T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

GUARANTEES OF ORIGIN (YEK-G): TÜRKİYE'S EXPERIENCE

Metin Sever

EMRA Türkiye

Electricity Market Department

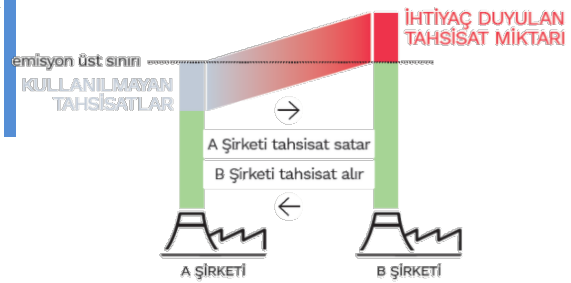
Organized Wholesale Electricity Markets Group

Energy Expert

ERRA Natural Gas Markets and Economic Regulation Committee 16th meeting, 19 June 2023

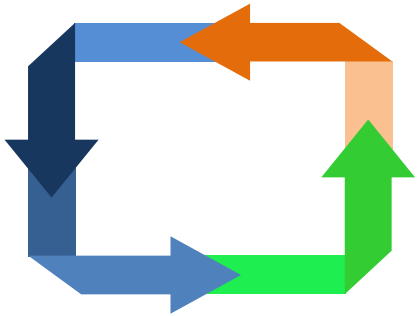
Carbon Pricing & Emission Reduction

Emission Trading System



Clean Development Mechanism

Mandatory Markets

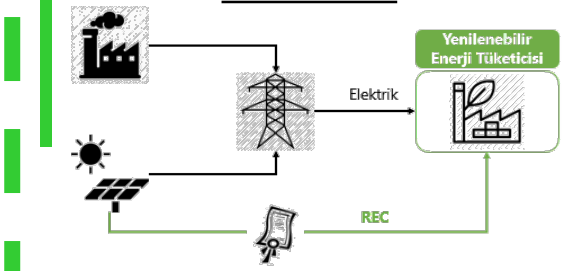


Voluntary Markets

YEKG

CARBON TAX

Renewable Energy Certificates



EPDK
T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

History

January 2020	Green certificate mechanism project kickoff. Researches started.
February 2020	Meetings with known carbon credit and I-REC trading companies in Türkiye.
March 2020	Green certificate workshop w/EPİAŞ (Market Operator)
May 2020	First draft legislation written. System name chosen as YEK-G System operated by EPİAŞ
July 2020	YEK-G draft legislation released for public opinion
August 2020	Public opinions examined. Final draft prepared for the EMRA Board approval
October 2020	EMRA Board approved the YEK-G legislation.

YEK·G

Purposes of YEK-G System

Improving **use of Renewable Energy Sources** at producing and consuming electricty

Suppliers verifying that they have renewable energy **in their portfolio** within the scope of **their obligation to disclose** the source of electricity they provide to their end consumers

