



PRESIDENCY OF THE REPUBLIC OF TURKEY
INVESTMENT OFFICE

GUIDE TO
INVESTING
IN TURKISH
RENEWABLE
ENERGY
SECTOR

**GUIDE TO INVESTING IN
TURKISH RENEWABLE
ENERGY SECTOR**

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OVERVIEW OF RENEWABLE
ENERGY IN TURKEY

1. OVERVIEW OF RENEWABLE ENERGY IN TURKEY

Demand for energy and natural resources has been increasing due to economic and population growth in Turkey. Over recent years, the country has experienced the fastest surge in energy demand among OECD countries, and according to the International Energy Agency (IEA) forecasts, is set to double its energy use over the next decade. The projections of the Ministry of Energy and Natural Resources confirm that this trend will continue for the medium and long term.

Recent energy data indicate that Turkey is a net energy importer country, depending on such imports for 73% of its energy needs. This high rate of energy dependence has been the main driving force behind the formulation and implementation of new policies to commission local and renewable energy resources. In this respect, Turkey announced the National Energy and Mining Strategy in 2017 which identified security of supply, localization, and predictable market conditions as the main pillars to follow in energy sector. Under the Strategy, ensuring localization and reducing import dependence through utilization of domestic resources stands as a top priority for Turkey which is ambitious to generate 2/3 of its electricity from local and renewable resources by 2023.

Turkey has a substantial amount of renewable energy potential, and utilization of this potential has been on the rise over the last decade. As of the end of 2018, hydro, wind and solar resources constitute the vast majority of the country's renewable energy resources, accounting respectively for 28,291 MW, 7,005 MW and 5,068 MW of the total installed capacity of more than 88,526 MW. However; biomass/biogas and geothermal energy resources are also expected to comprise a considerable portion with the rapid growth in utilization of these resources in the market.

As part of the ongoing efforts to promote localization, the Government has identified following targets to strengthen renewables' position in the market beyond 2020s:

- Increasing the share of renewables to 30 percent by 2023
- Increasing geothermal installed capacity to 3,000 MW (from the current 1335 MW) by 2023
- Maximizing the use of hydropower
- Increasing wind installed capacity to 16,000 MW (from the current 7,155 MW) by 2027
- Increasing solar installed capacity to 16,000 MW (from the current 5,435 MW) by 2027

Three different investment models are in place in Turkish renewable energy market in this new period: unlicensed, licensed, and the RE-Zone (YEKA) model.

1.1. UNLICENSED MODEL

In line with the recent changes in the unlicensed electricity market, real persons or legal entities may install renewable energy systems generating up to 5 MW of energy without any requirement to obtain a license. The installation must be in the same connection point as the consumption facility and the installed power cannot exceed the contract power identified for the "related consumption facility" which means unlicensed facilities can only be set up as rooftop or façade installations. The Presidential Decree No.1044 dated May 9, 2019 reserves only for the public institutions the right to install ground-mounted generation facilities with different connection point from the consumption facilities with the condition not to exceed contract power of the consumption facilities.

Under the relevant Local Content Regulation, local content support is not provided for unlicensed projects unlike for the licensed ones. 5,353.5 and 68,8 MW of unlicensed capacity are installed in solar and wind respectively as of the end of May 2019.

1.1.1. General Procedures of Application for Unlicensed Projects

The procedure for unlicensed projects (up to 5 MW) doesn't require establishment of a company; the applicant does not need to participate in a capacity bidding process, there is no yearly time schedule for applications unlike the licensed applications which are received only during a specific time of the year; and there is no need to have metering data for the project site. Under the new regulation on unlicensed electricity generation, the private real persons or legal entities can only apply for rooftop or façade installations which can be up to 5 MW capacity and cannot exceed the contract power of the related consumption facility. For unlicensed solar and wind projects, following documents are required in application to relevant Network Operator (Distribution Company):

- Connection Application Form for unlicensed electricity generation
- The original or certified copy of the title deed or the rental contract for the project site or a document testifying to the obtainment of the utilization right of the relevant site
- Official documents (to be obtained from the Ministry of Agriculture and Forestry or its local directorates) testifying to non-sensitive nature of the location (it should not be a fertile agricultural land) – not required for rooftop and façade installations
- Information about the consumption facilities (installed power of the generation facilities cannot exceed the contract power of the related consumption facilities)
- EIA exemption document from Provincial Directorate of Environment and Urbanization - not required for rooftop and façade installations
- Bank receipt testifying to the payment of the application fee (free of charge for 0-250 kw, for more than 250 kw application fee is 751.55 TRY for 2019)
- Single-line diagram
- Technical evaluation report of DG for Energy Affairs of the Ministry of Energy and Natural Resources

