirements and implications through market outreach to help inform ECARES countries' decisions on the monetization of the ERCs generated under ECARES.

18. The following are some of the initial avenues/ outreach currently pursued by the Bank which could benefit the ECARES MPA:

(a) **Scaling Climate Action by Lowering Emissions (**SCALE) – The World Bank is actively fundraising to capitalize SCALE, which is the new World Bank umbrella instrument to catalyze results-based finance for ambitious GHG mitigation programs associated with WB lending operations and help client countries access carbon market financing. Funds for SCALE to support technical assistance have already been secured (and it is expected that a portion will be allocated to support the work under ASCENT). The ECARES MPA is part of the SCALE project pipeline and is being presented to potential SCALE contributors as one of the World Bank's flagship energy programs that will generate a significant volume of high-integrity ERCs.

(b) **Energy Transition Accelerator (ETA)** – Announced by the US Government at COP27, the ETA intends to scale up and de-risk private investment in accelerating the clean energy transition in developing countries through the participation of companies to provide upfront finance commitments in exchange for high-quality carbon credits. In its formative stages, ETA will be governed in partnership between the US Government, the Bezos Earth Fund and the Rockefeller Foundation. The ETA's vision is for the private sector to commit capital through advance purchase commitments at a meaningful fixed / floor price, providing a predictable finance stream that can catalyze upfront finance for energy transition at more favorable rates. The ETA intends to put in guardrails to ensure high environmental integrity in both the generation and participants' use of carbon credits, including through a jurisdictional crediting approach. Participating companies (open to both US and international companies) in the ETA will be private sector buyers that meet rigorous criteria and standards for net-zero strategies and their implementation, including in relation to credit use and making and reporting on progress towards targets.

(c) **Strategic partnership with sovereigns under Article 6 framework**. Two countries can enter into cooperative approaches for implementing their NDCs through trade of emission reduction credits under Article 6.2 of the Paris Agreement. A number of buyer countries have entered into an accelerating number of bilateral agreements and MoUs to cooperate under the framework of Article 6.2. Key buying countries (Japan, Singapore, South Korea, Sweden, Switzerland, etc.) are identifying partnerships and ECARES could present opportunities for scaling renewable energy and efforts to decarbonize the power sector. In coordination with interested countries (and appropriate regional entity(ies), framework agreements for the Paris Agreement Article 6.2 can be discussed with selected buyer countries for monetizing the emission reduction credits from the ECARES program.

ANNEX 10: Examples of Best Practice Across WBG for Financing Solutions for Renewable Energy Development and Integration that Enable Scale, Impact and Replicability

1. This annex provides relevant examples of WBG collaboration to deliver impactful solutions to scale- up renewables by combining WBG instruments and services to leverage private financing.

Scaling Solar Program: combining World Bank Groups Services to create markets for solar power

2. Scaling Solar brings together a suite of World Bank Group services under a single engagement aimed at creating viable markets for solar power in each client country. The "one-stop shop" program aims to make privately funded grid-connected solar projects operational within two years and at competitive tariffs. The scaling solar offers a WBG package including: (i) Advice to assess the right size and location for solar PV power plants in a country's grid; (ii) Simple and rapid site-specific tender to ensure strong participation and competition from committed industry players; (iii) Templates of bankable project documents that can eliminate negotiation and speed up financing; (iv) IFC financing and MIGA insurance attached to the tender and available to all bidders, delivering competitive bidding and ensuring rapid financial close; (v) Risk management and mitigation options to lower financing costs and deliver power at lower tariffs.

