



Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 03-Mar-2023 | Report No: PIDA35559



BASIC INFORMATION

A. Basic Project Data

Country Türkiye	Project ID P179255	Project Name Türkiye Green Industry Project	Parent Project ID (if any)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 10-Mar-2023	Estimated Board Date 26-May-2023	Practice Area (Lead) Finance, Competitiveness and Innovation
Financing Instrument Investment Project Financing	Borrower(s) The Scientific and Technological Research Council of Türkiye (TUBITAK), The Republic of Türkiye, represented by MOTF, The Small and Medium Enterprise (SME) Development Organization of Türkiye (KOSGEB)	Implementing Agency The Scientific and Technological Research Council of Türkiye (TUBITAK), The Small and Medium Enterprise (SME) Development Organization of Türkiye (KOSGEB), The Ministry of Industry and Technology (MoIT)	

Proposed Development Objective(s)

The PDO is to support an efficient green transformation for industrial firms in Türkiye

Components

- Support manufacturing SMEs improve their resource performance and reduce their carbon emissions
- Support the green innovation of enterprises
- Project management and institutional development

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	450.00
Total Financing	450.00
of which IBRD/IDA	450.00
Financing Gap	0.00



DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	450.00
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Environmental and Social Risk Classification

Moderate

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Türkiye is a large, upper middle-income country with a record of strong growth; however, both internal and external developments have recently put its economic prospects at risk.** Fast economic growth tripled income per capita to a peak of USD 12,000 in 2015, making Türkiye the world's 19th largest economy. However, since 2016, macroeconomic shocks and adverse geopolitical events have slowed the country's development progress. Poverty rates under the upper-middle income line fell from 42.0 to 1.0 percent between 2003 and 2018 but increased to 12.6 in 2019. Unemployment has remained high—over 10 percent since 2015—and is compounded by low labor force participation, especially for women and youth. The incipient recovery starting in 2019 was then cut short by the Covid-19 crisis, with significant economic hardship, contraction of GDP, high job losses, and renewed pressure on macro-financial indicators. In 2021, Türkiye experienced an accelerating economic recovery with the economy growing 11.4%, external and fiscal balances improving, and unemployment falling to pre-pandemic levels.¹ However, Türkiye has continued to experience rising macro-financial volatility, including depreciation of the lira and high inflation. The war in Ukraine has also added to the inflationary and destabilizing pressures experienced by the country as well as significant geo-political tensions in the region. While gross general government debt to GDP fell to a low of 28 percent in 2016, currency depreciation, COVID-19 outlays, and growing borrowing costs drove it to 42 percent in 2021.²

2. **The impact of this economic volatility is likely to amplify existing income and labor disparities.** The poverty rate rose to an estimated 12.5 percent in 2020, and while expected to decline from this COVID related peak current conditions are putting pressure on poorer households. During the 2018-2019 economic turmoil, the largest increases in poverty were witnessed by the less developed regions of the country. Furthermore, during the Covid-19 crisis, female employment and labor force participation tended to decrease more than male employment and labor force participation. The impact on macro-

¹ World Bank, 2022. Turkey Economic Monitor February 2022: Sailing against the Tide. Washington, DC.

² World Bank Group, 2022. Türkiye Country Climate and Development Report. Washington, DC.



financial conditions of two earthquakes of magnitude 7.8 and 7.5 that struck southeast Türkiye and northwest Syria on February 6 is still unfolding, with implications for growth, labor markets and poverty, the financial sector, and fiscal and external balances.

3. **Türkiye’s geographic, climatic, and socioeconomic conditions make it highly vulnerable to the impacts of climate change and other environmental hazards, making climate adaptation and resilience high priorities.** Türkiye has high vulnerability on 9 out of 10 climate vulnerability dimensions, compared with a median of 2 out of 10 in other Organization of Economic Co-operation and Development (OECD) countries. Its transport system is more vulnerable than those of comparator countries, and the country is also experiencing food security issues, increasing water stress and unprecedented disasters, such as the devastating forest fires of 2021. This vulnerability is due to a combination of climate factors, population exposure (for example, the share of the population exposed to floods and forest fires), and socioeconomic factors (such as the share of agriculture in the economy).