- Coordinated Project Application Drawing
- Facility efficiency document
- Declaration of non-affiliation with the relevant network operator or the commissioned supply company (pursuant to the Article 37.10 of the Regulation of Unlicensed Electricity Generation)

The documents are evaluated by the relevant network operator and “invitation/call letters” are sent to the applicants considered eligible. Within the first 90 days of the announcement of the letters, the applicant shall submit its generation project and the connection line project (if available) to Turkish Electricity Distribution Company (TEDAS), the relevant body of the Ministry of Energy and Natural Resources, or to an entity authorized by the Ministry responsible for project approval. Within the first 180 days following the announcement of the invitation letter, the investor shall submit the approved project to the relevant network operator and the operator shall sign a connection agreement with the investor within the first 30 days following the submission.

After the connection agreement, the applicant shall construct the project and apply to the operator to obtain an official report confirming the suitability of the facility for provisional acceptance, a document required for application to the Ministry or the relevant entities authorized by the Ministry for provisional acceptance. Pursuant to the Regulation, provisional acceptance procedure shall be completed for all the facilities to be connected to the Grid through medium voltage level within 1 year following the signing of the connection agreement. A system usage agreement shall be signed as the final step between applicant and operator no later than 30 days following the provisional acceptance.

Under the unlicensed generation regulation, rooftop, and façade installations up to 10 kW are differentiated from other facilities more than 10 kW in terms of installation procedures. In January 2018, the Energy Market Regulatory Authority (EMRA) released a Board Decision (Decision No. 7590 dated 28/12/2017) on “the Procedures

and Principles on Application and Excess Power Purchasing for the Unlicensed Solar Generation Facilities with the Same Connection Point as the Consumption Facility” in order to facilitate installation of the solar facilities up to 10 kW installed power. An additional amendment to the Income Tax Law was passed by the Parliament on “exemption from income tax of those selling the excess electricity generated from the installations up to 10 kW on the rooftops or facades of the houses they own or rent” which was published in the Official Gazette dated 27 March 2018.

1.1.2. Pricing Mechanism

The Presidential Decree No.1044 dated May 9, 2019 brought about critical changes on the unlicensed electricity generation facilities. Under the Decree, unlicensed capacity limit has been increased from 1 MW to 5 MW and the power purchase price has been identified for the first ten years of operation as the relevant standard retail price for all unlicensed generation facilities up to 10 kW and more (for households capacity limit is 10 kw). Retail electricity prices are updated quarterly by EMRA for different types of consumers such as industry users, commercial users, household, agricultural irrigation and lighting.

Under Article 24 of the new regulation on unlicensed electricity generation announced in the Official Gazette No. 30772 dated 12.05.2019, the generation facilities installed and put in operation before the new regulation, shall continue to benefit from 13.3 USD cent/kWh for the first ten years of operation. For those being granted invitation letters following the new regulation, the power purchase price shall be the same retail price as electricity procurement price of the related consumption facility.

1.2. LICENSED MODEL

Most of the power plants, including renewable energy ones, are constructed and operated under licensed model, which deals with the types of investments over 5 MW installed capacity. In the case of solar and wind power investments, the investors apply to EMRA for pre-license in the first stage (based on the provincial capacities announced beforehand by the Electricity Transmission Company of Turkey-TEIAS). For both types of investments, the current regulation on licensing requires the applicants to have on-site metering data of at least a 1-year period that has been collected within the previous five years for the sites to be used for installation of power plants. (For the licensed solar projects, applicants must also have metering data of at least 1-year period, but only half of the data must be collected on-site).

Investors who apply to the EMRA for the same grid connection points/regions are subject to a bidding process that calls for reduction (reverse auction) from the RES Support (YEKDEM) tariffs (Schedule-1); the winners are held to the reduced RES Support prices instead of the fixed tariff for the first ten years of operation. However, the investors’ rights are reserved for the local content support available for the facilities identified in The Law No. 5346 (on Utilization of Renewable Energy Sources for The Purpose of Generating Electrical Energy) without being subject to any bidding or reduction. The capacity allocation mechanism is only applicable to wind and solar power plants, which means that the investments based on other renewable energy resources such as geothermal, biomass etc. are not subject to capacity tenders.

