



COUNTRY ASSESSMENT REPORT Türkiye

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1.1 Country Assessment Report Template

Country Name	Türkiye
Introduction	I-REC certificates in Türkiye are being issued by Foton Yazılım Teknolojileri ve Enerji Danışmanlık A.Ş., the sole I-REC issuer in Türkiye. As Türkiye diverts their focus on energy transition in the 2000s, institutions demonstrate higher interest in energy attribution certificates to zero Scope 2 emissions. The report does not foresee a significant concern for I-REC issuance in Türkiye, instead, energy attribution certificates are encouraged with the expectation of an increasing volume of international trade. This expectation is prevalent especially in the textile industry, where the international companies request the issuance of I-RECs to track the source of electricity, from its suppliers. The report indicates that the electricity market has opportunities for a higher number of I-REC issuance, especially with the increasing number of unlicensed generators, while the regulations and legislation seem to be neutral.

1.2 Electrical Generation and Demand

Generation	Technology	Capacity (MW)
	Wind	Wind: 12.870,8
	Hydro	Hydropower: 32.202,9
	Fossil/Thermal	Solar: 20.232,1
	Biomass	Geothermal: 1.733,5
	Solar	Renewable Waste: 2.123,4
		<i>Fossil:</i>
		Coal: 21221,3
		Natural Gas: 20.577,8
		Other Sources: 5303,2
	Total (renewable+non-renewable)	116.265 (Year 2024)
Demand	Sector	Demand (GWh)
	Residential	Residential: 65314
	Commercial/Service/Public Sector	Commercial/Service/Public Sector: 74273
	Transport	Industrial: 130050
	Industrial	Agricultural: 13294
	Primary Activities	Illumination: 5780
	Total (Annual Consumption)	289000 (Year 2023)
... Sources: GRAPH 1.IV – Distribution of Installed Power in 2024 by Primary Energy Sources Tedaş 2024 Yılı Türkiye Elektrik Dağıtım Sektör Raporu, Mayıs 2025.		

1.3 Electrical Interconnection and Import/Export

Connected	Capacity (MW)	Annual import from	Annual export to country
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country		country (GWh)	(GWh)
Georgia	700	1925.6	2.34
Bulgaria	600	538.2621	1041.7
Greece	2000	217.6	711
Iraq	300	-	1152.8
Syria	281	0.057	764.2
Iran	450	-	-
Others	-	-	-
Total (2024)	4331	2681.5	3672.04
Additional information	The interconnection lines for Türkiye- Greece is called “Babaeski – Nea Santa/Filippi”, Türkiye-Georgia line is “Black Sea Transmission Network” (Akhalsikhe-Borçka interstate transmission line), Türkiye- Bulgaria line is “Hamidabat–Maritsa”. Interconnection lines between Türkiye-Iraq and Türkiye-Syria are more local network and connection points. For Iran, there is a regional grid being operated in Van, near Turkish Iranian border. Source for Data: "TEİAŞ, GRAPH V.1 – Distribution of Imported Electrical Energy in 2024 by Countries (GWh)"		

1.4 Market Structure

In Türkiye, electricity generation facilities are broadly grouped into licensed and unlicensed power plants. Licensed power plants are facilities that operate under a generation licence issued by the Energy Market Regulatory Authority (EPDK/EMRA) in line with the Electricity Market Law and the Electricity Market Licensing Regulation; a generation licence is mandatory above certain installed capacity thresholds, and each licensed facility is registered as a separate unit under its own licence with comprehensive technical, market and compliance obligations, allowing these plants to sell electricity into the market, participate in market mechanisms and use grid connection capacity allocated through formal application and approval procedures. Unlicensed power plants (typically rooftop or small ground-mounted systems) operate under the “unlicensed generation” framework regulated by EMRA, without a generation licence as long as they remain within the installed capacity limits and other conditions defined in the relevant regulation, and they are primarily designed for self-consumption, with any surplus electricity offset or sold according to the applicable unlicensed mechanism under a simplified application, approval and commissioning process compared to licensed plants

