

WORLD BANK

ADDENDUM TO THE

ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA)

FOR THE

TÜRKİYE ACCELERATING THE MARKET TRANSITION FOR
DISTRIBUTED ENERGY PROGRAM (P176375)

ADDITIONAL FINANCING (SEQUENCE 1)

AS PART OF THE

EUROPE & CENTRAL ASIA RENEWABLE ENERGY SCALE-UP
(ECARES) MULTIPHASE PROGRAMMATIC APPROACH (MPA)

May 14, 2026

This Addendum to the Environmental and Social Systems Assessment (ESSA) for Accelerating the Market Transition for Distributed Energy Program (P176375) has been prepared by a Bank team composed of Aki Tsuda (Senior Social Development Specialist), Gaurav Joshi (Senior Environmental Specialist) and Sibel Gulen (Environmental Specialist) in close coordination with the Task Team Leaders/Energy Sector members, Alan David Lee (Senior Energy Specialist) and Arnaud Braud (Senior Energy Specialist).

The World Bank website for the Program is <https://projects.worldbank.org/en/projects-operations/project-detail/P176375>.

The Program is implemented by two Participating Implementing Agencies (PIAs):

- Development and Investment Bank of Türkiye (TKYB): www.kalkinma.com.tr/ and
- Industrial Development Bank of Türkiye (TSKB) www.tskb.com.tr/

This Addendum is to be read in conjunction with the Environmental and Social Systems Assessment (ESSA) prepared for the parent operation, disclosed on January 22, 2024:

English: <http://documents.worldbank.org/curated/en/099922202022432847>

Turkish: <http://documents.worldbank.org/curated/en/099931202022426518>

A draft version of this Addendum, English language version, was disclosed on April 20, 2026, and a Turkish language version on April 30 2026.

This Addendum supplements the parent ESSA by (i) assessing progress on the Program Action Plan (PAP); (ii) identifying relevant changes in legislation; (iii) identifying the E&S risks arising from the expanded scope of this first Additional Financing; and (iv) updating the Program Action Plan accordingly. The provisions of this Addendum apply from the date of signing of the AF IBRD Loan Agreement, provided that Actions 4 and 5 of the updated Program Action Plan have been completed to the satisfaction of the Bank prior to that date. Until that date, the parent ESSA continues to govern all Program activities. This Addendum introduces new or updated requirements in the following areas: E&S risk ceilings for Results Areas 1.B and 2.B; PAP actions for wind and medium-voltage subprojects (biodiversity capacity, ESDD templates, and land due diligence for MV connections); and community engagement and grievance requirements for wind and MV subprojects. In these areas, this Addendum prevails over the parent ESSA. All other provisions of the parent ESSA — including the full exclusion criteria, subproject screening and risk categorisation requirements, grievance mechanism specifications, land acquisition framework for LV PV subprojects, and solar supply chain requirements — continue to apply unchanged.

Table of Contents

ABBREVIATIONS	3
EXECUTIVE SUMMARY	4
1. INTRODUCTION	5
Background and Purpose of the Addendum	5
Program Description.....	5
Methodology.....	6
2. ENVIRONMENTAL & SOCIAL PERFORMANCE OF THE PARENT PROGRAM	6
3. EXPECTED ENVIRONMENTAL AND SOCIAL EFFECTS	8
Overall E&S Risk Rating.....	8
Environmental and Social Benefits.....	8
Environmental Risks.....	8
Social Risks	9
4. CHANGES IN LAWS, LEGISLATION, AND PROCEDURES.....	10
Relevant Legislative Developments since the preparation of the parent Program (Jan. 2024).....	10
5. INSTITUTIONAL CAPACITY ASSESSMENT.....	11
TKYB (Development and Investment Bank of Türkiye).....	11
TSKB (Industrial Development Bank of Türkiye)	11
Sub-Borrower Capacity	11
6. COMPARATIVE ANALYSIS OF BORROWER E&S SYSTEM AND WORLD BANK PforR CORE PRINCIPLES.....	12
Core Principle 1: Environmental and Social Management System	12
Core Principle 2: Natural Habitats and Physical Cultural Resources	12
Core Principle 3: Public and Worker Health and Safety.....	12
Core Principle 4: Land Acquisition	12
Core Principle 5: Vulnerable Groups and Gender	13
Core Principle 6: Social Conflict and Grievance Redress	13
7. STAKEHOLDER ENGAGEMENT.....	14
Stakeholder Engagement during Preparation of the Addendum.....	14
Stakeholder Consultations Prior to Appraisal.....	14
8. CONCLUSION AND RECOMMENDATIONS.....	14
9. UPDATED E&S PROGRAM ACTION PLAN (PAP).....	15
Annex 1: Issues raised and Bank staff responses.....	16

ABBREVIATIONS

Abbreviation	Full Term
AF	Additional Financing
BESS	Battery Energy Storage System
BMP	Biodiversity Management Plan
CBAM	Carbon Border Adjustment Mechanism
CHSP	Community Health & Safety Plans
CTF	Clean Technology Fund
DLI	Disbursement Linked Indicator
DLR	Disbursement Linked Result
DRE	Distributed Renewable Energy
DSPV	Distributed Solar Photovoltaic
ECARES	Europe and Central Asia Renewable Energy Scale-Up
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
ESAP	Environmental and Social Action Plan
ESDD	Environmental and Social Due Diligence
ESMS	Environmental and Social Management System
ESSA	Environmental and Social Systems Assessment
ETS	Emissions Trading System
ETL	Energy Transmission Line
FB	Facility Borrower
FOM	Facility Operation Manual
GRM	Grievance Redress Mechanism
IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
ISR	Implementation Status and Results Report
IVA	Independent Verification Agent
low voltage	34.5 kV (distribution grid infrastructure)
medium voltage	154 kV (sub-transmission grid infrastructure)
MPA	Multiphase Programmatic Approach
OHS	Occupational Health and Safety
PAP	Program Action Plan
PAPs	Project Affected Persons
PDO	Program Development Objective
PforR	Program-for-Results
PIA	Participating Implementing Agency
PS6	IFC Performance Standard 6
RA1, RA2	Results Area 1, 2
TEİAŞ	Turkish Electricity Transmission Corporation
TKYB	Development and Investment Bank of Türkiye
TMP	Traffic Management Plans
TSKB	Industrial Development Bank of Türkiye
WPP	Wind Power Plant