4. **Although Türkiye’s greenhouse gas (GHG) emissions growth has been slower than its economic growth and its per capita emissions are lower than in OECD or European Union (EU) countries, there is a strong case for pursuing strong mitigation policies in Türkiye.** The energy sector, including the energy consumption in the power, transport, building, and industrial sectors, is the country’s single largest contributor to GHG emissions, accounting for three-quarters of total emissions. Türkiye’s power, transport, and agriculture sectors are less carbon-intensive than the EU average—partly due to the large penetration of renewable energy (RE) in Türkiye’s power system and low motorization rates. However, coal dependency is high and set to increase further under current investment plans. And the building sector (residential and non-residential) is less energy-efficient than the EU average. Manufacturing is more carbon-intensive than the EU average, exposing Türkiye to risks, if the EU introduces the Carbon Border Adjustment Mechanism (CBAM). Türkiye’s forested landscapes act as carbon sinks, reducing the country’s net carbon emissions.

5. **As a country that faces significant vulnerability to the impacts of climate change, Türkiye has made ambitious climate change commitments, ratified the Paris Agreement in October 2021 and committed to net zero emissions by 2053.** The intensification of climate-related events in recent years—including floods, forest fires, and sea pollution—and the potential implications of the EU Green Deal for Türkiye’s economy have contributed to the urgency of the country’s climate change agenda. Most recently, the war in Ukraine and attendant energy supply disruptions and price increases highlight risks for countries like Türkiye that rely on fossil fuel imports, underscoring the urgency of climate action in support of energy security and affordability.

6. **Türkiye has taken significant steps in strengthening its environmental legislation and setting up environmental authorities to implement environmental laws and regulations.** The country has a strengthened and comprehensive environmental regulatory framework that can support decarbonization and circular economy actions across sectors. However, the enforcement of environmental regulations needs improvement to meet the targets in terms of waste recycling and recovery, and the use of renewable energy by industry and households.



Sectoral and Institutional Context

7. **As a large-sized middle-income country, Türkiye has great economic potential.** Türkiye ranks as the 41st most complex country in the Economic Complexity Index (ECI) ranking. Compared to two decades ago, Türkiye's economy has become more complex, improving 15 positions in the ECI ranking. The share of industry in GDP increased from 19.3 percent in 2002 to 22.1 percent in 2020. Manufacturing, which accounts for 87 percent of industrial production, corresponded to 19.1 percent of GDP in 2020. The Turkish manufacturing industry has recorded significant growth in recent years. The production value of the manufacturing industry increased yearly by 16.8 percent in the 2009-2020 period and reached a level of TRY2.8 trillion in 2020. The total number of registered industrial enterprises in Türkiye is 164,000; about half of them are concentrated in 5 provinces and 5 economic activities, and 30% of them are in organized industrial zones. Türkiye also has a diversified industrial structure with a competitive edge in the vehicles, textiles, metals, and chemicals sectors, and has great potential to further expand and upgrade its product space.

8. **Türkiye is also a major exporter to the global market, especially the EU.** Following the pandemic-induced lockdowns of spring 2020, Türkiye's merchandise exports began recovering in June 2020. The steady and robust recovery in merchandise exports since June 2020 continued throughout 2021. Exports were 43 percent higher than the 2019 average as of November 2021. Strong export performance has continued into the first half of 2022, especially to the EU. The European Union is Türkiye's most important trading partner and was the largest contributor to export changes over the 2020-21 period. The Middle East and North Africa is the second most important region for Türkiye's recent export growth. At firm level, SMEs contributed 36.6% of total industrial exports in 2020 (US\$), out of which 47.8% targeted European countries.³