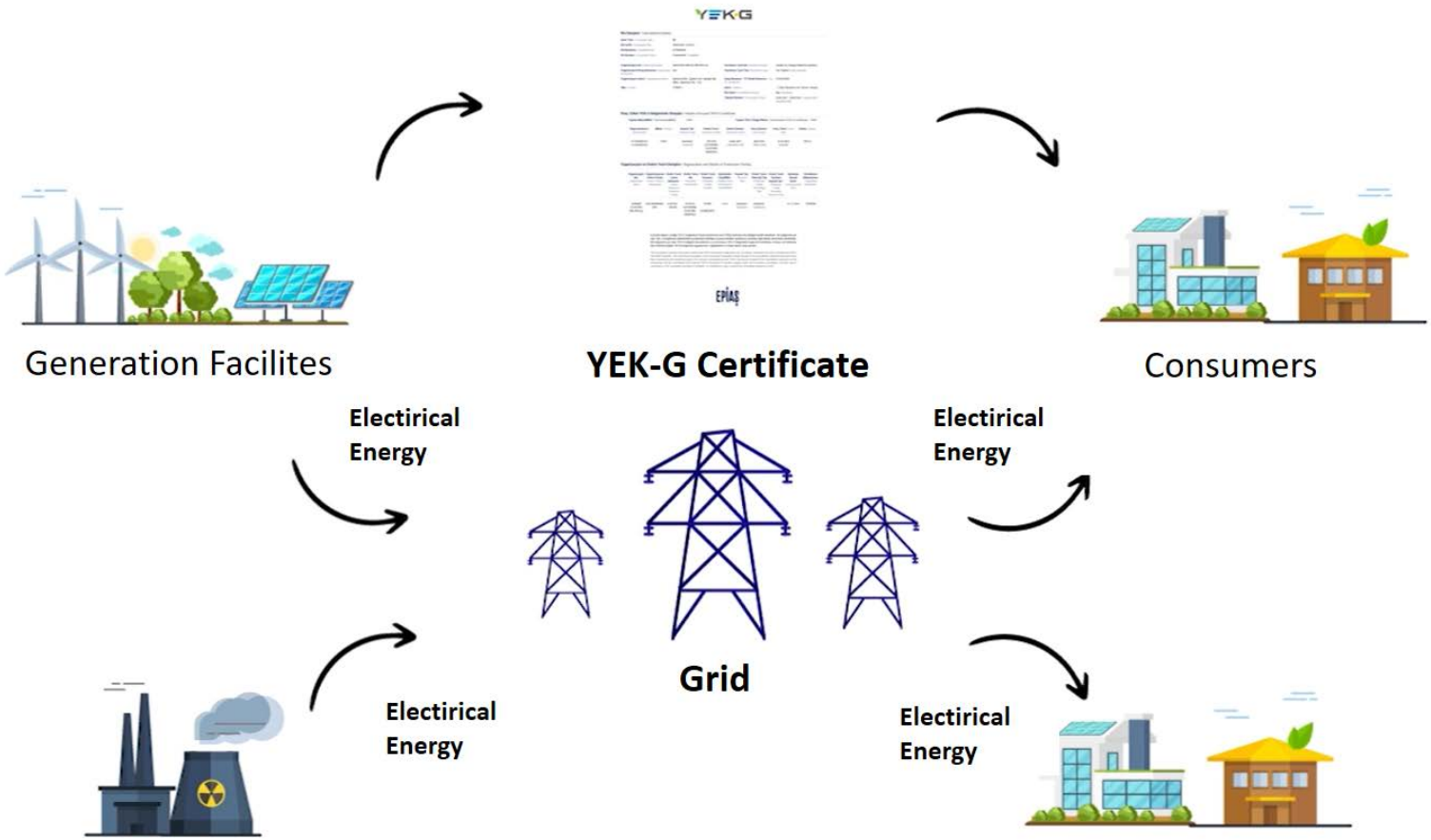
Protecting the environment

Enabling **preferences** about electrical products (Wind, Solar, Hydro, Biomass, Geothermal)

Opportunity for informing the consumers about the **source of the energy they purchase**

Making a valuable contribution to a **sustainable future**

Structure


Generation Facilites
YEK-G Certificate
Consumers
Electirical Energy
Electirical Energy
Grid
Electirical Energy
Electirical Energy

TERMINOLOGY

To document an electricity consumer that a certain amount or proportion of the electricity consumed is generated from a renewable source and to inform the consumer about the sources of electricity supplied

ISSUANCE

Refers to the YEK-G Certificate created by EPİAŞ for each 1 MWh of energy generation of the generation facilities in the system.

TRANSFER

Refers to the transfer of YEK-G certificates in the accounts of the system participants to other account holders.

CANCELLATION

Refers to the process of using the YEK-G certificate in order to verify the renewable energy usage claim of the system participant's end consumer.

EXPIRY

Refers to the YEK-G certificate located in the account of the system participant that loses its validity after 12 months from the date of generation

DISCLOSURE

Refers to providing information to consumers about the source of the energy supplied

YEK-G

Why YEK-G Certificate?