Turkish electricity market is a mixed market where the national energy companies and private entities co-exist and operate simultaneously. Regulatory authorities increased their efforts to ensure a consistent and stable electricity market in Türkiye to meet the growing electricity demand. The higher emphasis on green transition by the Turkish government creates new opportunities to issue energy attribution certificates: Hydropower and wind were significant renewable energy sources, where Hydropower consisted of 15.8% and Wind 10.9% by the electricity generated in 2024. The unlicensed generators are being subsidized to reduce energy transmission costs and to accelerate renewable energy transition. Unlicensed generators (which consists %18.8 of the installed capacity in Türkiye as of November 2025, according to The Chamber of Electrical Engineers in Türkiye) mainly use their own energy; hence the operators of unlicensed generators increasingly demand RECs for self-redemption purposes. Electricity is being traded in Türkiye by either digital market via EXIST or physical markets: The digital market has two main sub-markets: Day-ahead market and intra-Day market. In day-ahead markets, the prices are determined by each hour of the

following day, which includes a fixed price for the operating day. While in intra-day markets, the market operates in more flexible hours, and the price can be offered 1 hour before the physical delivery. The physical market mainly consists of bilateral contracts, which most of them are on the short term. The ratio of traded electricity is balanced between digital and physical electricity markets.

Sources: <https://enerji.gov.tr/infobank-energy-electricity>

Pwc, Overview of the Turkish Electricity Market, September 2023

https://www.emo.org.tr/genel/bizden_detay.php?kod=88369, The Chamber of Electrical Engineers

[Elektrik Piyasası Lisans Yönetmeliği](#) — Regulation governing the principles for licensed generation/assessment

[Enerji Piyasası Düzenleme Kurumu \(EPDK\) — Lisanssız Üretim mevzuatı sayfası](#): Unlicensed Electricity Generation in the Electricity Market

1.5 Responsible Government Department

Institutional Framework

-Energy Exchange Istanbul (EXIST) is an energy exchange company which obtained its Markets Operation License from Energy Markets Regulatory Authority (EMRA) in Türkiye. Its duties include managing and operating energy markets with transparent market transactions EXIST is also the official contact point for YEK-G, the national energy attribution certificates in Türkiye.

Regulatory Framework

- Ministry of Natural Resources and Energy observes the energy consumption and annual energy generation in Türkiye, produces strategies and research energy sources to legislate the policies about energy in Türkiye. Furthermore, it is setting energy prices and tariffs in cooperation with Energy Markets Regulatory Authority (EMRA).
- Energy Markets Regulatory Authority (EMRA) Regulates and audits the energy market independently in Türkiye to protect market fairness and maintain energy supply, while setting energy prices and tariffs. EMRA's regulatory authority covers the approval of licenses, legislation related to both fossil fuels and the green transition in Türkiye — such as EV charging stations — as well as the approval of forecasted electricity demand and investment plans for electricity distribution.
- Ministry of Environment, Urbanization and Climate Change: Responsible for the formulation and implementation of environmental protection and conservation policies; preparation and enforcement of related legislation and regulations; development of medium- and long-term strategies for climate change mitigation and adaptation; coordination and reporting of national climate policies; and oversight, evaluation, and approval of Environmental Impact Assessments (EIAs).

1.6 Existing/Planned Legislation

Ministry of Environment, Urbanization and Climate Change is planning to legislate “Allocation Liability System” (Tahsisat Yükümlülük Sistemi), coming into force in 2028. The legislation aims to provide a framework for transactions of carbon trading in Türkiye. “Turkuaz Kredileri” (Turquoise Credits) could be stated as the “currency” for carbon trading, where these credits can be traded under EXIST Carbon credits that have been purchased via international bodies such as Brownfield Carbon Registration (existing Carbon Credits registered to other schemes previously) is accepted, but they should be converted to “Ulusal Denkleştirme” (Domestic Offset Registry), which they will be converted to Turquoise Credits if the carbon credits from international registries are intended to be traded in the

EXIST platform. The verifiers for Turquoise Credits should be accredited by TÜRKAK (Turkish Accreditation Institution). Domestic Offset Registry will be developed by Turkish Standards Institution, the Turkish representative of ISO, which is significant to remain the credibility of Domestic Offset Registry in both national and international markets. For the bilateral trade of national emissions, Ministry of Environment, Urbanization and Climate Change adheres to article 6.2 of Paris Agreement and the reporting of bilateral trade should be according to the format of UNFCCC. Both using the UN registry and the national registry for the reports of bilateral trade is acceptable. All the data generated from carbon trading in Türkiye will be collected under Allocation Liability System.