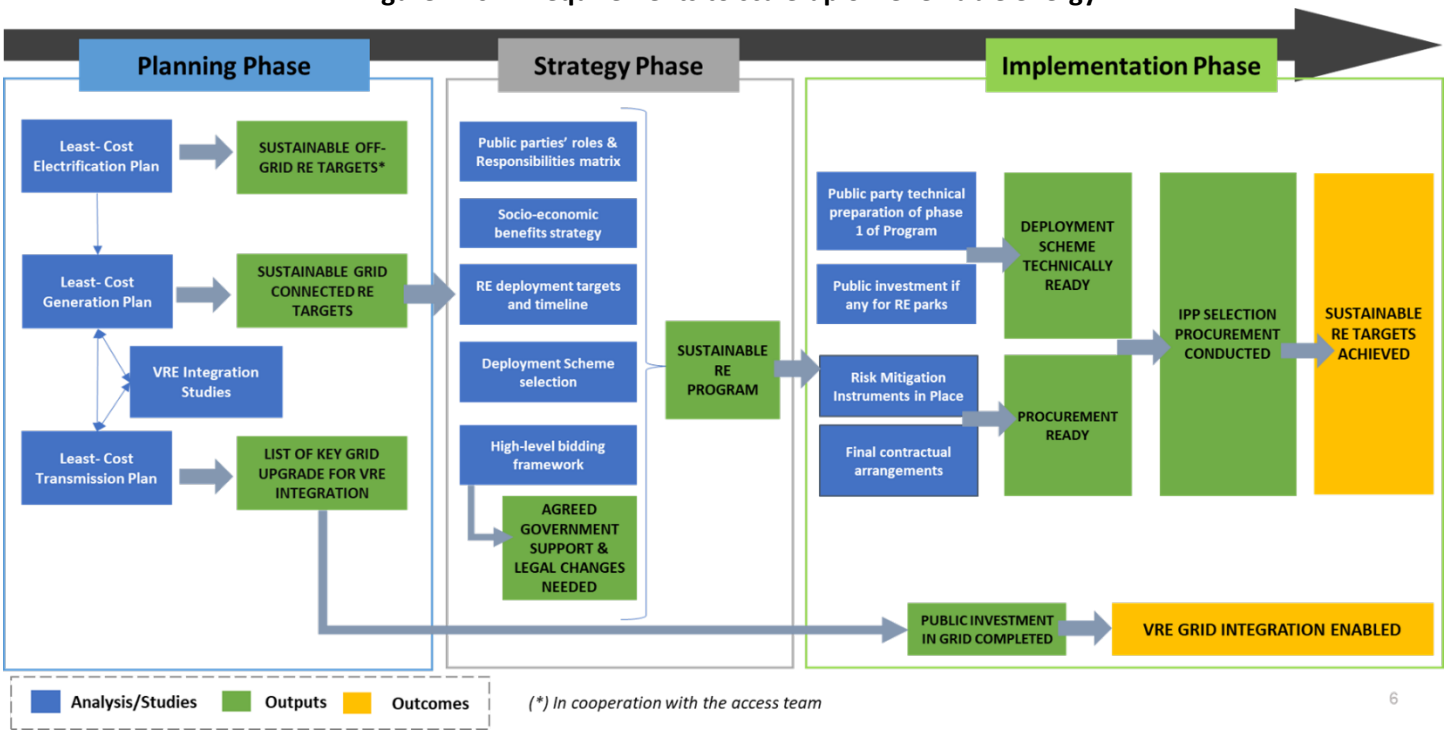
(a) The **key** benefits of this approach for Governments are speed (thanks to fully prepared templates), certainty (bankability of underlying documents, pre-approved financing stapled to the bids) and low costs thanks to competition and the participation of top-tier investors. For investors, the transparency in the approach levels the playing field, reduces bidding costs and generates scale through replicability.

(b) **Implemented** across multiple countries, the initiative is creating a new regional market for solar investment. In ECA, scaling solar approach has been successfully utilized in Uzbekistan (the first country beyond the African continent to join the World Bank Group's Scaling Solar program). The Government of Uzbekistan aim to develop up to 1 gigawatt of solar power and signed a mandate with IFC for a 100 megawatt project in the Navoi region in southwestern Uzbekistan in May 2018. The tender for this project resulted in competitive prices of 2.7 US cents per kilowatt-hour, as announced on October 4, 2019. This approach was repeated and will be used again under this program in Uzbekistan, and then expanded to the Kyrgyz Republic. Figure A10.1 shows the comprehensive support required to implement renewable energy scale-up, while Figure A10.2 presents the Scaling Solar approach. World Bank supports the planning and strategic phases and provides guarantees to facilitate the implementation phase. IFC infrastructure and MIGA typically focus on the implementation phase.

3. Table A10.1 below shows the results of Scaling Solar so far, and the equity and debt mobilized.

4. A relevant example of how to use Scaling Solar over type using an MPA approach is the recently approved Kyrgyz Renewable Energy Development Project (Figure A10.3). The project starts with public investments on small hydro rehabilitation, then aims at developing pilots solar IPPs using the Scaling Solar approach (combined with CAPEX grants) to move in subsequent phases to scale up the use of guarantees at fund level supporting non-site specific auctions.