EXECUTIVE SUMMARY

Program Description. Additional Financing (AF) was requested from the International Bank for Reconstruction and Development (IBRD) for the Accelerating the Market Transition for Distributed Energy Program (World Bank Project Code P176375), the Phase 1 operation of the Europe and Central Asia Renewable Energy Scale-Up (ECARES) Multiphase Programmatic Approach (MPA). The parent operation, approved on March 28, 2024, effective September 13, 2024, is a Program-for-Results (PforR) instrument. The parent operation involved IBRD loans totaling EUR 600 million, Clean Technology Fund (CTF) loans totaling USD 30 million, and Energy Sector Management Assistance Program (ESMAP) grants totaling USD 3 million, each split equally between two Participating Implementing Agencies (PIAs): TKYB (Development and Investment Bank of Türkiye) and TSKB (Industrial Development Bank of Türkiye). The parent operation focus is on distributed solar photovoltaics (DSPV) connected to the grid at low voltage (34.5 kV), as well as Battery Energy Storage Systems (BESS) investments, allowing only subprojects with an environment and social (E&S) risk rating of Low or Moderate. Substantial and High E&S risk subprojects are expressly excluded from the parent operation. The proposed AF is EUR 400 million IBRD loan, split equally between the two PIAs: (EUR 200 million to TKYB and EUR 200 million to TSKB). The AF's revised scope encompasses eligible distributed wind, PV and BESS investments up to medium-voltage grid connections (at 154 kV), with an E&S risk rating of Low, Moderate, or Substantial risk. High E&S risk subprojects remain expressly excluded. With the AF, the Program will also be restructured to revise the Development Objective to broaden the scope from distributed solar PV to distributed renewable energy (DRE) (i.e. including wind).

ESSA Methodology. This Addendum was prepared based on: (i) a review of the parent ESSA and Program Action Plan; (ii) review of implementation experience, including the November 2025 Implementation Support Mission Aide Mémoire; (iii) review of the PIAs' Environmental and Social Management Systems (ESMS), including TKYB's ESMS updated in December 2025; (iv) an E&S questionnaire responded by TSKB and TKYB for the World Bank Task Team in March 2026; (v) review of representative E&S due diligence documents from TSKB and TKYB's existing wind portfolio; and (vi) review of the DSPV sub-project pipeline as of March 11, 2026.

Performance of the Parent Program. The parent Program is performing strongly. As of April 2026, Implementation Progress and Progress Toward Development Objectives are both rated Satisfactory. Approximately 43% of IBRD financing and 16% of CTF financing have been disbursed, with around 70% of Phase 1 direct lending committed across over 60 DSPV sub-projects. GRMs are operational at both PIAs (all grievances have been addressed), and no involuntary resettlement has been recorded.

Anticipated E&S Benefits. The Program supports Türkiye's transition to renewable energy by expanding distributed renewable energy (including wind power in addition to solar PV), and piloting BESS. Long-term benefits include reduced greenhouse gas emissions, improved energy security and access, and market development for clean technologies.

Potential E&S Risks and Risk Classification. The overall E&S risk for the AF is elevated from Moderate (parent Program) to Substantial, reflecting the inclusion of wind power subprojects and medium-voltage connections. Key environmental risks include: avian and bat collision risks from wind turbines and transmission lines, more habitat disturbance, noise, and shadow flicker. Key social risks include: land acquisition for longer medium-voltage transmission line corridors, community health and safety, and solar panel, wind turbine, and BESS recycling. Parent Program risks are adequately managed through the ESMS of both PIAs.

Comparative Analysis. The PIAs' E&S systems, which have been established in close alignment with WB ESF and IFC PS, are assessed as broadly consistent with World Bank PforR Core Principles. Potential areas of improvement identified relate to: wind-specific biodiversity due diligence requirements; enhanced land due diligence for medium-voltage corridor projects; and continued progress on solar panel recycling under the national regulatory framework.

Stakeholder Engagement. Focused consultations were held with relevant stakeholders prior to appraisal during the week of March 23, 2026. A summary of consultations has been incorporated into the Addendum, which was disclosed prior to appraisal.

Conclusion and Recommendations. This Addendum recommends updated Program Action Plan (PAP) actions including: (i) maintaining adequate E&S staffing; (ii) submitting E&S eligibility reports for Facility Borrowers; (iii) intensifying solar panel and BESS recycling dialogue; (iv) adopting wind-specific ESDD requirements and Biodiversity Management Plans; and (v) implementing an enhanced land due diligence protocol for medium-voltage connections. (iv) and (v) are new items added for this AF, while (i), (ii) and (iii) are the existing items updated for this AF.

1. INTRODUCTION

Background and Purpose of the Addendum

1. Additional Financing (AF) was requested from the International Bank for Reconstruction and Development (IBRD) for the Accelerating the Market Transition for Distributed Energy Program (P176375), which comprises the Phase 1 operation of the Europe and Central Asia Renewable Energy Scale-Up (ECARES) Multiphase Programmatic Approach (MPA). The parent Program, a Program-for-Results (PforR) instrument, was approved on March 28, 2024, and became effective on September 13, 2024. The AF (Sequence 1) proposes EUR 400 million IBRD financing split equally between the two Participating Implementing Agencies (PIAs): EUR 200 million IBRD loan to TKYB (Development and Investment Bank of Türkiye) and EUR 200 million IBRD loan to TSKB (Industrial Development Bank of Türkiye).
2. The current Program Development Objective (PDO) is to expand Türkiye's distributed solar photovoltaic (DSPV) market and pilot distributed battery electricity storage systems (BESS). The parent operation focuses on systems with low-voltage grid connections (at or below 36 kV, in practice at 34.5 kV). The AF proposes to revise the Program Development Objective (PDO) to expand Türkiye's distributed renewable energy market and pilot battery energy storage to increase renewable energy. The proposed revised PDO accommodates inclusion of wind power investments. The 'distributed' qualifier is removed from BESS in the revised PDO as storage applications extend beyond the distribution grid.
3. This Addendum is prepared pursuant to the World Bank's PforR Policy and Directive, which requires an Environmental and Social Systems Assessment (ESSA) for all PforR operations. It is to be read in conjunction with the parent ESSA, disclosed on January 22, 2024, and supplements it by:
 - i. Assessing progress on the Program Action Plan (PAP);
 - ii. Identifying relevant changes in Türkiye's E&S legislative and regulatory framework;
 - iii. Identifying the E&S risks arising from the expanded scope of the AF; and
 - iv. Updating the Program Action Plan accordingly.