1.2.1. General Procedures of Application for Licensed Projects

1.2.1.1. Application Process

In the case of wind and solar power plants, as underlined before, based on the announcement of the provincial capacities for the

following year by TEIAS, EMRA issues a Board Decision defining the specific time schedule for the investors to submit an application for pre-license. For renewable energy investments, the investors apply to EMRA for pre-license with the following documents (EMRA Decision No. 7828 dated 10/05/2018 on the List of Information and Documents to be Submitted in Application for Pre-licenses and Licenses):

- Pre-license Application form
- Certificate of authorization for real persons to represent the entity
- A copy (certified by trade registrar) of the Articles of Incorporation
- Fact sheet on the partnership structure of the company
- Fact sheet on company capital (at least 5% of the total planned investment is required – see the table-1 below on “investment amount per unit” EMRA Decision No:4709-4 dated 21/11/2013)
- Fact sheet on Generation Facility
- 1/25,000 and 1/5,000 scale maps covering facility location
- Single-line diagram
- Zoning status sheet
- Fact sheet testifying to non-sensitive nature of the location pursuant to EIA Regulation Annex-5
- Declaration on non-forbidden nature of the location (it should not be a fertile agricultural land),
- Guarantee letter (MW X 10,000 TRY-Upper Limit: 5,000,000 TRY, EMRA Board Decision No:4709-6 dated 21/11/2013)
- Pre-license application fee (see Table-2)

Additional Documents Required Depending on Resource Type:

- For Hydroelectric power plants: original or certified copy of the fact sheet on “the eligibility to sign water usage agreement with the Administration of State Hydraulic Works”
- For Geothermal power plants: original or certified copy of the fact sheet on “the obtainment of the right to use relevant resources”

- For wind and solar power plants: A metering data report of at least 1-year period that has been collected within the previous five years (for solar at least 6-month on-site metering, for wind 1-year on-site metering required)
- The factsheet on the ownership of the sites to be used for generation facilities

Table-1 Investment Amounts Per Unit for Fuel Sources

FUEL SOURCE	TOTAL INVESTMENT AMOUNT PER UNIT (TRY/MW _M)
Coal	1,500,000
Natural Gas / LPG	1,000,000
Fuel Oil / Nafta	1,000,000
Hydro	2,000,000
Wind	2,500,000
Geothermal	2,100,000
Biomass	1,900,000
Solar	3,000,000
Nuclear	6,000,000
Process waste heat	700,000
Others	1,400,000

Following submission of the documents above to the EMRA on the dates specified for pre-license applications, EMRA evaluates whether the relevant documents fulfill the requirements. If the proposed location falls within the boundaries of a project land allocated through an international agreement, or for which a licensing process for a natural gas storage, refinery or oil storage is underway, the application is rejected. The generation license applications for land are prioritized based on the fuel type, which means that domestic coal, imported coal, and renewable energy are given priority respectively.

The documents of the applicants are scrutinized, and a technical review is requested by EMRA from DG for Energy Affairs of the Ministry of Energy and Natural Resources. The authority also

requests the official view of TEIAS and/or the relevant distribution company of which the project falls within the boundaries.

The investors who apply to the EMRA for the same grid connection points/regions are subject to a bidding process of TEIAS based on the reduction (reverse-auction) of the RES Support Prices indicated in the Schedule-I.

1.2.1.2. Requirements to Be Fulfilled During the Pre-License Period (Between 24 Months-36 Months)

Within the preliminary license period, there are some procedures to be fulfilled by the investor which are indicated in the list below. Following the completion of the procedures, the investor shall apply to the EMRA for generation license with the following documents:

- License Application form
- Certificate of authorization for real persons to represent the entity
- A copy (certified by trade registrar) of the Articles of Incorporation
- Fact sheet of the partnership structure of the company
- License application Fee (See Table-3)
- Business deadline plan
- Obtainment of ownership/usufruct rights of the power plant site
- Approval for the zoning plan of the project site
- Preliminary construction plans for the facility
- Obtainment of construction permit
- Obtainment of EIA
- Obtainment of Final Forestry Permits
- Obtainment of the permit for technical interaction with military and civilian air services (for wind power plants)
- Obtainment of relevant evaluations pursuant to the Regulation on Military Forbidden Zones and Security Areas
- Finalization of the Water Usage Agreement with the Administration

of State Hydraulic Works (for hydroelectric power plants)

- Application for system connection and usage agreements with TEIAS or the Relevant Distribution Company
- Finalization of Contribution Fee Agreement with TEIAS (for wind and solar power plants)
- Finalization of the Agreement with the Relevant Authorities Regarding the acquisition of the right to use relevant resources (for geothermal power plants)
- To increase company capital to at least 20% of the total planned investment (see the table above on “investment amount per unit” EMRA Board Decision No:4709-4 dated 21/11/2013)
- Finalization of the Contribution Fee Agreement with TEIAS (for wind and solar power plants)
- Guarantee letter (based on the formula below – Upper Limit: 78,600,000 TRY) (the guarantee letter offered the in pre-license period is discounted)

INSTALLED POWER (MW _m)	PERCENTAGE APPLIED TO THE TOTAL PLANNED INVESTMENT (%)	FORMULA
0 < P ≤ 10	3	P x IPU x 0,03
10 < P ≤ 100	2	IPU x [0,3 + (P - 10) x 0,02]
P > 100	1	IPU x [2,1 + (P - 100) x 0,01]

P: Installed Power

IPU: Investment Amount Per-Unit (TRY/MW_m- see the table on “investment amount per unit” EMRA Board Decision No:4709-4 dated 21/11/2013)

The generation license period varies between 10 to 49 years. If the facility is not constructed within the allocated construction period, the license is cancelled. There are specific timelines for pre-license and construction periods (indicated in the tables below) identified pursuant to the EMRA Board Decision No. 4711 dated 21/11/2013.

Pre-license Periods

INSTALLED POWER (P-MW)	PRE-LICENSE PERIOD (months)
P≤5	24
5<P≤50	30
50<P	36

Construction Periods

TYPE OF GENERATION FACILITY	INSTALLED POWER (P-MW)	CONSTRUCTION PERIOD (MONTHS)
Wind	P≤10	22
	10<P≤50	30
	50<P≤100	38
	100<P	46
Geothermal	P≤50	38
	50<P	46
Biogas/Biomass	P≤10	24
	10<P≤50	30
	50<P	38
Solar	P≤10	22
	10<P≤50	30
	50<P	36
Wave/Tidal Energy	P≤10	18
	10<P≤50	30
	50<P	38

a 1-year period ending no later than April 2020. The applicants may also take the option of acquiring the project companies that have already installed relevant metering stations and thus have necessary metering data prior to the preliminary license application dates. The applicants for the same grid connection points/regions will then be subject to a Bidding Process of TEIAS based on the reduction (reverse-auction) of the FIT prices indicated in the Schedule-I.

1.2.2. Investment Opportunities for Licensed Wind Energy Market

The Energy Market Regulatory Authority (EMRA) has published a notice to receive pre-license applications for 2 GW connection capacities for wind power plants in April 2020. The table below lists identified provincial capacities. The application process will take place as detailed in Section 1.2.1.1., and the applicants will be required to have on-site metering data of at least a 1-year period that has been collected within the previous five years for the sites to be used for installation of power plants. This means, the investors not having metering data for the possible investment areas need to take action to have metering stations installed that would provide data for