9. **Environmental and climate challenges to manufacturing and exports are also mounting.** Türkiye's greenhouse gas emissions increased by over 130% between 1990 and 2020 and reached 524 million tons of CO₂ in 2020. About 63 percent of CO₂ emissions were derived from energy, 22 percent came from manufacturing activities alone, 12 percent were derived from agricultural activities and 3 percent – from waste. The total CO₂ emissions of the manufacturing sector was approximately 127 million tons in 2020. Within the manufacturing sector, the major polluting sectors are non-metallic minerals, iron and steel, chemicals, textiles, food, and tobacco. Overall Türkiye still has high fossil fuel dependency, and industry has the highest energy consumption at 36 percent of the total, sources 28 percent of energy from natural gas, 26 percent from electricity, 21 percent from oil, and 18 percent from coal. In addition, water consumption is also high in industrial activities, calculated at 2,898 million m³ in 2018. The top 5 water consuming sub-sectors are basic metals, chemicals, textiles, food products, and non-metallic minerals, which all together account for more than 93.6 percent of the manufacturing industry's water consumption in Türkiye.⁴ A possible water scarcity may lead to disruptions in manufacturing value chains.

³ Turkish Statistical Institute (TUIK), press release number 41129, Oct. 2021: <https://data.tuik.gov.tr/Bulten/Index?p=Small-and-Medium-Sized-Enterprises-Statistics-2020-41129&dil=2>

⁴ MoIT, 2018



10. **Meanwhile, the low waste recovery rates threaten the sustainable growth of Türkiye's manufacturing.** Based on Turkish Statistical Institute (TURKSTAT) statistics⁵, manufacturing generates approximately 24 million tons of waste, which is approximately 24 percent of the total waste generation of the country. Other major waste-generating sectors are households with 29 percent, thermal power plants with 27 percent and mining activities with 18 percent, respectively. Only about 13 percent of the total waste is recycled⁶, of which 57 percent is collected by licensed waste treatment facilities. The low recovery rate is one of the key barriers for Turkish manufacturing industry to reach circular economy targets.

11. **International pressure to go green is intensifying and the European Green Deal will strongly influence Türkiye's trade and investment relationship with the EU, including in the context of its customs union with the EU.** In 2021, Türkiye was both the sixth largest importer from and exporter to the EU, with, respectively, 3.6 and 3.7 percent of extra-EU exports and imports.⁷ Given that Türkiye's manufacturing is more carbon-intensive than OECD and EU averages (in 2019, the primary energy intensity for Türkiye was 0.145 Ton of Oil Equivalent (TOE)/unit of GDP in 2015 US\$, while it was 0.105 in OECD and 0.088 in the EU⁸), the impacts of the EU's CBAM will be significant, especially on steel and aluminum initially, and are expected to negatively affect chemicals, petroleum, and mineral products (cement), if CBAM coverage is expanded. These sectors' exports to EU could drop between 15 and 23 percent, depending on the specific sector, if no action is taken.⁹ However, the CBAM also creates an opportunity for Türkiye's industry to benefit in markets where competitors are more carbon-intensive, such as electric mobility, global solar and wind energy value chains.

12. **The European Commission also adopted the circular economy action plan (CEAP)¹⁰ in March 2020. It is one of the main building blocks of the Green Deal.** The EU's transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs. CEAP announced an array of future regulatory measures, with the goal to move towards less resource use and waste creation in the EU and, if possible, also in third countries. The Commission addressed the regulation of products in three stages: the product's design, its production, and its consumption. Initially, the Commission focuses on seven key value chains, which are electronics and information technology, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water, and nutrients.

13. **The effect of CEAP in the different value chains will have heterogenous effects for Türkiye.** As Türkiye is a large exporter of vehicles and vehicle parts, textiles, and agricultural goods, it will be most affected by regulation in these three key value chains. Changes in demand behavior (through regulation and through changes in public sentiment), as well as changes in product requirements, which will become necessary to follow when selling goods on the EU market, will directly influence Turkish producers and exporters of these products. The change in behavior by Turkish manufacturing firms would follow corporate pledges to climate commitments, which will affect connected suppliers in Türkiye. An emerging

⁵ TURKSTAT Waste Statistics: <https://data.tuik.gov.tr/Bulten/Index?p=Atik-Istatistikleri-2020-37198>

⁶ TURKSTAT, Waste statistics, 2020

⁷ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Türkiye-EU_-_international_trade_in_goods_statistics.