Program Description

4. The AF expands the Program boundary in two respects. First, it broadens the technology and voltage scope beyond low-voltage PV to include wind generation and PV connected at medium-voltage level (154 kV, known as sub-transmission), which were excluded from the parent operation. Direct sub-loans from PIAs to project developers are retained for these new categories — rather than the Stage 2 Facility approach used for mature low-voltage DSPV — because wind and medium-voltage subprojects carry higher environmental and social (E&S) risk, raising the E&S risk ceiling from Moderate to Substantial for these new categories, and requiring closer PIA oversight. Second, the BESS capacity target is increased, reflecting growing government emphasis on storage integration. The existing low-voltage PV program — including both Stage 1 direct lending and Stage 2 Facility lending through intermediary banks — is preserved unchanged.
5. The eligible technologies span three categories, stemming from Türkiye's regulatory framework:
 - a) **Low-voltage wind/PV (unlicensed or licensed) and/or BESS.** Defined by connection to the distribution grid at 34.5 kV. This category continues the parent operation's low-voltage PV program and adds low-voltage wind under the AF. BESS may stand alone, be integrated with wind or PV, or be added to existing installations.
 - b) **Medium-voltage wind/PV (unlicensed) and/or BESS.** Defined by connection to the sub-transmission grid at 154 kV, operated by the national transmission system operator TEİAŞ. Renewable energy components in this category are new under the AF. Battery storage follows the same eligibility as low-voltage systems including addition to existing unlicensed medium-voltage wind or PV installations.
 - c) **Medium-voltage wind and/or PV (licensed) paired with BESS.** This category is new under the AF. Energy market regulations require 1 MW of BESS per 1 MW of RE generation capacity. This sizing requirement provides strong local grid balancing benefits. Medium-voltage licensed RE without BESS is not eligible under the Program. However, BESS added to existing licensed MV RE installations is eligible.
6. The Results Areas — the Program's internal financing categories — map to these technology categories and determine which financing instrument applies, the applicable E&S risk ceiling, and how results are measured. Results Area 1.A (R1A) covers Stage 1 direct lending for low-voltage PV (parent operation);

R2A covers Stage 2 Facility lending for low-voltage solar PV post-Transition Date (September 13, 2026); R1B covers AF direct lending for wind and PV up to medium-voltage; and R2B covers direct lending for battery storage, drawing first on Clean Technology Fund (CTF) financing from the parent operation before IBRD AF financing activates.

7. The parent operation applied an E&S risk ceiling of Moderate across all subprojects. The AF introduces a Substantial E&S risk ceiling for wind and medium-voltage subprojects (R1B), reflecting the more complex environmental and social impacts associated with these technologies — including landscape, noise, biodiversity, and community impacts from wind turbines, and a broader geographic footprint from medium-voltage grid connections. For battery storage subprojects (R2B), the E&S risk ceiling increases from Moderate to Substantial from the date of signing of the AF IBRD Loan Agreement, irrespective of whether such subprojects are financed from CTF or IBRD AF proceeds; prior to that date, the Moderate ceiling of the parent operation continues to apply to R2B subprojects. The Facility (R2A) and direct low-voltage PV subprojects (R1A) retain the Moderate E&S risk ceiling applicable under the parent operation. The Program's exclusion criteria — including the prohibition of activities in critical habitats, protected areas, or requiring involuntary resettlement or compulsory land acquisition — remain unchanged for the AF.

Methodology

8. This Addendum was prepared based on the following:
 - i. Review of the parent ESSA (January 2024) and its Program Action Plan;
 - ii. Review of the most recent November 2025 Implementation Support Mission Aide Mémoire and the February 2026 Program Concept Note for AF;
 - iii. Review of TKYB's updated ESMS (December 2025) and TSKB's operational ESMS;
 - iv. A structured E&S questionnaire responded by TSKB and TKYB for the World Bank Task Team in March 2026;
 - v. Review of representative E&S due diligence documents from TKYB's existing wind and transmission portfolio;
 - vi. Review of the DSPV sub-project pipeline as of March 11, 2026; and
 - vii. Stakeholder consultations held prior to appraisal (see Section 6).

2. ENVIRONMENTAL & SOCIAL PERFORMANCE OF THE PARENT PROGRAM

9. The parent Program has been performing strongly since effectiveness in September 2024. As of February 2026, Implementation Progress (IP) and Progress Toward Development Objectives (DO) are both rated Satisfactory. All DLI ratings are assessed as Satisfactory in the September 2025 ISR.
10. As of April 2026, approximately 43% of IBRD financing and 16% of CTF financing have been disbursed, with around 70% of Phase 1 direct lending committed across over 60 DSPV sub-projects across multiple provinces, with 142.80 MW of capacity already commissioned. Approximately 60% of Clean Technology Fund (CTF) financing for BESS pilots has also been committed.
11. The E&S performance of both PIAs is rated Satisfactory. Key implementation highlights include:
 - Both TKYB and TSKB maintain fully functional E&S management organizations with dedicated environmental, social, and OHS specialists.
 - GRMs are operational: TKYB recorded two grievances (both resolved); TSKB recorded one complaint related to construction dust (resolved) in November 2025 and recorded one grievance on changing logistic route (resolved) in March 2025.
 - Land acquisition monitoring confirms voluntary arrangements are followed; no involuntary resettlement has been recorded.
 - Both PIAs have begun engagement with solar PV manufacturers and recyclers to explore panel recycling approaches in Türkiye (PAP Action 3).
 - No significant additional E&S risks or impacts were identified during the November 2025 mission, including a site visit to a rooftop DSPV project in Manisa.

12. The progress of the original Program Action Plan (PAP) is assessed as follows:

- **PAP Action 1** — Appoint and maintain E&S specialists: Substantially completed. Both PIAs maintain adequately staffed E&S departments.
- **PAP Action 2** — Submit E&S eligibility reports for Facility Borrowers: In progress. The Stage 2 Facility for DSPV on-lending is due to be established by September 13, 2026 (two years after effectiveness as required by parent operation legal agreements). E&S eligibility criteria for Facility Borrowers are being incorporated into the Facility Operation Manual (FOM) framework under development by the PIAs. PIAs must submit the final FOM for WB acceptance prior to establishment of the Facility.
- **PAP Action 3** — Facilitate solar panel recycling dialogue: In progress. PIAs have initiated stakeholder engagement with manufacturers and recyclers. The industry approach remains voluntary. This action continues through Program closing.