Provincial Capacities for 2 GW

CONNECTION CODE/ PROVINCE	ALLOCATED CAPACITY (MW)	CONNECTION CODE/PROVINCE	ALLOCATED CAPACITY (MW)
01/Adana	50	24/Edirne	40
02/Adiyaman	30	25/Elazig	30
03/Afyonkarahisar	40	26/Erzincan	20
04/Agri – Igdir	20	27/Erzurum	20
05/Aksaray, Kirsehir, Nevsehir	50	28/Gaziantep – Kilis	30
06/Amasya, Samsun	40	29/Hatay	40
07/Ankara, Kirikkale, Cankiri	50	30/Isparta	50
08/Antalya	60	31/Istanbul	20
09/Ardahan – Kars	20	32/Izmir	100
10/Artvin - Rize – Trabzon	20	33/Kahramanmaras - Osmaniye	40
11/Aydin – Mugla	60	34/Karaman - Mersin	50
12/Balikesir	50	35/Kayseri - Nigde	70
13/Bartın - Zonguldak – Karabuk	20	36/Kirklareli	60
14/Batman - Mardin - Diyarbakir -Sanliurfa	40	37/Kocaeli - Yalova	40
15/Bayburt - Gumushane – Giresun	20	38/Konya	50
16/Bilecik - Eskisehir – Kutahya	60	39/Malatya	80
17/Bingol - Tunceli	20	40/Manisa	30
18/Bitlis - Mus	20	41/Ordu	40
19/Bolu - Duzce - Sakarya	30	42/Siirt - Sirnak - Hakkari	20
20/Burdur - Denizli - Usak	50	43/Sivas	80
21/Bursa	60	44/Tekirdag	60
22/Çanakkale	50	45/Tokat	50
23/Çorum - Kastamonu – Sinop	50	46/Van	20
24/Edirne	40	47/Yozgat	50
Total		2.000 MW	

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INCENTIVES FOR LICENSED AND UNLICENSED PROJECTS

2.1. FEED-IN-TARIFFS

Law No. 5346 provides for a purchasing guarantee to electricity generated from renewables. According to the support mechanism, licensed and unlicensed facilities generating electricity from renewables that are operational currently or will be in operation before December 31, 2020 benefit from the tariffs in Schedule I for a maximum term of 10 years from the operation date. However, the new licensed projects tender regulation for applicants to the same connection points calls for a reverse-auction from FIT Prices.

SCHEDULE I (Provision of the law dated 29/12/2010 and numbered 6094)	
Type of Production Facility Based on Renewable Energy Resources	Feed-in-tariff Prices Applicable (US Dollar cent/kWh)
a. Hydroelectric production facility	7.3
b. Wind power-based production facility	7.3
c. Geothermal power-based production facility	10.5
d. Biomass-based production facility (including landfill gas)	13.3
e. Solar power based production facility	13.3

2.2. LOCAL CONTENT SUPPORT

Law No. 5346 also provides for local content support for domestically manufactured equipment used in the relevant licensed generation facility. The current legislation calls for at least a 55% local content ratio in order to be granted an incentive for a component of the generation facility. However that doesn't mean full granting of the incentive; if the investor complies with the minimum threshold of 55% for a component, it is granted only 55% of the incentive. For each and every part above the 55% local content ratio, the investor is granted multiple incentives as listed in Schedule II.

Local Content support, which may be considered as an extra bonus, is added to the FIT prices of the relevant renewable energy generation facility. This additional tariff is provided for a term of five (5) years from the starting date of operation for a particular generation facility. Local content support is not provided for unlicensed facilities. Principles and procedures relating to the definition, standards, certification, and inspection of the scope of domestic production in Schedule II are regulated by the Regulation dated 19.06.2011 on Domestic Manufacturing of the Equipment Used in Facilities Generating Electricity from Renewable Energy Resources.

SCHEDULE II (Provision of the law dated 29/12/2010 and numbered 6094)		
Type of Facility	Local Production	Local Content Contribution (US Dollar cent/kWh)
A-Hydroelectric production facility	1- Turbine	1.3
	2- Generator and power electronics	1.0
B- Wind power based production facility	1- Blade	0.8
	2- Generator and power electronics	1.0
	3- Turbine tower	0.6
	4- All of the mechanical equipment in rotor and nacelle groups (excluding payments made for the blade group and the generator and power electronics).	1.3
C- Photovoltaic solar power based production facility	1- PV panel integration and solar structural mechanics production	0.8
	2- PV modules	1.3
	3- Cells forming the PV module	3.5
	4- Invertor	0.6
	5- Material focusing the solar rays onto the PV module	0.5