⁸ Türkiye Department of Energy Efficiency and Environment, "Primary and Final Energy Density", November 2021.

⁹ World Bank, 2022, "Impact on Türkiye of EU adopting Carbon Border Adjustment Mechanism (CBAM)", ECA Region.

¹⁰ The Circular economy action plan: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1583933814386&uri=COM:2020:98:FIN>



example is the “Climate Pledge”, which is a commitment to reach net-zero carbon emissions by 2040. It brings the world’s top companies together (462 companies signed on it as of November 2022) to accelerate joint action, cross-sector collaboration, and responsible change.¹¹

14. **While the green transformation poses many challenges for the Turkish economy, they also present unprecedented opportunities.** The Green Deal is expected cut down on resource use by promoting a circular economy where resources, rather than being discarded at the end of use, are recycled back into production and where the resource use throughout the lifespan of a product is minimized.¹² Solid waste management is an important component in addressing climate change in Türkiye. Türkiye has significant potential for circular economy practices that reduce emissions, such as recycling polyethylene terephthalate and polypropylene. Demand for more environmentally friendly ‘green products’ is rapidly growing and expected to grow immensely as countries decarbonize. While Türkiye lags comparator countries in terms of the overall complexity of its exports (ranking 100th of 231 countries on the Export Complexity Index), its competitiveness in green technologies and products with environmental benefits is comparably higher (ranking 26th on the Green Complexity Index, or GCI), and it ranked 6th in Green Complexity Potential (GCP) over the last five years, which shows Türkiye’s great potential to diversify into green, technologically sophisticated products.

15. **To seize these opportunities and realize the potential, the Turkish industry needs a holistic, well-designed, assertive, and innovative upgrading approach that leverages green technologies and supports the green transformation of industrial firms.** The World Bank Climate Change Development Report (CCDR), published in June 2022, recommends a resilient and net zero pathway (RNZP) that combines adaptation and resilience actions with the 2053 net zero pledge. According to the report, Türkiye would need to invest an additional US\$68 billion over 2022–30 (in present value terms) in the RNZP; that is 1.0 percent of discounted cumulative GDP over the period. Over 2022–40, this number grows to US\$165 billion, or 1.2 percent of discounted cumulative GDP. As one of the major sources of GHG emissions, the manufacturing sector needs major investments (estimated at US\$11 billion) and capacity building to maintain or further enhance its competitiveness, especially given the increasingly tightening environmental, social and governance (ESG) standards in the global market.

16. **However, despite these challenges and opportunities, the green transformation of the private sector is still quite lagging in Türkiye.** Based on the World Bank 2022 CCDR report, only 35 percent of firms surveyed had upgraded machinery, equipment, and other assets in the period 2016-2019, while 20 percent of firms surveyed had made improvements to heating, cooling, and lighting systems, and 13 percent leveraged circular economy practices, such as waste reduction, recycling, and management.¹³ Turkish firms’ green management practices are also falling behind.

17. **The reasons for the slow pace of response from the private sector are multi-faceted market failures and constraints.** These include, but not limited to, the following:

¹¹ The Climate Pledge website: www.theclimatepledge.com

¹² EU Green Deal and EU-Türkiye Customs Union Modernization – Challenges, opportunities, and policy options, World Bank, June 2022

¹³ Ibid.