Figure A10.1. Requirements to scale-up of renewable energy



Source: ESMAP, SRMI program

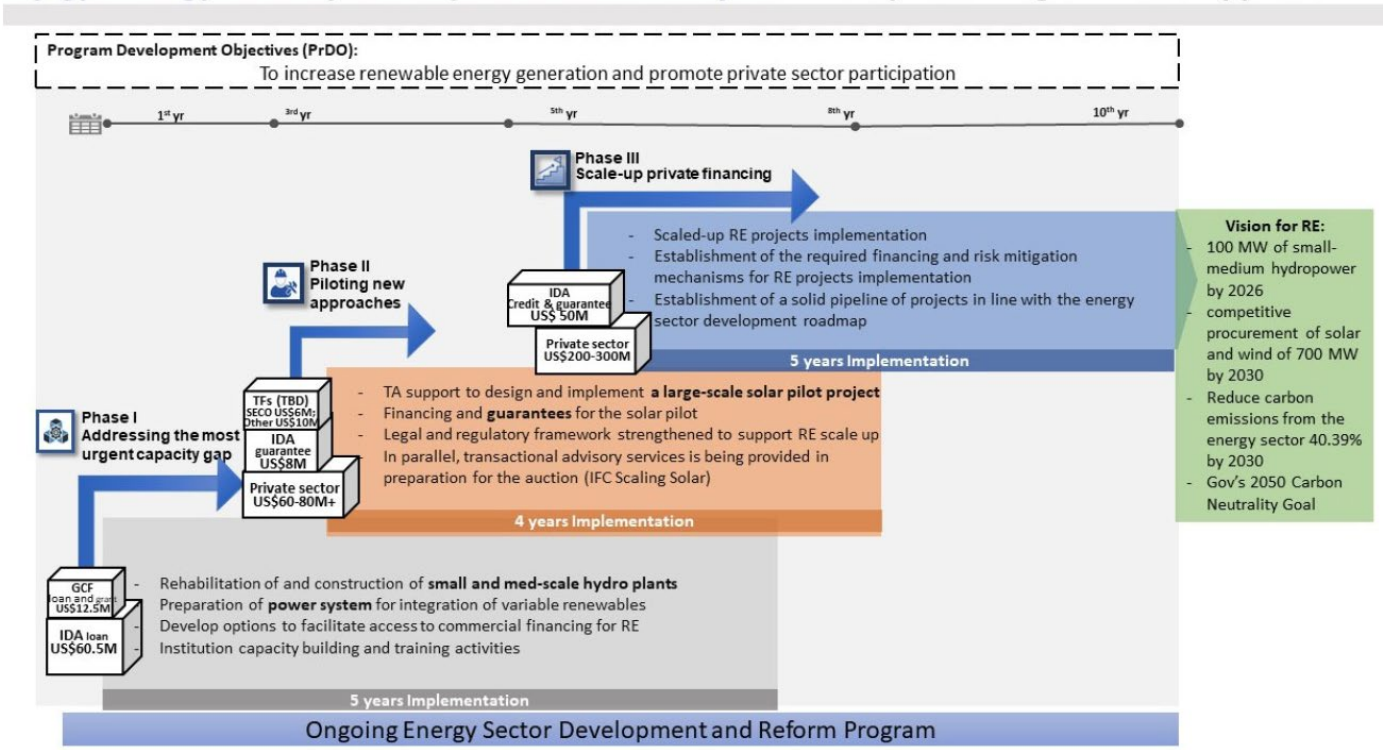
Figure A10.2. Scaling Solar approach

1. Project Preparation
   - Technical and economic analysis
   - Site investigation
   - Legal & regulatory analysis
2. Bid Preparation
   - Template tender and project documents
   - Attachment of financing, insurance, and credit enhancement
3. Tender Process & Award
   - Request for qualification
   - Bidder consultation
   - Request for proposals
   - Proposal review and award
   - Signing of project documents
4. Financial Close
   - Finalization of contracts
   - Final project approvals
   - Finalization of loan agreements, insurance, and risk management
5. Construction & Operation
   - Construction
   - Commissioning
   - Operations