D- Intensified solar power based production facility	1- Radiation collection tube	2.4
	2- Reflective surface plate	0.6
	3- Sun tracking system	0.6
	4-Mechanical accessories of the heat energy storage system	1.3
	5-Mechanical accessories of steam production system that collects the sun rays on the tower	2.4
	6- Stirling engine	1.3
	7- Panel integration and solar panel structural mechanics	0.6
E- Biomass power based production facility	1- Fluid bed steam tank	0.8
	2- Liquid or gas fuel steam tank	0.4
	3- Gasification and gas cleaning group	0.6
	4- Steam or gas turbine	2.0
	5- Internal combustion engine or stirling engine	0.9
	6- Generator and power electronics	0.5
	7-Cogeneration system	0.4
F- Geothermal power based production facility	1- Steam or gas turbine	1.3
	2- Generator and power electronics	0.7
	3- Steam injector or vacuum compressor	0.7

2.3. LAND ACQUISITION

Designated forested areas, land privately owned by the Treasury, or land under the disposal of the state in its entirety can be utilized for the purposes of the renewable energy generation if permission is granted by the Ministry of Agriculture and Forestry or the Ministry of Treasury and Finance. Forestry Peasant Development Revenue and Forestation and Erosion Control Revenue are not charged to the renewable energy generation facilities. Permission, lease, easement,

and usufruct permission fees are discounted by 85% for renewable energy generation facilities during the initial ten years of investment and operation of power transmission lines, including those under operation.

2.4. INCENTIVES FOR PRE-LICENSE/LICENSE/SYSTEM USAGE FEES AND TAXES

Pursuant to the Article 43.4 of the Electricity Licensing Regulation, for the facilities generating electricity from the local natural resources and the renewables, the license holders are not required to pay the yearly license fees for the first eight years following the date of completion of the power plants.

Yearly license fees are calculated based on the following formula: total electricity generated in kWh X 0.003 cent/TRY. Furthermore, pre-license and license application fees (listed in the Table-2 and Table-3) for these facilities are discounted by 90% as well.

TABLE-2 PRE-LICENSE APPLICATION FEES (TRY PER MW)	
0 < P ≤ 10 MW	8,700
10 < P ≤ 25 MW	17,000
25 < P ≤ 50 MW	25,600
50 < P ≤ 100 MW	42,700
100 < P ≤ 250 MW	85,400
250 < P ≤ 500 MW	170,700
500 < P ≤ 1000 MW	256,000
P > 1000 MW	427,000

TABLE-3 LICENSE APPLICATION FEES (TRY PER MW)	
0 < P ≤ 10 MW	8,700
10 < P ≤ 25 MW	17,000
25 < P ≤ 50 MW	25,600
50 < P ≤ 100 MW	42,700
100 < P ≤ 250 MW	85,400
250 < P ≤ 500 MW	170,700
500 < P ≤ 1000 MW	256,000
P > 1000 MW	427,000

Pursuant to Provisional Article 4 of the Electricity Market Law No. 6446, for all types of generation plants (including renewables) that will be operational by December 31, 2025, transmission system usage fees are discounted by 50% for the first five years of operation.

In the Table-4 below are listed the system usage fees determined by the Energy Market Regulatory Authority (EMRA) for the generators connected to the transmission system. There are 14 different tariff zones across Turkey, each representing different substations. On the generation side, there are three types of tariffs used for total system usage calculation per year: system usage fee for installed power, system usage fee for actual energy inflow (in terms of MW/hour), and system operation fee (in terms of MW/hour). The varying tariff in the first column is paid to TEIAS as a fixed amount per MW for the total installed power. The fixed tariffs in the second and third columns are multiplied with the actual energy inflow (in terms of MW/hour) into the transmission line from the power plant. The total amount of all three tariffs represents the sum that must be paid to TEIAS every year. However, the bills are calculated and paid to TEIAS monthly.

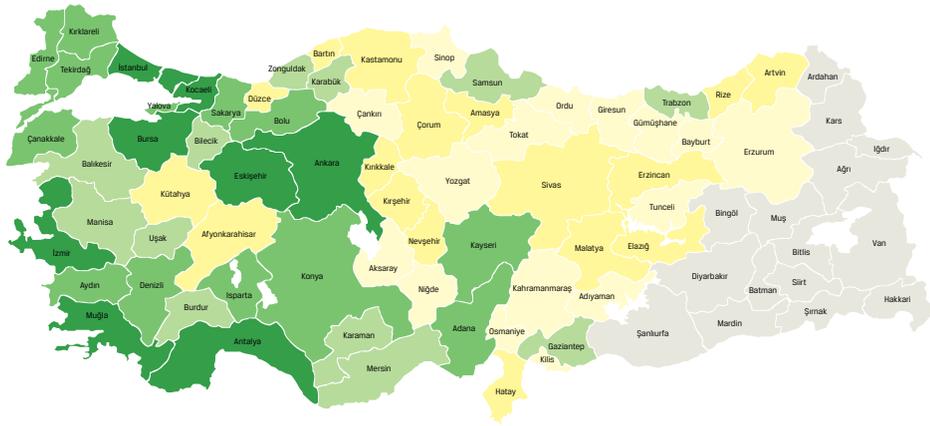
Pursuant to the Provisional Article 4 of the Electricity Market Law No. 6446, during the investment periods of the generation facilities, all official transactions related to the generation facilities shall be exempt from the fees and also the relevant papers prepared shall be exempt from stamp duty.