- ✓ Trust between Producer & Consumer
- ✓ Supporting National Renewable Resources
- ✓ Prestige – Customer Satisfaction – Brand Value

- ✓ Staying one step ahead of competitors
- ✓ Responsibility towards consumers with transparency
- ✓ Sustainability Cycle

YEK-G

T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

YEK-G Certificate

Installed Power

Name of the PP

Comm. Date of PP

Source Type

Production Period

Support Mechanism

Production Location

YEK-G

İtfa Detayları / Cancellation Details

İşlem Türü / Transaction Type: İtfa

İtfa Tarihi / Cancellation Date: 19/04/2022 11:32:42

İtfa Numarası / Cancellation No: 8093559580

İtfa Durumu / Cancellation Status: Tamamlandı / Completed

Organizasyon Adı / Organization Name: ELEKTRİK ÜRETİM A.Ş.

Organizasyon Hesap Numarası / Organization Account No: 195

Organizasyon Adresi / Organization Address: Nasuh Akar Mah. Türkocağı Cad. No:2/F-1 Bahçelievler

Ülke / Country: TURKEY

Yararlanıcı Taraf Adı / Beneficiary Name: TEST 123

Yararlanıcı Taraf Türü / Beneficiary Type: Son Tüketici / End Consumer

Vergi Numarası - TC Kimlik Numarası / Tax ID - Identity No: 12412545123

Adres / Address: 12412412412412

İtfa Amacı / Cancellation Purpose: İfşa / Disclosure

Tüketim Dönemi / Consumption Period: Ocak 2022 - Şubat 2022 / January 2022 - February 2022

İhraç Edilen YEK-G Belgelerinin Detayları / Details of Issued YEK-G Certificate

Toplam Miktar(MWh) / Total Amount(MWh): 700

Toplam YEK-G Belge Miktarı / Total Amount of YEK-G Certificates: 700

Belge Numarası / Document No	Miktar / Amount	Kaynak Tipi / Resource Type	Üretim Tesisi / Production Facility	Üretim Dönemi / Production Period	İhraç Dönemi / Issue Period	İhraç Tarihi / Issue Date	Sistem / System
220200681603-220200682302	700	Hidroelektrik / Hydropower	KEBAN HES	Şubat 2022 / February 2022	Nisan 2022 / April 2022	19.04.2022 11:24:16	YEK-G

Organizasyon ve Üretim Tesisi Detayları / Organization and Details of Production Facility

Organizasyon Adı / Organization Name	Organizasyonun Entso-e Kodu / Entso-e Code of Organization	Üretim Tesisi Lisans Numarası / Licence Number of Production Facility	Üretim Tesisi Adı / Production Facility Name	Üretim Tesisi Konumu / Production Facility Location	İşletmedeki Güç(MWh) / Installed Power of Production Facility(MWh)	Kaynak Tipi / Resource Type	Üretim Tesisi Teknoloji Tipi / Production Facility Technology Type	Üretim Tesisi Yardımcı Kaynak Tipi / Production Facility Subsidiary Resource Type	İşletmeye Alınma Tarihi / Commissioning Date	Destekleme Mekanizması / Supporting Mechanism
ELEKTRİK ÜRETİM A.Ş.	40K0000000001 MP	EÜ/126-18/60	KEBAN HES	ELAZIĞ - Keban	1,330	Hidroelektrik / Hydropower	Rezervuarlı / Reservoir	-	01.12.2019	-

İş bu itfa belgesi, içerdiği YEK-G belgelerinin Piyasa İşletmecisi olan EPİAŞ tarafından itfa edildiğini teyit etmektedir. İtfa belgesinde yer alan YEK- G belgeleriyle ilişkilendirilen yenilenebilir elektriğin üretimi nitelikleri yararlanıcı tarafından ilgili tüketim döneminde tüketilmiştir. İtfa belgesinde yer alan YEK-G belgeleri devredilemez ve söz konusu YEK-G belgelerinin başka bir tedarikçiye ve/veya son tüketiciye ifası mümkün değildir. Bu itfa belgesinin kopyalanması, değiştirilmesi ve ileriye dönük satışı yasaktır.