3. EXPECTED ENVIRONMENTAL AND SOCIAL EFFECTS

Overall E&S Risk Rating

13. The proposed overall E&S risk for the Program under the AF is assessed as Substantial, elevated from the Moderate rating of the parent Program. This elevation reflects the inclusion of wind power subprojects and medium-voltage grid connections, both of which involve more complex environmental and social risk profiles than the distributed solar PV investments financed under the parent Program.

Environmental and Social Benefits

14. The Program supports Türkiye's energy transition by expanding distributed solar PV, introducing wind power, and piloting battery energy storage. Long-term environmental and social benefits include:
 - Reduced greenhouse gas (GHG) emissions through displacement of fossil-fuel-based power generation;
 - Improved energy security and diversification of the energy mix for Turkish businesses and communities; and
 - Market development for clean energy technologies, consistent with Türkiye's climate commitments.

Environmental Risks

15. **Risks to Flora and Fauna:** Supporting Wind powered electricity generation requires consideration and management of effects due to more moving parts, especially turbines in the vertical plane, that cause additional risk of hits / turbulence to avian fauna, mostly birds. In addition, given the large dimensions of the turbine blades, additional work may be required to create, strengthen and/or upgrade access / approach roads to the plant area. The removal of vegetation for the installation of turbines and power lines (permanent as well as for installation of towers) is another direct impact of the new supported activities. Such removal would result in destruction or degradation of habitat for native fauna, including burrowing animals and birds, as well as hindrance/s to migratory routes, on land and in the air. Medium-voltage grid infrastructure requires heavier elements, and therefore collision will be more damaging than for low-voltage grid infrastructure. Birds with large wingspan such waders like cranes and raptors like vultures also face risk of electrocution when crossing such lines. Mitigation includes pre-construction seasonal surveys, collision risk assessments (Band model), turbine micro-siting, post-construction mortality monitoring, and installation of bird flight diverters and line markers. Also, the Program's exclusion criteria prohibit financing in critical habitats.
16. **Use of hazardous materials:** Chemicals used for operation and maintenance of installations including oil and grease, cleaners, etc. can pollute water and land, if not handled carefully. Some of these can be very persistent in the environment and require specialized treatment and disposal to avoid serious harm. Direct exposure to some chemicals can cause injury and/or long-term health issues. Avoiding their use or providing adequate personal protective gear need to be considered early in the program design to ensure safety of workers, the community and the wider biophysical environment.
17. **EIA Exemption in Small-Scale Works.** The Turkish EIA Regulation continues to exempt certain small-scale works, a gap identified in the parent ESSA. PIAs' internal screening procedures should fill this gap.
18. **Solar Panel and BESS Recycling.** BESS poses social and environmental risks. Environmental concerns include radioactive material, chemicals and hazardous substances, spills and leaks, as well as fire and explosion dangers. National waste management regulations have not yet been updated to specifically mandate solar PV panel or BESS recycling. This gap, identified in the parent ESSA, persists. These risks will be managed through specific measures in the ESMS of the FIs such as hazardous waste management plan (HWMP) and protocols for tracking collection, transit, storage, and disposal via licensed firms for end-of-life BESS management.
19. Wind energy installations generally require less land per unit of energy generated than solar PV, but are associated with a wider range of environmental interactions — including noise, shadow flicker, and avian and bat collision risk — that require careful site-specific assessment. Solar PV installations have a smaller environmental footprint per se but may involve land use change, particularly for ground-mounted systems. Both technologies are well-understood, with established mitigation measures, and the Program's eligibility criteria and E&S due diligence framework are designed to address the specific risk profile of each technology.

Social Risks

20. **Changes to land use and land acquisition in medium-voltage connections.** Projects connecting to the medium-voltage grid involve longer transmission line corridors crossing multiple land parcels. Such projects may require change of land-use to industrial on a larger scale. For higher voltage transmission, more land is required for the installation of each tower and larger clearances are required around the conductors. This will mean more land will have use restrictions, and may also need to be kept clear, either by complete removal or lopping of vegetation. For wind power plants, there is a need to restrict the uses to avoid turbulence creation between turbines. The Program continues to exclude involuntary resettlement. Voluntary land purchase and easement arrangements for longer corridors require enhanced due diligence to confirm voluntariness, fairness of compensation, and adequate engagement with Project Affected Persons (PAPs) and local authorities.
21. **Easement on State-Managed Land.** For transmission lines traversing state-managed land (forest, pasture, or treasury land), administrative permits (easement rights or forest permits) must be obtained through established administrative procedures before transmission line construction.
22. **Community Health and Safety.** Wind turbines generate operational noise, dust and rotating-blade shadow flicker that can affect nearby communities. IFC/World Bank EHS Guidelines noise standards (55 dBA day / 45 dBA night for residential areas) are recommended to apply. Shadow flicker assessments (e.g., using WindPRO) and visual impact assessments are also recommended for projects near sensitive receptors. Also, wind project construction involves risks to nearby communities including traffic safety, blade and ice throw, and dust and noise. A Community Health and Safety Plan and Traffic Management Plan should be required for all wind subprojects during construction and operation.
23. **Occupational Health and Safety (OHS).** OHS issues can become salient due to the nature of construction of wind turbines and medium voltage (154kV) electric transmission. These structures are several tens of meters high and constructed in relatively isolated locations, making OHS issues a key concern during construction and maintenance activities. Potential risks and impacts include fall from heights and collision with moving parts, as well as electrocution from devices and machinery used for construction, operation and/or maintenance. Compliance with national OHS legislation and IFC/World Bank EHS Guidelines should be required.
24. **Supply Chain Labor Risks.** The risk of forced labor in the global solar PV supply chain persists. The program has included targeted mitigation measures including requiring the sub-borrowers, contractors, sub-contractors, and solar suppliers to the program activities to represent that they have not engaged forced labor, and commit to not engage any forced labor when undertaking program activities. These requirements will be included in the relevant contracts including sub-loan agreements, facility loan agreements, and relevant supply contracts as per World Bank policy and advice.