Table-4 Transmission System Usage Fees

TARIFF ZONE	GENERATION - SYSTEM USAGE		GENERATION-SYSTEM OPERATION
	(TRY/MW-Year)	(TRY/MW-hour)	(TRY/MW-hour)
1	31,888.23	7.17	1.40
2	34,764.81	7.17	1.40
3	35,082.33	7.17	1.40
4	35,536.39	7.17	1.40
5	37,081.69	7.17	1.40
6	38,967.37	7.17	1.40
7	39,190.97	7.17	1.40
8	43,168.32	7.17	1.40
9	44,864.33	7.17	1.40
10	49,817.94	7.17	1.40
11	52,471.90	7.17	1.40
12	54,714.44	7.17	1.40
13	57,059.70	7.17	1.40
14	61,205.80	7.17	1.40

2.5. INVESTMENT INCENTIVES

Pursuant to the Council of Ministers' Decision No. 2012/3305 on the "State Aids for Investments" the renewable energy generation facilities benefit from the General Investment Incentive Scheme, which covers exemption from VAT and Customs Duties for all machinery and equipment used in the relevant power plant. Regardless of the region where investment takes place, all projects meeting both the specific capacity conditions and the minimum fixed investment amount are supported within the framework of the General Investment Incentives Scheme. The minimum fixed investment amount is TRY 1 million in Regions 1 and 2, and TRY 500,000 in Regions 3, 4, 5 and 6. However, for solar power plants, the General Incentive Scheme is only applied for those utilizing locally manufactured panels.



REGIONS 1 2 3 4 5 6

Major investment incentive instruments are:

Exemption from customs duties: Customs tax exemption for imported machinery and equipment for projects with an investment incentive certificate.

VAT exemption:

VAT exemption for imported or domestically purchased machinery and equipment for projects with an investment incentive certificate.

_____ **3** _____

RENEWABLE ENERGY RESOURCE ZONES (RE-ZONE/YEKA) MODEL AND YEKA TENDERS

3.1. GENERAL OVERVIEW OF THE YEKA MODEL

The Ministry of Energy and Natural Resources issued a Regulation on Renewable Energy Resource Zones on October 9, 2016 in the Official Gazette. The Regulation introduced a new investment model to support renewable energy investments and incentivize local manufacturing of renewable generation assets. The main purposes of the Regulation have been identified as follows: to commission renewable energy resources much more efficiently and effectively through identification of renewable energy zones on the public, treasury, or private-owned territories; to realize the renewable energy investments much more rapidly; to manufacture renewable energy equipment in Turkey; to use locally-manufactured equipment/components; and to contribute to research and development activities through technology transfer.

A renewable energy resource zone and its electrical connection capacity utilization rights can be offered to an eligible entity under the “Allocation on the Condition of Local Manufacturing” or “Allocation on the Condition of Using Locally-Manufactured Equipment” mechanisms.

In the first mechanism, the legal entity being offered the YEKA and its connection capacity utilization rights must establish an equipment manufacturing factory in Turkey according to the standards and the terms of references (ToR). A Research and Development (R&D) Center must be established by the legal entity as well. In the R&D Center, activities must be implemented for a certain period of time and in line with the pre-determined obligatory conditions like budget, number of employees, and staff qualifications. In this mechanism, locally-manufactured equipment and other local components that are defined in the ToR must be used in the YEKA. **In the second mechanism**, the YEKA and its electrical connection capacity utilization rights are given to a legal entity who wins the competition and commits to procure locally-manufactured equipment and other related local components (balance of the plant)

for the power plant from available Turkish factories. The equipment and components must have certain levels of local content ratios as defined in the ToR’s and be compatible with the national or international standards.