- (a) **Negative externalities:** Turkish firms do not consider green investments as a growth priority.
- (b) **Lack of finance:** Access to finance remains a major obstacle for private establishments. In addition to financing of the replacement of current machinery and equipment, manufacturing firms need to undertake initial research and development (R&D) projects to assess which of the new technologies would better suit to their operating environment and to the skill set of the employees. In this regard, small and medium enterprises (SMEs) are more likely to cite lack of financing than large firms,¹⁴ and female owned businesses have less accessibility to loans (25.2 percent) compared to male led firms (35.2 percent) in Türkiye;¹⁵
- (c) **Information asymmetries.** The lack of information/evidence about the positive impact of investing in ESG standards on the firms' competitiveness and long-term performance does not provide sufficient confidence for firms to invest in green transformation or green innovation.
- (d) **High costs of upskilling/reskilling of the existing labor force due to the labor market inefficiency.** Türkiye has a lower share of green jobs and a higher share of both brown jobs and jobs that require upskilling for the green transition than its peers in Europe and Central Asia. The manufacturing sector is characterized by many subsectors with a high share of brown jobs. These costs are magnified by skills mismatches and other types of rigidities, including high hiring and firing costs.¹⁶ In Türkiye, this is compounded by already low labor force participation, which is 52 percent overall, and only 34 percent for women (seasonally adjusted as of February 2022), and a national mandatory minimum wage that is high compared to the median OECD wage.¹⁷
- (e) **Untested markets for new green products increase the risk of failures.** This is reflected by firms' concerns about the uncertainty of future prices, and operational and technical risks, etc.

18. **Given these market failures and constraints, the private sector is slow in responding to the imminent challenges.** There is a need for publicly funded incentives to redirect and trigger private investments, at least at the initial stage, for demonstration effects to materialize and/or technologies to become less costly. This is more prominent for SMEs as far as investments in technology upgrades, but it is also applicable to large firms when it comes to investing in high-risk green technology innovations. The proposed project is timely and aligns with the strategic priorities of the 11th National Development Plan (NDP) 2019-2023 and the Medium-Term Program (2023-2025) of the Turkish government.

19. **By addressing the above-mentioned market failures and constraints, the project is intended to support the Government of Türkiye (GoT) to accomplish the following public objectives:** 1) climate mitigation, which is crucial to meet the carbon reduction goals and international commitments; 2) climate adaptation and resilience, given Türkiye's extreme vulnerabilities to climate change and natural disasters; 3) enhancing the efficiency and competitiveness of the Turkish industries through resources efficiency, especially in the manufacturing sector; 4) maintaining and expanding access to the EU and other international markets as well as increasing new business opportunities and the economic complexity and diversification, where Türkiye has a vast potential; and 5) contributing to innovation, economic resilience

¹⁴ World Bank. 2019. Turkish Enterprise Survey.

¹⁵ World Bank, Türkiye Enterprise Survey 2019

¹⁶ OECD. 2020. Employment Outlook 2020. www.oecd-ilibrary.org/sites/1686c758-en/1/3/3/index.html?itemId=/content/publication/1686c758-en&_csp_=fc80786ea6a3a7b4628d3f05b1e2e5d7&itemIGO=oecd&itemContentType=book#

¹⁷ World Bank. 2022. Turkey Country Climate and Development Report (CCDR).



and long-term growth through addressing information asymmetries, reducing investment risk and the cost of finance. In addition to direct financial support, the project will also promote regulatory reforms that would create or improve the enabling environment for effective management of green investments. All these will help to foster a greener economy, better jobs, more exports, and economic transformation and diversification.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The PDO is to support an efficient green transformation for industrial firms in Türkiye.

Key Results

1. Reduction in electricity consumption per unit of production by beneficiary firms (Target: 15%)
2. Reduction in water consumption per unit of production by beneficiary firms (Target: 10%)
3. Reduction in uncirculated waste by beneficiary firms (Target: 10%)
4. Number of innovative green efficiency solutions introduced by beneficiary firms (Target: 226)

D. Project Description

20. **The Ministry of Industry and Technology (MoIT), Directorate General of Industry (DGI), has requested World Bank support in preparing a project to support the green transition of industrial enterprises.** The project aims to support industrial exporters to align with new requirements in export markets (e.g., CBAM, the Green Deal, the circular economy action plan, EU product directives), and for Turkish industrial firms to be better connected to green global value chains, develop new green products, and be better equipped to adapt to climate change impacts and adopt relevant mitigation solutions. In specific, the Government of Türkiye has requested this project to support MoIT in the implementation of their committed actions under Türkiye's Green Deal Action Plan.