4. CHANGES IN LAWS, LEGISLATION, AND PROCEDURES

Relevant Legislative Developments since the preparation of the parent Program (Jan. 2024)

25. The national E&S legal and regulatory framework applicable to the Program — including the Turkish Environmental Impact Assessment Regulation, Expropriation Law No. 2942, the Labor Code, and national OHS legislation — remain as described in the parent ESSA, notwithstanding updates described below. This Addendum confirms that Türkiye’s national systems, supplemented by the PIAs' ESMS and the updated Program Action Plan, continue to provide an adequate basis for managing the E&S risks of the expanded Program.
26. The following major legislative and regulatory developments relevant to E&S issues in energy sector have occurred in Türkiye since the preparation of the parent ESSA:
 - **Permit Legislation (Law No. 7554, enacted on July 19, 2025).** A new permit law was enacted in July 2025. TKYB and TSKB confirmed that this legislation has no material implications for their respective ESMSs.
 - **Emissions Trading System (ETS).** Türkiye's national ETS is progressing toward implementation. While this does not directly alter E&S management requirements for the Program, it strengthens the policy context for the Program's market development objectives and increases industrial demand for renewable energy certificates, reinforcing Program relevance.
 - **EU Carbon Border Adjustment Mechanism (CBAM).** Effective January 2026, CBAM creates additional market-based incentives for Türkiye's industrial sector to source renewable energy, further reinforcing demand for Program-financed assets. This does not directly alter E&S management requirements for the Program.
 - **Solar PV and BESS Recycling.** National waste management regulations have not been updated to specifically mandate solar PV panel or BESS component recycling. While the gap identified in the parent ESSA remains unaddressed at the regulatory level, the Task Team will address this under PAP Action 3.

5. INSTITUTIONAL CAPACITY ASSESSMENT

TKYB (Development and Investment Bank of Türkiye)

27. TKYB's overall E&S performance under the parent Program is rated Satisfactory. TKYB has established its ESMS in full alignment with the WB ESF and IFC Performance Standards. TKYB's E&S department currently comprises 6 Environmental Specialists, 4 Social Specialists, 1 Biodiversity Specialist, and 1 Head of Department. The ESMS was updated in December 2025 and reviewed by the World Bank Task Team. TKYB's E&S organization is assessed as adequately resourced for the expanded AF portfolio. They have the capacity in managing key social risks under the AF, such as community health and safety, OHS and stakeholder engagement. TKYB requires that independent E&S consultants engaged by sub-borrowers are experienced in IFC PS, WB ESF and approved by TKYB; ESDD reports and management plans are prepared by relevant subject matter experts — including biologists, ornithologists, and social specialists, OHS Experts, Environmental Engineer — within the approved consultant.
28. TKYB has demonstrated robust capacity in wind project E&S management, including IFC PS6-aligned procedures for avian and bat surveys, collision risk assessments, Biodiversity Management Plans, and post-construction mortality monitoring. TKYB has a biodiversity expert and is in the process of expanding its biodiversity team. A representative sample from TKYB's WPP portfolio reviewed by the WB team— comprising ESDD, BMP, and ESAP — is a strong example of TKYB's existing wind project due diligence practice.
29. TKYB's GRM is operational. Two grievances were recorded under the parent Program, both of which were addressed and resolved. TKYB has also developed and maintains sub-loan monitoring systems including regular site visits and annual E&S monitoring reports for sub-borrowers.

TSKB (Industrial Development Bank of Türkiye)

30. TSKB's overall E&S performance under the parent Program is rated Satisfactory. TSKB has established its ESMS in full alignment with the WB ESF and IFC Performance Standards, with dedicated environmental and social specialists across its Climate Change and Sustainability Management Department and Engineering Department. The GRM recorded two complaints under the parent Program — construction dust (November 2025) and a logistics route change (March 2025) — both resolved.
31. TSKB has developed a Nature and Biodiversity Policy and has updated its Sustainability Policy with a stronger focus on nature and biodiversity considerations. These documents are publicly available on TSKB's website.
32. At the technical level, TSKB's ESMS is managed jointly by Climate Change and Sustainability Management Department with a total of 7 specialists, including 2 sustainable finance experts, 4 environmental engineers (one of them having OHS expertise) and one social specialist, and by the Engineering Department at project level with a total of 12 engineers, including 5 environmental engineers of which 2 of them have also OHS expertise. The social specialist delivers their expertise to both departments as a result of their responsibility in E&S risk assessment and management regarding lending activity of TSKB. They have the capacity in managing key social risks under the AF, such as community health and safety, OHS and stakeholder engagement. TSKB requires that independent E&S consultants engaged by sub-borrowers are experienced in IFC Performance Standards and approved by TSKB; ESDD reports and management plans are prepared by relevant subject matter experts — including biologists, ornithologists, and social specialists — within the approved consultant.

Sub-Borrower Capacity

33. Sub-borrower capacity varies across the portfolio. The March 2026 pipeline review confirms that qualified E&S consultants are engaged for ESDD preparation. The Bank team also confirmed that the reviewed sample required Biodiversity Management Plans and multi-season ornithological monitoring as ESAP conditions. PIAs review and approve ESDD documents and ESAPs prior to sub-loan commitment.

6. COMPARATIVE ANALYSIS OF BORROWER E&S SYSTEM AND WORLD BANK PforR CORE PRINCIPLES

34. Based on the key findings of the clients' E&S systems assessment highlighted in the previous sections, this section presents the comparative analysis organized by each of the six Core Principles outlined in Bank Policy and Directive for Program-for-Results Financing. More specifically, this section is the summary of the following considerations by the WB task team: (i) examines the relevance of each Core Principle to the proposed Program; (ii) highlights key findings from the E&S systems assessment (including legal/regulatory framework and institutional capacity) presented in the previous sections, including on the strengths and weaknesses of the current system; and (iii) proposes gap-filling/mitigation measures to ensure that the Program is managed in a manner consistent with the Core Principles of the Bank's PforR Policy.