This cancellation statement document confirms that YEK-G documents subjected to the cancellation statement have been cancelled by EXIST, the Market Operator. The environmental qualities of the associated renewable energy included in the cancellation statement document have been consumed by the beneficiary party in the relevant consumption period. YEK-G documents included in the cancellation statement are not transferable and the cancellation of the relevant YEK-G documents to another supplier and/or end consumer is prohibited. Any later sale or cancellation or this cancellation statement is forbidden. It is forbidden to copy or amend this cancellation statement as well.

EPİAŞ

YEK-G

T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

YEK-G Process

Organized YEK-G Market

Operating according to the continuous trade model

It is the market where YEK-G certificate is bought and sold among system users

Contracts to be opened in the Organized Market are resource-based.

Session-based market open on specific days in the month.

YEK-G

Where to use YEK-G Certificates?

SCOPE-1

- Process Emissions

SCOPE-2

- Purchased Electricity

SCOPE-3

- Supplier emissions other than energy (transport, distribution, etc.)

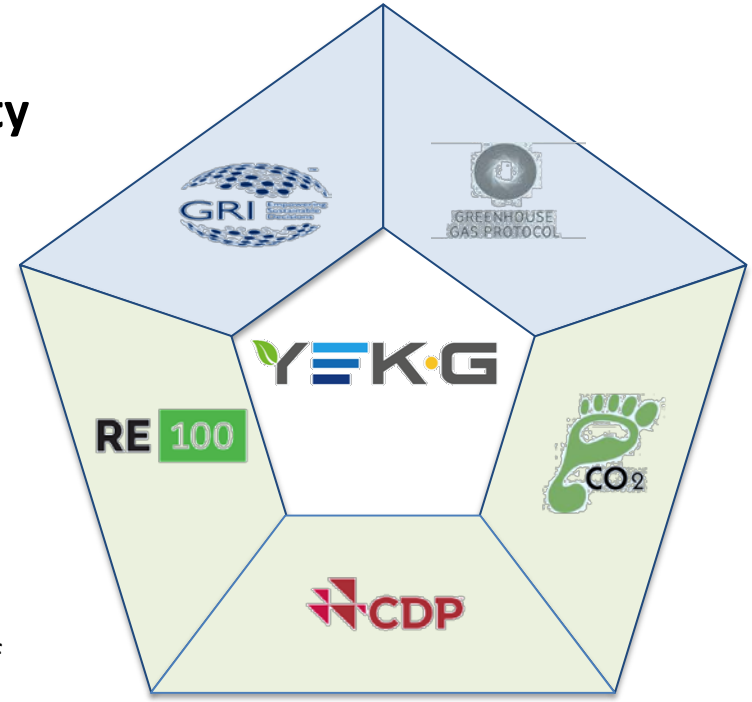
Where to use YEK-G Certificates?

International Validity

YEK-G Certificate can be used in the international sustainability reporting.

Sustainability-Prestige

Companies on the website of RE100-CDP-GRI, which are international reporting organizations, provide them with prestige.



YEK-G

GHG Protocol

According to the Greenhouse Gas Protocol and ISO 14064 published under the Kyoto Protocol, the carbon footprint can be calculated according to its secondary (indirect) formation.

GHG Calculation (Scope-2)

In the calculation of the carbon footprint Scope-2, it can be proven with the YEK-G Certificate that the purchased electricity is produced from renewable resources.

EPDK
T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

What changed?

	Before YEK-G System	After YEK-G System
End Consumers' Use of Renewable Energy	✓	✓
Contribution of end consumers to Renewable Energy Investments	✗	✓
User Verification of Renewable Energy Use	✗	✓
Recording and Tracking the Stages of Renewable Energy from Generation to Consumption	✗	✓
Obligation of Suppliers to Disclose the Source of Electricity Supplied to Their Consumers	✗	✓

YEK-G

Achievements

National

It is a completely domestic and national system.

Economic

It makes transaction costs more economical due to competition.

Transaction with TL

Since it is a domestic system, the costs will be in local currency.

Data Accuracy

Verification is made at the point where the data is produced and YEK-G Certificates can be issued.