21. **The project will support manufacturing firms to use resources more efficiently and innovate in their management, production process, and/or products to meet future market demand.** The project will leverage the existing expertise and mechanism of key relevant organizations – under the umbrella of MoIT- in the implementation of the project. It will also leverage opportunities for “greening” firms (and clusters) connected to global value chains (GVCs) and firms within Green Organized Industrial Zones (OIZs), leveraging the work under the ongoing Bank-funded Green OIZ project (P171645) also implemented by MoIT as well as a trust-funded technical assistance project on Promoting Low-Carbon Technologies in Turkish Manufacturing Firms.

22. **The project will be structured around three components, as follows:**

- (a) Support manufacturing SMEs improve their energy and resource performance and reduce their carbon emissions (US\$250 million), which will be managed by the SME Development Organization of Türkiye (KOSGEB) and aims to provide reimbursable grants for investments in renewable energy, resource efficiency, and circular economy.



- (b) Support the Green Innovation of Enterprises (US\$175 million), which will be managed by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) and aims to provide reimbursable grants for green firm-level and platform-level innovations (product and process).
- (c) Project management and institutional development (US\$25 million), which will be managed by MOIT/DGI and aims to coordinate project activities, define an eligible green technology taxonomy, provide technical assistance to MOIT and partners, qualify and certify green transformation experts, establish a green knowledge management system for industries, and provide awareness to firms about the project activities and results.

23. **Component 1: Support manufacturing SMEs to improve their energy and resource performance and reduce their carbon emissions, implemented by KOSGEB (US\$250 million).** The aim of this component is to tap into the potential of industrial SMEs for energy efficiency and renewable energy. More specifically, this component will support manufacturing SMEs in adopting renewable energies, developing, and implementing green transition plans to reduce carbon emissions and improve their resource efficiency, with a focus on energy, water, and waste management efficiency. The component will also help raise the awareness among SMEs about the current and future sustainability requirements in local and export markets; potential technologies to improve firm’s sustainability and their expected impact on firms’ performance; and recommended standards for green sustainability (such as international green product certification – ISO 14067¹⁸ or equivalent - to facilitate integration in global value chains). The component will provide reimbursable grants to finance SMEs’ plans for installing solar systems KOSGEB will manage the implementation of this component, building on their experience in providing reimbursable grants to SMEs throughout Türkiye, under the ongoing Bank-funded Rapid Support to Micro and Small Enterprises project (P174144).

24. **Component 2: Green Innovation of Enterprises, implemented by TUBITAK (US\$175 million). This component will support green innovation activities in Turkish manufacturing firms.** This component will provide grants and reimbursable grants to private sector enterprises and service providers to finance their green innovation projects. In line with the existing international definitions¹⁹, green innovation (or eco-innovation) support would include the creation, adoption and adaptation of new, or significantly improved, products (goods and services), and business processes, which will improve sustainable development and lead to more efficient and responsible use of natural resources and positive impacts on the environment (including energy savings, pollution reduction or prevention, waste recycling, resource efficiency, etc.). This component will cover both technological innovation (green technologies) and mixed service-technological innovation.²⁰ The component builds on recent World Bank-funded innovation projects across the ECA region.

¹⁸ ISO 14067:2018 Greenhouse gases — Carbon footprint of products: quantification and reporting of the carbon footprint of a product (CFP), in a manner consistent with International Standards on life cycle assessment (LCA)

¹⁹ Mainly based on OECD (2010a), *Eco-Innovation in Industry: Enabling Green Growth*, OECD Publishing, Paris, aligned with OECD (2018) Oslo Manual, European Union (2019) Eco-Innovation in Europe. A Policy Brief from the Policy Learning Platform on Environment and resource efficiency February 2019; OECD (2009) Eco-innovation in industry – enabling green growth, and World Bank (2012) Inclusive Green Growth. The Pathway to Sustainable Development

²⁰ Often interrelated types of innovation. Like in the case of innovations on solar energy, where innovations include new green technologies as well as new services to supervise the control and safety of solar plants, improved services associated with the monitoring of energy savings in the system, and both new technology and service developments to re-use the solar energy leftovers during the day, for example.