Unlike the licensed projects that are subject to reverse-auction from the RES Support tariffs and are eligible for further local content support as required by the Law No. 5346, the bidding process for YEKA projects calls for a reduction from a certain ceiling price that covers both the FIT and local content support. This means that the winning legal entities are not entitled to extra local content support. However, the PPA term in YEKA model goes far beyond the FIT period (currently ten years) required in the Law for licensed and unlicensed projects, and this period has been determined as 15 years for the 1 GW solar power plant tender for Karapinar YEKA-1 and in the 1 GW Wind YEKA Tender.

In 2017, Turkey finalized the largest-ever solar power reverse-auction based on the first mechanism. On March 20, 2017 a consortium of Turkey’s Kalyon Enerji and South Korea’s Hanwha Q CELLS won the tender for the construction of a 1-GW solar power plant in the Karapinar district of the Central Anatolian province of Konya. The winning bid was a price of USD 6.99 cent/kWh. The tender – held in a reverse auction where the ceiling price per kWh was USD 8 cent/kWh – called for 1 GW of installed capacity along with a manufacturing factory for photovoltaic (PV) equipment. Under the terms of the tender, the power purchase contract will be valid for 15 years, and the solar equipment used must be domestically sourced. The total investment in this solar mega project is estimated at USD 1.3 billion. The solar power plant will be operational for 30 years and meet the energy needs of more than 600,000 households. The project company will also be conducting R&D activities in Turkey for at least 10 years with the employment of at least 80% local staff.

2017 also saw Turkey hold one of the largest wind tenders, calling for 1 GW power installation and establishment of a local wind

turbine factory. A consortium of German giant Siemens and Turkey's Türkerler and Kalyon Enerji Holdings won the billion-dollar wind energy tender on Aug. 3, offering the lowest power purchasing price to the Government at USD 3.48 cent/kWh. This tender was also realized under the first mechanism with the condition to open up a turbine assembly plant that will supply locally-manufactured components to the 1 GW capacity YEKA WPPs. The WPPs will be licensed for at least a 30-year period and will not benefit from any additional premium or support from the RES Support Mechanism.

On May 2019, another 1 GW tender was finalized by the Ministry of Energy and Natural Resources under the second mechanism of YEKA being "Allocation of the Capacity on the Condition of Using Locally-Manufactured Equipment," with minimum 55% localization requirement. The capacity was broken into four different Connection Regions (Balıkesir, Çanakkale, Aydın and Muğla), each being 250 MWe capacity. Nine local and global developers showed interest in the tender. With bids of USD 4 cent/kWh and USD 3.53 cent/kWh, Enercon secured projects in Muğla and Balıkesir, respectively. Enerjisa offered USD 4.56 cent/kWh for Aydın and USD 3.67 cent/kWh for Çanakkale. The companies will be awarded 15-year power purchase contracts.

YEKA Tenders in Wrap-up

PV Tender (March 2017)

Capacity: 1GW

Power production capacity: circa 1.7 billion kWh

Winning Bid: US\$ 6.99 cent/kWh → Hanwha Q Cells-Kalyon Energy consortium

Expected total investment: \$1.3 billion

60% localization and R&D Investment

PPA Agreement for 15 Years

Onshore Wind Tender (August 2017)

Capacity: 1GW

Power production capacity: circa 3 billion kWh

Winning bid: US\$ 3.48 cent/kWh → Siemens-Kalyon-Türkerler consortium

Expected total investment: \$1.1 billion

65% localization and R&D Investment

PPA Agreement for 15 Years

Onshore Wind Tender (May 2019)

Capacity: 1 GW (250 MW for Balıkesir, 250 MW for Çanakkale, 250 MW for Aydın, 250 MW for Muğla)

Winning Bids: Muğla: US\$ 4 cent/kWh → Enercon

Balıkesir: US\$ 3.53 cent/kWh → Enercon

Aydın: US\$ 4.56 cent/kWh → Enerjisa

(Sabancı Holding and E.ON Partnership)

Çanakkale: US\$ 3.67 cent/kWh → Enerjisa

(Sabancı Holding and E.ON Partnership)

PPA Agreement for 15 Years

Expected total investment: 1 billion USD





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