Core Principle 1: Environmental and Social Management System

- **Strengths.** Both TKYB and TSKB operate robust Environmental and Social Management Systems (ESMS) that cover the full sub-project lifecycle from screening and ESDD to monitoring and reporting. TKYB's ESMS, updated in December 2025, is comprehensive and includes dedicated procedures for wind project biodiversity risk management. Sub-loan agreements require sub-borrowers to comply with ESAP conditions.
- **Gaps and Areas for Improvement.** The PIAs will each submit to IBRD their respective ESDD templates and screening checklists ensuring that they explicitly incorporate all wind project risk factors (avian/bat surveys, collision risk, noise, shadow flicker) and mitigations as per applicable World Bank/IFC EHS Guidelines. Templates will be confirmed, and updated as necessary, before conducting the ESDD of sub-loans (see PAP Action 4).

Core Principle 2: Natural Habitats and Physical Cultural Resources

- **Strengths.** The Program's exclusion criteria prohibit financing in critical habitats and protected areas. TKYB has dedicated biodiversity procedures aligned with IFC PS6, including requirements for Biodiversity Management Plans for projects with significant biodiversity risks. TSKB's Nature and Biodiversity Policy applies the mitigation hierarchy to credit evaluation processes and requires consideration of impacts on critical habitats, protected areas, and sensitive ecosystems in financing decisions.
- **Gaps and Areas for Improvement.** As wind projects occupy larger footprints in potentially more ecologically sensitive areas, systematic application of biodiversity screening and BMP requirements to all wind sub-borrowers requires formalization in ESDD templates. Bird flight diverters and avian mortality monitoring should be standard ESAP conditions for all wind and medium-voltage transmission line projects (see PAP Action 4).

Core Principle 3: Public and Worker Health and Safety

- **Strengths.** Both PIAs require sub-borrowers to comply with national OHS legislation and applicable World Bank/IFC EHS Guidelines. ESAPs include OHS conditions. TKYB and TSKB conduct site visits to verify compliance. TKYB's ESMS, endorsed as per WB ESF and IFC PS, include appropriate siting criteria to proactively avoid and mitigate potential impacts on communities, including community health and safety risks.
- **Gaps and Areas for Improvement.** Wind project construction involves higher-risk activities (work at heights, crane operations, heavier/larger vehicle movement for turbine blades) than DSPV installation. Community Health and Safety Plans (CHSP) and Traffic Management Plans should be required for all wind sub-projects as standard ESAP conditions. This is captured in requirement to use updated screening templates under PAP Action 4.

Core Principle 4: Land Acquisition

- **Strengths.** The Program excludes involuntary resettlement. Sub-borrowers for the parent Program have used company-owned land, voluntary purchase, or long-term leases of treasury land. No involuntary resettlement has been recorded under the parent Program.

- **Gaps and Areas for Improvement.** The inclusion of medium-voltage grid connections introduces sub-transmission line corridors at a greater height and pylons with larger footprint than poles for low-voltage distribution lines, and potentially greater length, requiring a more robust land due diligence framework. A standardized land due diligence protocol — documenting voluntariness, compensation adequacy, and PAP engagement — is required (see PAP Action 5). TKYB has raised the view that the Program's absolute exclusion of compulsory land acquisition may warrant review for wind projects. The World Bank maintains the exclusion of compulsory land acquisition for the AF, consistent with the Program's risk management framework.

Core Principle 5: Vulnerable Groups and Gender

- **Strengths.** Both PIAs conduct social due diligence that includes identification of vulnerable groups in project-affected areas. GRMs are accessible to affected communities. TKYB also incorporates a detailed gender analysis and OECD DAC Marker within its ESMS.
- **Gaps and Areas for Improvement.** For wind projects with larger community footprints, dedicated community engagement plans should be required as part of the ESDD process, including specific provisions for engaging vulnerable and marginalized groups.

Core Principle 6: Social Conflict and Grievance Redress

- **Strengths.** Both PIAs operate functional GRMs. Under the parent Program, all recorded grievances have been resolved. GRM procedures are documented in sub-loan agreements and communicated to sub-borrowers.
- **Gaps and Areas for Improvement.** As the portfolio expands to wind and medium-voltage projects affecting larger communities and more complex stakeholder environments, PIAs should confirm that GRM procedures remain accessible and are proactively communicated to affected communities, including through project-specific grievance mechanisms at the sub-borrower level.

7. STAKEHOLDER ENGAGEMENT

Stakeholder Engagement during Preparation of the Addendum

35. In preparation of this Addendum, the World Bank Task Team submitted a structured questionnaire to TSKB and TKYB in March 2026 to gather information on the E&S systems, portfolio status, and risk management approaches relevant to the AF's expanded scope. TSKB and TKYB's responses informed the risk assessment and PAP update.
36. The Task Team also reviewed outputs from the November 2025 fourth Implementation Support Mission, which included meetings with both TKYB and TSKB E&S teams, as well as a field visit to a rooftop DSPV sub-project in Manisa.

Stakeholder Consultations Prior to Appraisal

37. Focused consultations were held with relevant stakeholders prior to appraisal during the week of March 23, 2026. Consultations including representatives of sub-borrowers, government counterparts and potential sub-borrowers. The consultations focused specifically on the new E&S risks arising from the inclusion of wind projects and medium-voltage connections to consider the adequacy of the updated Program Action Plan. The inputs are considered and incorporated into this Addendum. Main issues discussed and Bank responses are summarized in Annex 1. The draft ESSA Addendum was disclosed on the World Bank's external website prior to appraisal and on the websites of TKYB and TSKB upon disclosure by the World Bank. See Annex 1 for issues raised and Bank staff responses.

8. CONCLUSION AND RECOMMENDATIONS

38. Based on the above assessment, the following measures and actions are recommended for the proposed AF to address the identified gaps/areas for improvement between the existing E&S management system and the core principles of the Bank's PforR Policy, which will ensure that the proposed program be managed in a manner consistent with the Core Principles. Subject to adjustment through negotiations with the client, these recommendations shall be integrated into the proposed AF, including the Program Action Plans (PAPs), as specified below (more details are provided in Section 9, including responsibility, timeline and completion measurement). Their effectiveness will continue to be monitored and adjusted throughout the program life.
 - Each PIA maintains and continues to strengthen respective capacity on biodiversity; Relevant ongoing measures include designation of a biodiversity specialist, engagement of external consultancy, and/or targeted training.
 - Each PIA ensures wind-specific E&S screening and ESDD templates explicitly capture avian/bat surveys, collision risk assessments, noise and shadow flicker assessments, and Biodiversity Management Plan requirements; bird flight diverters and avian mortality monitoring are standard ESAP conditions for all wind sub-projects and associated medium-voltage transmission lines.
 - Each PIA ensures standardized land due diligence protocol for medium-voltage corridor projects, covering voluntariness, compensation adequacy, PAP engagement, and ministerial easement approvals for state-managed land.