1.7 Environmental and Renewable Electricity Legislation

Certification of energy attribution is backed by regulations, to incentivize electricity production by renewable energy sources. The legal basis of the issuance of energy attribution certificates is *Türkiye Law No. 5346 on the Use of Renewable Energy Resources for the Purpose of Generating Electricity (May 2005)*. The law depicts the roles of state institutions and the necessity of tracking the source of electricity generated in Türkiye. The following legislations, *Regulation on Certification and Support of Renewable Energy Resources (October 2013)* and *Regulation on Renewable Energy Resource Guarantee Certificate in the Electricity Market (November 2020)* includes the responsibilities of certificate issuers and purchasers, and how energy consumption is being measured. Regulations on Regulation on Certification and Support of Renewable Energy Resources (October 2013) and Renewable Energy Resource Guarantee Certificate in the Electricity Market (November 2020) specifically mention the responsibilities and purpose of YEK-G. The laws and regulations do not mandate any legal responsibility on a private entity while issuing energy attribution certificates, although a certificate issuer should bind the Energy Market Laws in Türkiye.

Türkiye aims to reach into net-zero carbon emission in 2053, while peaking in 2035. According to *Strategy 1: Increasing the Share of Electricity Production from Renewable Energy Sources in 2053: Climate Strategy in the Long Term* published by Ministry of Environment, Urbanization and Climate Change, distribution of energy attribution certificates are supported.

Sources: Ministry of Environment, Urbanization and Climate Change, 2053: Climate Strategy in the Long Term.

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=18907&MevzuatTur=7&MevzuatTertip=5>

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=5346&MevzuatTur=1&MevzuatTertip=5>

<https://www.mevzuat.gov.tr/mevzuat?MevzuatNo=38646&MevzuatTur=7&MevzuatTertip=5>

1.8 Existing/Planned Certificate or Support Systems

Türkiye launched a national energy attribution certificate in 2021, named “YEK-G”. Each 1 MWh electricity consumption is certified as a “YEK-G Certificate”: It includes the name of the production plant, its installed capacity, and the production period of the electricity. The YEK-G certificates can be traded either by bilateral agreement or by EXIST platform. Both I-REC and YEK-G have a strong market position in the Turkish Renewable Energy Certificate market. The annual issuance (in MWh) for YEK-G Certificates in 2025 (until October 2025) was 20.847.833,00; and 18.223.936,46 for I-REC.

Both certificate systems have different comparative advantages and are complementary to each other. The annual redemption for I-REC in 2025 (until October 2025) was 11.317.524,58 (redemption to issuance percentage 62.1%).

1.9 Extent of Engagement with Government

Foton actively engages with Turkish Government to register the public institutions for I-REC certification. Foton is having negotiations with Turkish Petroleum Corporation (TPAO) to register its unlicensed renewable energy generations. Energy attribution certificates may benefit TPAO in upstream emission reduction. Moreover, Foton is having regular contact with Energy Markets Regulatory Authority (EMRA) and Ministry of Environment, Urbanization and Climate Change for the future of energy market development, and to observe the developments about energy legislations and regulations. In addition to the regular visits and meetings with the government institutions, Foton Energy moderated a panel in Turkish Energy Summit in 9th of December 2025, where the public officers and representatives of public institutions made speeches. The Turkish Energy Summit in December 2025 was a significant opportunity to discuss the future developments of energy markets, and to exchange information about energy sector in Türkiye.

1.10 Expected Response from Government

In addition to all engagement between the government agencies of Türkiye and Foton Yazılım Teknolojileri ve Enerji Danışmanlık A.Ş. (referred to 1.9), Foton was also in contact with EXIST, issuer of YEK-G. The interactions between EXIST and Foton Energy indicate that both EXIST and Foton Energy perceive the EAC market in Türkiye as a component for supporting the energy transition of domestic industries. The common perspective about the electricity markets fosters informative interactions. Both YEK-G and I-REC being certificates that have voluntary statements from the companies, there is no legal or political constraints that restrict the issuance of I-REC certificates in Türkiye.