Table A10.1. Scaling Solar program results

#	Country	CTA Status	INR Status	Project Size	Total IFC mobilization (Equity + Debt) US$m
1	Zambia 1	Closed	Committed	2 projects (54 +34 MW)	116.3
2	Zambia 2	Terminated	--	4 projects (2x100 + 2x50)	
3	Ethiopia 1	Closed	Dropped (no longer SS)	2 projects (125 MW each)	
4	Senegal	Closed	Committed	2 projects (25+35 MW)	53.6
5	Uzbekistan 1	Closed	Committed	1 project (100 MW)	94.3
6	Madagascar	Hold	Not Committed	1 project (25 MW)	
7	Uzbekistan 2	Closed	Not part of Financing	2 projects (440 MW)	
8	Togo	Active	Not Committed	1 project (40MW)	
9	Niger	Hold	Not Committed	1 project (50 MW)	
10	Cote d'Ivoire	Active	Not Committed	2 projects (30 MW each)	
11	Afghanistan	Hold	Not Committed	1 project (40 MW)	
12	Kyrgyz Republic	Active	Not Committed	1 project (100MW)	

Figure A10.3. MPA for Kyrgyz Renewable Development Project



Leveraging risk mitigation instruments to accelerate solar rooftop deployment in Maldives

5. Maldives is a Small Island Development State (SIDS) with a small and expensive diesel-based grid. Following the SRMI approach and with the support of the World Bank Energy Storage Partnership, the Government of Maldives has been engaged with the World Bank to: (i) develop large scale solar, including floating solar, to attract private investors in optimized conditions, (ii) enable further VRE integration through public and privately-owned battery storage deployment

and grid modernization – via co-investments with the Asian Development Bank (ADB); and (iii) provide technical assistance for institutional capacity building. The risk mitigation framework developed for the Maldives, with support from SRMI, has helped provide the confidence needed for private sector companies to invest in the country's renewable energy sector. It resulted in a significant increase in private sector participation from four bidders to a whopping 63 parties for the 11 MW solar PV project which was awarded at a tariff of US$c 9.8 per kWh, a record-low bid in Maldives and one of the lowest in a SIDS country. Under this framework, the risk mitigation instruments proposed to IPPs were: (i) World Bank guarantees for PPA termination risk; (ii) 6 months payment security mechanism for PPA payment delays, co-funded by CIF and the Government of Maldives; (iii) Currency convertibility clause; and (iv) Tariff buy-down focusing specifically on floating PV and battery storage.

Fund-level guarantees to achieve massive renewable energy scale up: Argentina RenovAr Program

6. Argentina launched RenovAr, an ambitious program to increase the share of renewable energy in overall electricity consumption from less than 2 percent to 20 percent in 2020. The program aimed to increase renewable generation developed by private investment through competitive auctions. CAMMESA, the wholesale electricity clearing market administrator, was the off-taker and signatory to Power Purchase Agreements (PPAs) awarded to private Independent Power Producers (IPPs). To facilitate financing, the government of Argentina created the Fund for the Development of Renewable Energy (*Fondo para el Desarrollo de Energías Renovables* [FODER]) to provide guarantees, direct financing, and other financial instruments. The Investment and Foreign Trade Bank (*Banco de Inversión y Comercio Exterior* [BICE]) administers FODER as its trustee. International investors were interested to return after years of absence but were cautious given: (i) Argentina's track record in the last 15 years of significant policy reversal and non-compliance with contractual un-dertakings (i.e., political risk), and (ii) their lack of recent experience financing energy sector projects in Argentina.

7. Argentina relied on the World Bank Group to design, support, and implement RenovAr. A close coordination between IFC (providing advice on the overall attractiveness of the program for private investors and bankable project documentation as well as actively evaluating and financing several projects) and IBRD (provisioning guarantee support and providing assistance in designing the standardized legal documents) was critical for the design of the program. The structure of an umbrella IBRD guarantee via a Financial Intermediary was an innovative solution that allowed IBRD to offer optional support to bidders in multiple renewable projects and through several auction rounds (see figures A10.4 and A10.5). Of the 4.5 GW awarded across 142 projects in Rounds 1/1.5 and 2, 1.6 GW across 42 projects requested the IBRD guarantee support. Besides the advisory support in the design of the Renovar program, IFC provided debt financing to some projects. MIGA provided its Political Risk Insurance for some projects. The strategic WBG support helped to reestablish private investor confidence into Argentina. **The US$480 million umbrella IBRD guarantee had a multiplier effect which contributed to mobilizing US$5.5 billion in private and commercial financing** for the RenovAr program, with the contribution of variable renewable energy in the electricity mix increasing from 2 percent in 2017 to 10 percent in 2020. Thus, the WB supported Argentina in a strategic shift in its energy mix towards renewable energy, carrying a significant amount of climate co-benefits.