9. UPDATED E&S PROGRAM ACTION PLAN (PAP)

39. The following table presents the updated Program Action Plan for the Additional Financing. Actions 1–3 from the parent ESSA are carried over with updated timelines and scope. Actions 4 and 5 are new, addressing risks specific to the AF. Note the responsible parties for all actions are TSKB and TKYB.

#	Action Description	Timing	Completion Measurement
1	Maintain adequate E&S staffing . Appoint and maintain competent E&S specialists for Program implementation, including at minimum one environmental specialist, one social specialist, and one OHS specialist at each PIA. (New) Maintain and continue to strengthen biodiversity capacity through specialist recruitment/designation or targeted training or engagement of external consultancy adequate for the AF portfolio including wind subprojects.	Throughout implementation.	Updated list of qualified E&S staff (with CVs and TORs) submitted to IBRD upon request.
2	Submit E&S eligibility reports for Facility Borrowers . Prior to signing sub-loan agreements with Facility Borrowers (FBs) under Results Area 2A, submit E&S eligibility reports to IBRD demonstrating that each FB has an adequate ESMS and capacity to manage the E&S risks of eligible sub-projects.	Before signing each FB facility sub-loan agreement.	Eligibility reports submitted to and acknowledged by IBRD prior to each FB sub-loan signing.
3	Facilitate solar PV and BESS recycling dialogue . Intensify industry dialogue and stakeholder engagement to develop and implement a practical approach for solar PV panel and BESS component recycling in Türkiye, including engagement with the Ministry of Environment, Urbanization and Climate Change and support for manufacturer take-back schemes.	Ongoing throughout Program implementation; progress reported semi-annually.	Semi-annual Program Reports describing actions taken, meetings held, and progress toward developing a recycling approach.
4	(New) Wind and medium-voltage subproject-specific E&S due diligence requirements. 4.1 Submit to IBRD respective ESMS screening checklists and ESDD templates, ensuring that they explicitly include risk assessments and mitigations specific to wind and medium-voltage subprojects categorized as Substantial risk: (i) seasonal ornithological and bat surveys; (ii) bird collision risk assessment; (iii) assessment of noise, shadow flicker and blade/ice throw; and (iv) a Biodiversity Management Plan (BMP) as part of the ESAP. 4.2 Ensure ESAPs for wind and medium-voltage sub-projects include as standard requirements: (a) Installation of bird flight diverters and monitoring of post-construction avian mortality; and (b) Community Health and Safety Plans (CHSP) and Traffic Management Plans (TMP) for construction stage.	To be completed to the satisfaction of the Bank prior to the date of signing of the AF IBRD Loan Agreement, and ongoing throughout Program implementation.	4.1 Updated ESMS screening checklists and ESDD templates submitted to IBRD. 4.2 Each PIA’s Semi-annual Program Reports confirm corresponding subproject’s ESAPs include applicable requirements.
5	(New) Land due diligence for subprojects with medium-voltage grid connections. Submit to IBRD respective ESMS screening checklists and ESDD templates, ensuring that they include, for all medium-voltage sub-projects—a standardized land due diligence protocol documenting: (i) voluntariness of land purchase and easement agreements; (ii) adequacy of compensation at market rates; (iii) consultation records with Project Affected Persons and local authorities (including mukhtars); and (iv) confirmation of easement approvals from relevant ministries for state-managed land (Ministerial easement approvals for transmission line construction on state-managed land to be confirmed prior to construction activity).	To be completed to the satisfaction of the Bank prior to the date of signing of the AF IBRD Loan Agreement, and ongoing throughout Program implementation.	Updated ESMS screening checklists and ESDD templates submitted to IBRD. Each PIA’s Semi-annual Program Reports provide land due diligence information as applicable.

Annex 1: Issues raised and Bank staff responses

Issues raised	Bank staff responses
<p><u>National EIA requirement</u> (ESSA Core Principle 1):</p> <p>Wind power projects and medium-voltage grid investments are subject to sector-specific requirements, inter alia, Environmental Impact Assessment (EIA) requirements. The projects are not selected to be financed without completing these permitting and approval process. The sub borrowers conduct monitoring activities as required by the authorities during the EIA process.</p>	<p>The Bank team has noted that both TSKB and TKYB require E&S due diligence as per their own ESMS which requires confirmation of compliance with National requirement. Additionally, being aligned to the IFC PS, they also require borrowers to undertake E&S risk management consistent with requirements of the Lenders.</p>
<p><u>Capacity of TSKB/TKYB</u> (Core Principle 1):</p> <p>The TKYB internal team assigned to implement their ESMS, responsible for ES management of AF sub-projects, includes 6 Environmental Specialists (Environmental Engineers), 4 Social Specialists (Sociologists), 1 Biodiversity Specialist (Biologist), and 1 Head of Department (Civil Engineer). They will screen, coordinate the ESDD process, review and approve the ESDD, and monitor contractors and operation phase ES performance, as for similar scale projects implemented under TKYB’s ESMS and national and international finance institution ES requirements.</p> <p>TSKB's ESMS is managed jointly by the Climate Change and Sustainability Management Department (7 specialists: 2 sustainable finance experts, 4 environmental engineers including OHS expertise, and 1 social specialist with cross-departmental responsibility) and the Engineering Department (12 engineers, including 5 environmental engineers, 2 with OHS expertise). The team screens for E&S risks, coordinates and reviews ESDD conducted by independent consultants, and monitors sub-borrower compliance through construction and operation — functions already performed for comparable projects under TSKB's ESMS and international finance institution requirements.</p> <p>The ES requirements defined for the contractor (including the ESAP prepared for the specific sub-projects) are included in the contractor contracts. The contractor (during construction phase) and operator (during operation) prepare monitoring reports to TKYB/TSKB on the ES performance and implementation of the mitigation reports.</p> <p>In accordance with the sub-loan agreement, relevant E&S documents and monitoring reports for the construction and operation phases, prepared by an independent E&S consultant, are expected to be submitted to TSKB in line with the agreed frequency and reporting schedule with the Sub-borrower.</p> <p>TSKB and TSKB plans for E&S performance monitoring of the sub projects proportional to the risk categorization of the sub-projects.</p>	<p>Both TSKB and TKYB have recognized capacity to assess and monitor E&S risks and impacts from wind and medium-voltage transmission related activities.</p> <p>Both TSKB and TKYB are recommended to identify specific and proportionate capacity building /strengthening measures, including awareness creation for their relevant staff, contractors and their workers on wind plants, higher-voltage connections, and BESS. Both institutions should ensure that the contractors train workers in hazardous materials handling, emergency response, and safe maintenance procedures.</p>