1.11 Proposed Restrictions

Foton is a member of “EXIST Transparency Platform”, where the data about electricity market, generation, transmission and consumption are available. Furthermore, the platform also shares statistics about the amount of issued quantity of YEK-G certificates, and the market statistics about YEK-G. Foton’s public membership at EXIST Transparency Platform enables the auditing procedures to prevent double issuance or double counting in energy attribution certificates. The current policies and registry rules in Türkiye do not mandate any product, industry or actors to be excluded in energy attribution certification.

1.12 Any Other Relevant Information

RE Market Potential:

Referring to section 1.2, the installed renewable power capacity in Türkiye is 69 GW (by 2024). According to EÜAŞ, the annual electricity production in Türkiye in 2024 was 343.497 GWh. Related to section 1.8, the most amount of credits issued to YEK-G comes from EÜAŞ's large hydro powerplants. We assume that the prevalent EÜAŞ owned electricity generators would issue their credits at YEK-G. Currently, EÜAŞ owned electricity generators have total capacity of 21.7 GW, which they produced 54.957 GWh in the year 2024. In addition, total electricity with 10 GW installed capacity has been issued to I-REC so far. Hence, it could be stated that electricity with installed capacity equivalent to 37.3 GW is still unissued, which can be a significant market potential.

Source: *EÜAŞ, 2024 Annual Activity Report*

EXIST, Renewable Energy Resource Guarantee System (YEK-G) and Market, 2024

Historical support or development of renewables in the country/region:

Ministry of Energy and Natural Resources introduced two policy tools to incentivize renewable energy investments in Türkiye: YEKA (Renewable Energy Resources Fields) and YEKDEM (Renewable Energy Resources Support Mechanism) in 2004. YEKA got entered into force in 2016, to provide spaces for renewable energy production with big scale tenders. YEKA aimed to turn into the fields into knowledge hubs where the production would take place with technological advancements and logistical advantage. In YEKDEM, there is a feed-in tariff for the energy project to reduce risks that may stem from price fluctuations and geopolitical risks. The subsidies not only include feed-in tariffs but also tax reduction and customs exemption in YEKDEM. On May 1st 2023, the new YEKDEM scheme has been announced. Power plants that will be operational from July 2021 until the end of 2030 can benefit from the FiTs.

Demand-side market potential or strategic nature of market development:

Textile, food and beverage, and telecommunication are the key industries that demand certificates to reduce scope 2 emissions. Textile has the highest percentage among the industries that received redemption certificates as of 2025, consisting of %17.18 of all credits redeemed in the Foton market Place. The export-oriented growth and high competition between the companies of textile industry are the primary reasons of the high demand for certificates in the textile industry, where sustainable business models could result in a significant competitive advantage. International companies increasingly prefer to trade with textile companies which obtain energy attribute certificates, as the goods and services they purchased would have less carbon footprints, which reduces their Scope 3 emissions caused by purchased goods and services in corporate sustainability reporting.

Source: <https://tr.foton.energy/tr/market-reports> (publicly available Foton Market statistics)

Analysis of political disruptions or market risks:

Turkish electricity market, particularly the stock market, is sensitive to the geopolitical incidents. The price sensitivity to geopolitical risks is high, which may be caused by the many transmission zones.

between Türkiye and electricity trade partners are being placed in politically unstable zones. However, the research indicates that the market risks can be mostly mitigated by the efforts of Energy Market Regulatory Authority (EMRA) to prevent electricity price shocks. Moreover, diversification of energy sources is crucial to reduce the vulnerability of energy prices. A drift towards renewables can prevent the dependency towards politically sensitive interconnection zones in electricity by emphasizing domestic energy sources, and to meet energy demand of Türkiye more easily.

Source: Francesco Siccardi, *Understanding the Energy Drivers of Türkiye's Foreign Policy*, Carnegie Europe, 2024
Böyükaslan et al., *Geopolitical risks and the energy-stock market nexus: Evidence from Türkiye*, Borsa İstanbul Review, 2024

Analysis of regulatory risks, including linkages with carbon markets and support systems:

The analysis in the report does not foresee a regulatory risk for energy attribution certificate issuance in Türkiye.

1.13 Author

Organization Name		Foton Yazılım Teknolojileri ve Enerji Danışmanlık A.Ş.	
Signature			
Name		Yunus Sönmez	
DATE	28	12	2025