Figure A10.4. Contractual Relationships of IBRD Guarantee in the RenovAr Program

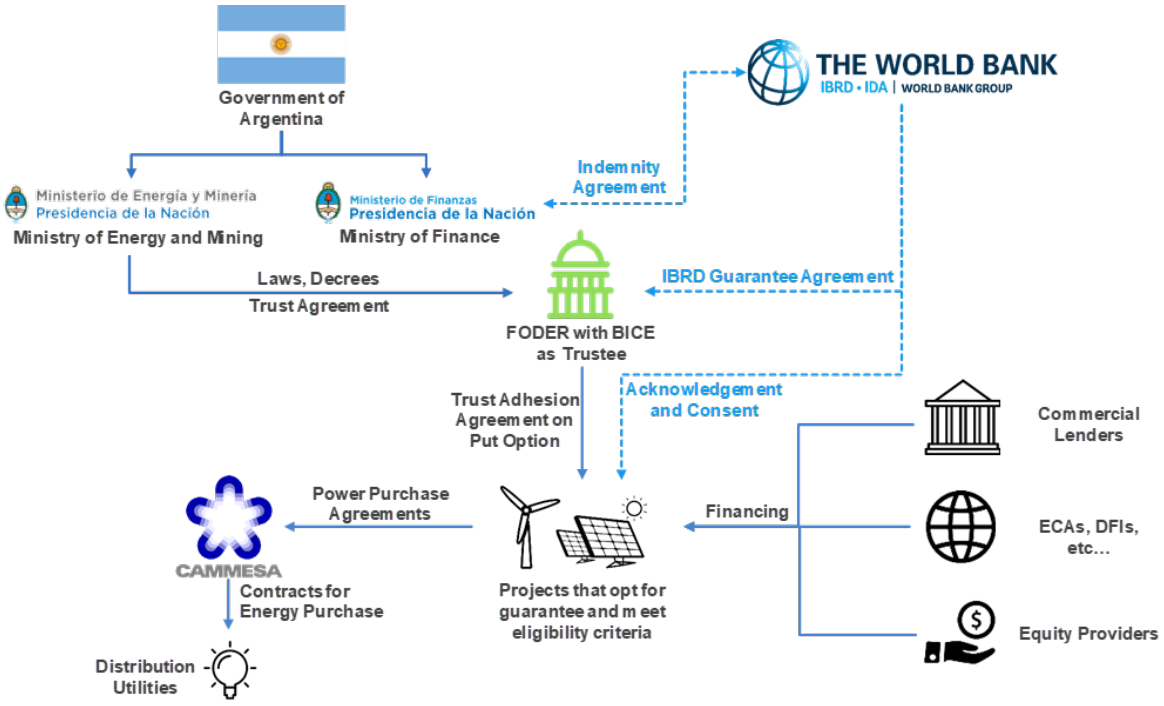
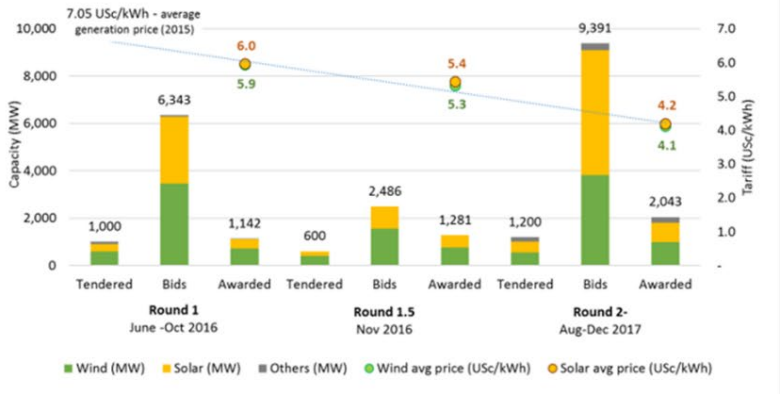
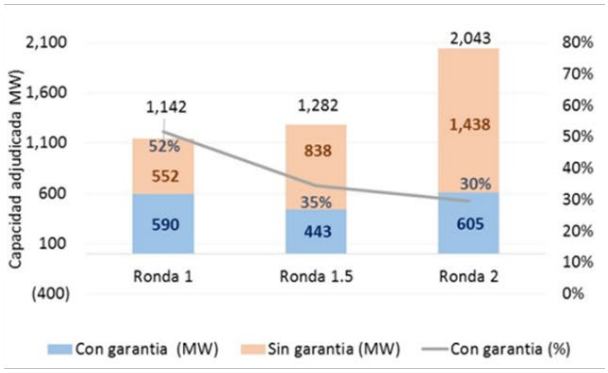