Issues raised	Bank staff responses
<p><u>Biodiversity issues</u> (Core Principle 2):</p> <p>National EIA process requires project proponents/sub-borrowers to address biodiversity issues, such as prevention of impacts on sensitive areas defined by legislation.</p> <p>ESMS of both TSKB/TKYB include requirements for compliance with PS 6. Review for compliance with national requirements, IFC PS 6 and WBG ESS are in the ESDDs conducted (as specific to the project) and resulting ESAP and monitoring activities.</p> <p>TKYB has dedicated biodiversity procedures aligned with IFC PS6 within its ESMS, including requirements for Biodiversity Management Plans for projects with significant biodiversity risks. TSKB has developed its Nature and Biodiversity Policy and has reviewed and updated its Sustainability Policy and its complementary policies with a stronger focus on nature and biodiversity considerations. These documents are publicly available on TSKB's website.</p> <p>TKYB has a biodiversity expert as part of the E&S team. TSKB's E&S consultants engaged by sub-borrowers include subject matter experts such as biologists and ornithologists, ensuring specialist biodiversity input at project level.</p> <p>In specific cases, PIAs prepare BMPs to present specific mitigation measures and monitoring requirements. Some of the applied mitigation measures are: For WPPs, optimized turbine micro-siting optimized to avoid key flyways and sensitive habitats; restricted construction activities during critical breeding or migration periods where necessary; and operational measures such as temporary curtailment during high bat activity periods. For medium-voltage sub-transmission lines, bird flight diverters, line marking, insulation, and perch deterrent devices to reduce collision and electrocution risks. Post-construction mortality monitoring is conducted, and adaptive management measures are implemented if monitoring results indicate elevated risk levels.</p>	<p>Both TSKB and TKYB have understanding of the requirements of IFC PS6 and WBG ESS 6 and national requirements. They understand the potential gaps between the national and international requirements and actions to be taken to close these gaps as relevant and specific to the projects.</p> <p>Both PIAs to maintain and strengthen biodiversity capacity as described in revised PAP. Both TSKB and TKYB require that independent E&S consultants engaged by sub-borrowers are experienced in IFC Performance Standards and are subject to PIA approval; ESDD and management plans are prepared by relevant subject matter experts within the approved consultant.</p> <p>For seasonal bird and bat studies and bird collision assessments, TSKB and TKYB may consider engaging with local ornithological NGO, Birdwatch International branches, or university experts that may already be running these surveys, and use their data, where necessary.</p>
<p><u>Occupational and community health and safety</u> (Core Principle 3):</p> <p>National OHS regulations, which are quite robust, are applied.</p> <p>Specific community health and safety studies are requested to be conducted to meet relevant additional requirements, for instance from IFIs.</p> <p>Noise, shadow flicker and blade and ice throw studies are also included in the scope of the ESDDs/ES assessments. The contractor is requested to prepare traffic management plan, community health and safety plan as relevant and also have OHS personnel at site as a minimum in numbers and periods required by national legislations. In certain cases, in line with the corporate requirements of the sub-project owner OHS Personnel at site exceeds the national legislative requirements in terms of time spent at site and numbers of personnel employed.</p>	<p>TSKB/TKYB implement national and relevant international requirements on OHS and Community Health and Safety requirements through implementation of their ESMS for specific sub projects.</p>

Issues raised	Bank staff responses
<p><u>Involuntary resettlement</u> (Core Principle 4):</p> <p>In projects located on privately owned properties with multiple stakeholders, there is difficulty in reaching and communicating with all landowners. This presents a challenge in ensuring effective stakeholder participation. A further challenge in ETL projects is that ownership and operational authority are managed by Turkish Electricity Transmission Corporation (TEİAŞ), which sometimes limits the Sub-borrower’s access to all site-specific data and information.</p>	<p>To mitigate this, the WB team noted that the PIAs require the preparation and implementation of Stakeholder Engagement Plan (SEP), including an active grievance redress mechanism (GRM), including the participation of local representatives, the establishment of communication channel, and the use of multi-channel engagement methods.</p> <p>Where TEİAŞ will occasionally take urgent expropriation decisions to grant expedited land acquisition rights for public infrastructure, the Program will exclude any projects that have caused compulsory land acquisition and involuntary resettlement.</p>
<p><u>Stakeholder engagement</u> (Core Principle 5):</p> <p>Sub-borrowers (in line with TKYB and TSKB’s ESMS) prepare SEP in line with the project categorization and conduct stakeholder engagement during the construction and operation of the projects. These engagements include meetings with public authorities, community members, village mukhtars on defined intervals as SEP and when specifically required</p> <p>Both TKYB and TSKB conduct site visits and interviews with relevant parties — including workers, subcontractors, and local community representatives — and ensure the availability of a stakeholder engagement plan.</p>	<p>Both institutions (TSKB/TKYB) conduct a stakeholder engagement process as per their ESMS, proportional to the risk level of the project and require sub borrowers to follow their ESMS requirements.</p>
<p><u>Grievance mechanism</u> (Core Principle 6):</p> <p>Sub-borrowers implement a Grievance Mechanism in line with TKYB ESMS. This mechanism will enable identifying, addressing, and resolving stakeholder concerns in a timely manner.</p> <p>The availability of a grievance mechanism is ensured for the sub projects as per TSKB ESMS. Companies are encouraged to collect and record grievances, suggestions, requests and the relevant solutions.</p> <p>The examples of the grievances mentioned during site visit are dust and traffic concerns. Dust suppression was included in contractor requirements and engagement with public members are conducted on traffic schedules. A road survey before the start of the construction was also conducted.</p> <p>The implementation of the grievance mechanism is monitored by TKYB and TSKB through reporting of grievance details and response details by the contractor and operator.</p>	<p>Both institutions require sub borrowers to implement a grievance mechanism as per their ESMS requirements.</p>