25. **Component 3: Project management and institutional development (US\$25 million).** Component 3 will be managed by MOIT/DGI. The aim of this component is to lay the institutional foundation for the implementation of the national green transition agenda, support MOIT in developing new strategies and policies on green transition of industry (legislation, support mechanisms, market surveillance), and support the overall project management. The component will include four subcomponents, which are (a) Analysis of industrial decarbonization potential and needed technologies, (b) Institutional development, capacity building, dissemination, and awareness-raising, (c) Green industry academy and green industry tracking and (d) Overall project management and coordination.

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

26. The Environmental and Social risk rating are classified as Moderate. Overall, the project is expected to have a positive environmental and social impacts as it will support firms to reduce their carbon footprint, water consumption and increase their energy efficiency by supporting the uptake of green technologies. The project will mainly finance purchase of the equipment, green technologies, which will be clearly defined under the project design. Civil works are not expected within the scope of the project, nor activities which would require land acquisition, restrictions to land use or involuntary resettlement, as defined under ESS 5; nor those with significant impacts on biodiversity or cultural heritage. The main environmental and social risks are expected to be associated with (i) labor and working conditions, and occupational health and safety in beneficiary firms; (ii) dust and noise generation, water and energy use, waste management resulting from the business activities of the beneficiary firms (iii) social inclusion aspects, i.e. access to finance by women-led or women-managed firms, young firms or those located in the lagging regions as they face more obstacles in accessing finance in Türkiye; (iv) perceptions of “greenwashing”; and (v) capacity of DGI MoIT, KOSGEB and TUBITAK to implement the ESF requirements. These risks and impacts are expected to be temporary and reversible, low in magnitude and localized, and can be mitigated through known good management practices. Sexual exploitation and abuse (SEA) and sexual harassment (SH) risks are assessed as low. To manage these E&S risks and impacts the Borrowers will prepare Stakeholder Engagement Plans (SEPs) prior to project appraisal. These instruments, of quality acceptable to the World Bank, will be disclosed in English and Turkish languages before project appraisal and publicly discussed and consulted upon with stakeholders. To manage E&S risks and impacts associated with reimbursable grants support to SMEs and research firms, KOSGEB, and TUBITAK will each prepare and adopt an Environmental and Social Management System (ESMS). The ESCP will require MoIT, KOSGEB, and TUBITAK to hire or appoint qualified E&S staff to implement and monitor ESF requirements and implement the required environmental and social mitigation measures.



E. Implementation

Institutional and Implementation Arrangements

27. **The project will have three borrowers: (a) The Republic of Türkiye, represented by MoTF, for the benefit of MoIT (b) The SME Development Organization of Türkiye (KOSGEB), guaranteed by the Ministry of Treasury and Finance (MoTF); and (c) Scientific and Technological Research Council of Turkey (TÜBİTAK), guaranteed by MoTF.** MOIT, KOSGEB, and TUBITAK will be the implementing agencies of the project. They will establish Project Implementation Units (PIU) to manage project activities and carry all fiduciary responsibilities. MoIT will establish a steering committee for the project, which will be responsible for the strategic oversight of the project. MoIT will be responsible for the development of one Project Operations Manual (POM) for the project, which will detail project description, implementation procedure, and fiduciary requirements.

B. Results Monitoring and Evaluation Arrangements

28. The Project will have a robust result monitoring and evaluation system in place. The PIUs at MoIT, KOSGEB, and TUBITAK will hire Monitoring and Evaluation (M&E) Specialists, who will work closely with the Bank to put in place a system for timely collection and recording of data, its compilation and analysis. The M&E Specialists and the PIUs will be responsible to report regularly to the MoIT, MOTF and SBO on the outputs, outcomes, and impacts of the Project. The Bank will provide supervision support and assistance, as needed, to ensure that the Results Framework is being adequately implemented and results are being reported correctly and fully. The Results Monitoring System will allow MoIT, KOSGEB, TUBITAK, and the Bank to undertake corrective actions during project implementation, if adjustments are required.

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Country Director:	Eavan O'Halloran	03-Mar-2023
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