Figure A10.5. Results from the RenovAr Program





Use of Second level guarantees to leverage financing from commercial Banks: FDN Colombia

8. In July 2018, the WB approved a guarantee scheme to Colombia's National Development Bank (*Financiera de Desarrollo Nacional* [FDN]) worth US$81 million (IBRD+CTF) in order to support its payment obligations for renewable energy and energy efficiency sub-projects under its Renewable Energyies Program (*Programa de Energías Renovables* [PER]) account. This guarantee was aimed to facilitate investment in the first renewable energy auctions and the reduction of the price of this energy to the user (see figures A10.6 and A10.7).

9. The CTF and World Bank guarantees would have backstopped potential payment delays and loses. Thanks to a regulatory change, these guarantees would allow FDN to increase its volume financing to renewable energy projects by reducing capital reserves requirements. Eventually, the regulatory change was not approved in the form required and the project was closed, but the structure has the potential to work in other countries.

Figure A10.6. Contractual structure of Colombia FDN Project

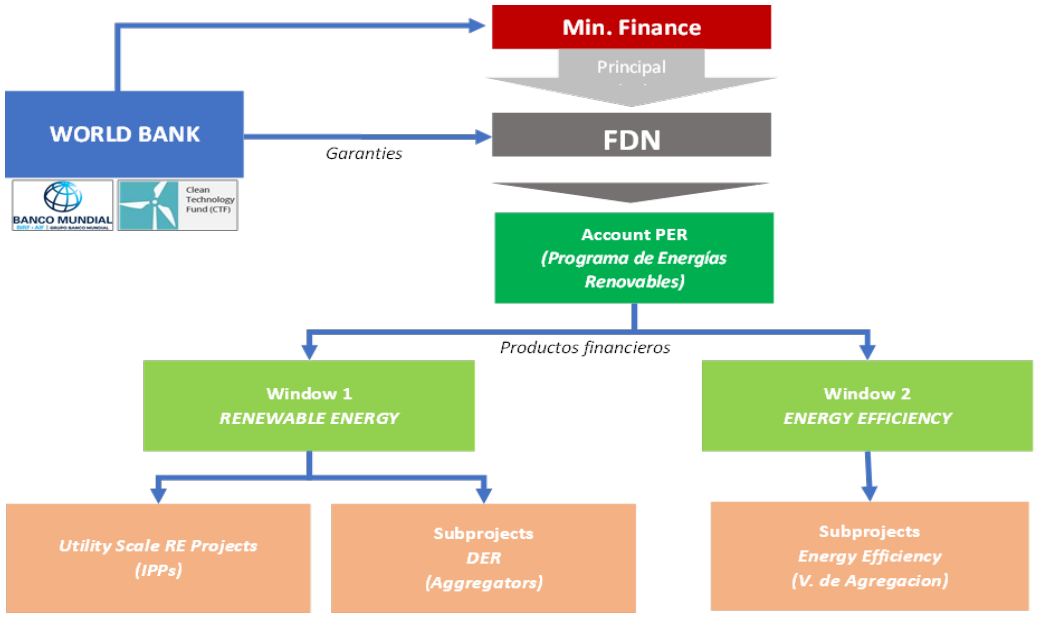


Figure A10.7. Colombia FDN Risk coverage waterfall