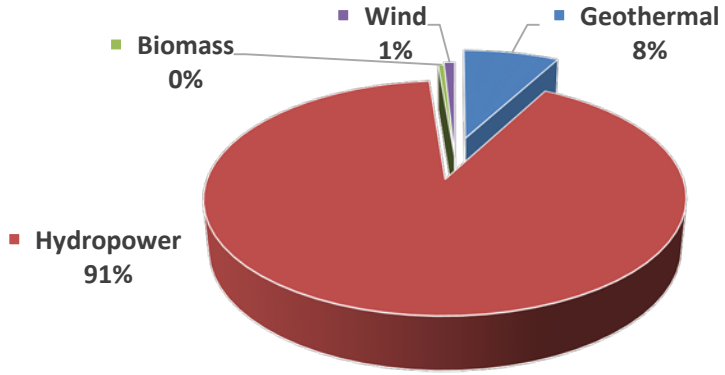
Indicator Price

With the organized YEK-G market, indicative prices are always formed. The right price is accessible to everyone, both for producers and consumers.

YEK·G

EPDK
T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

Issue



Geothermal

1,998,624 MWh

Hydropower

23,052,888 MWh

Biomass

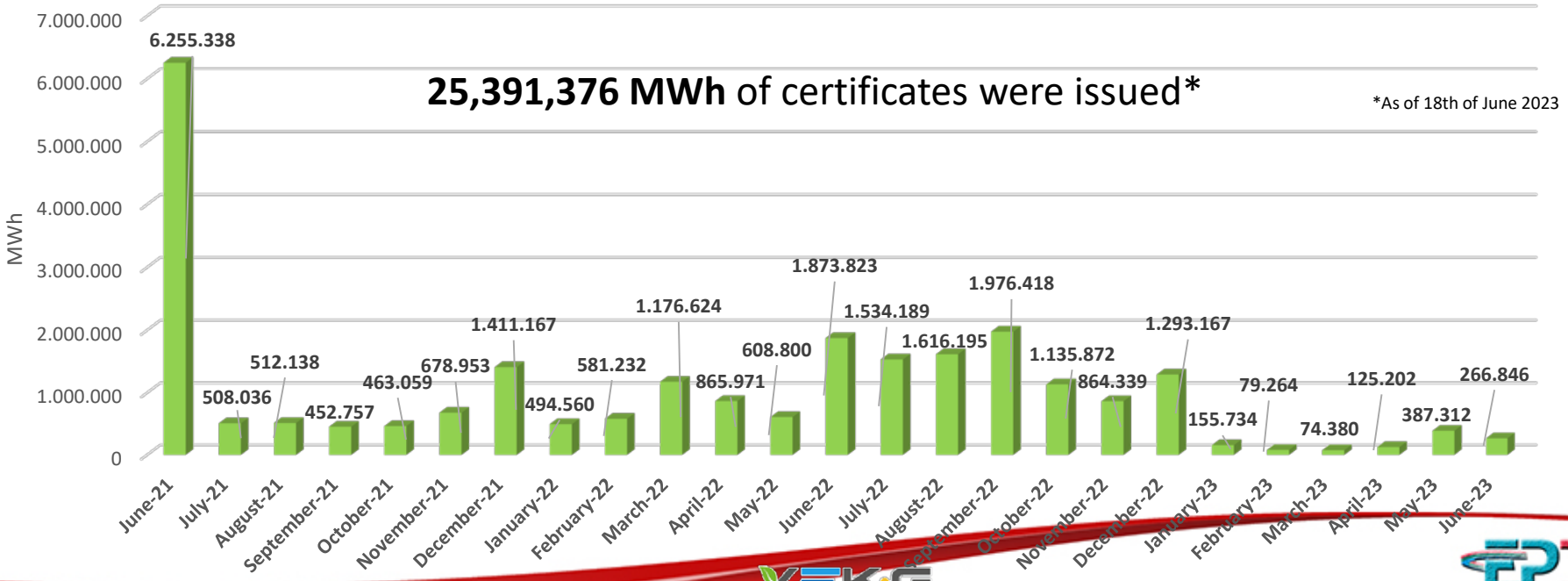
120,810 MWh

Wind

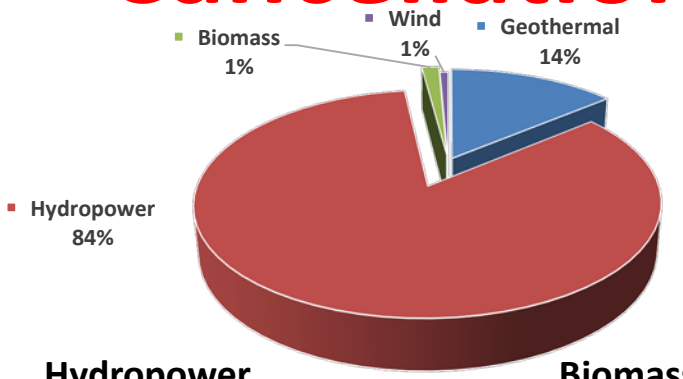
219,054 MWh

25,391,376 MWh of certificates were issued*

*As of 18th of June 2023



Cancellation



Geothermal

2.173.420 MWh

Hydropower

359.887 MWh

Biomass

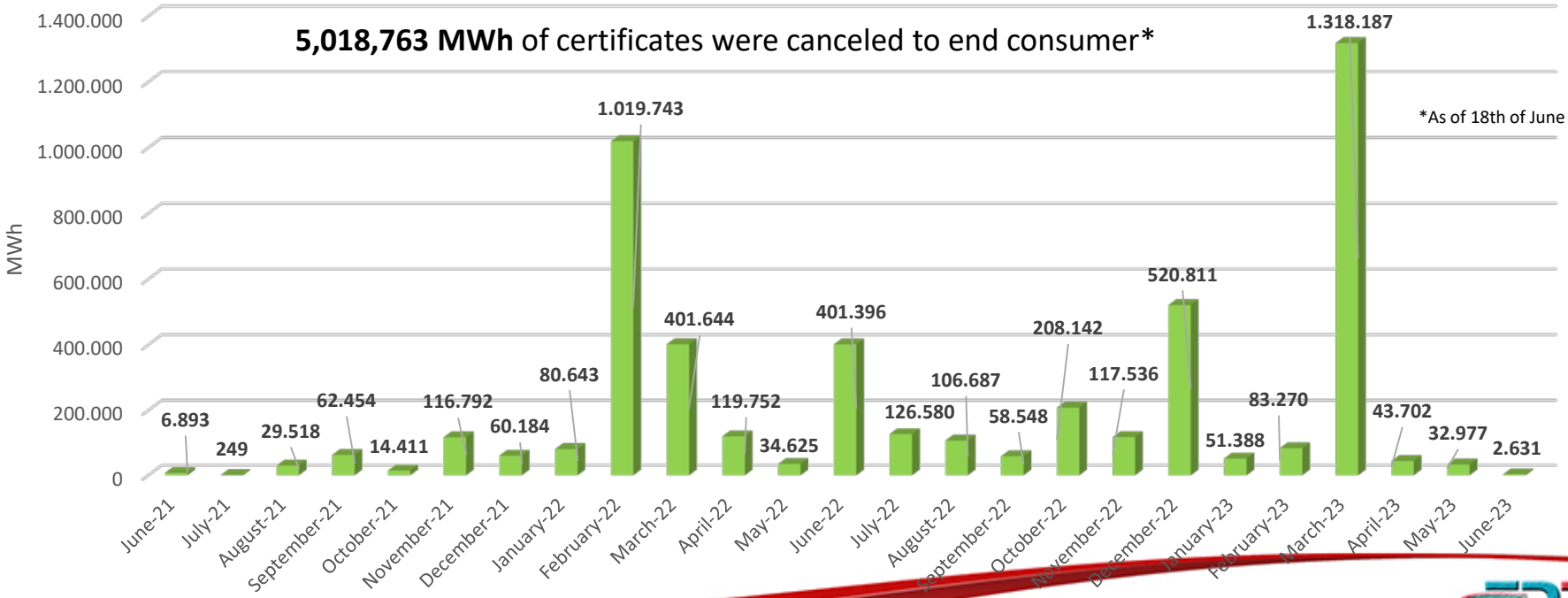
50.695 MWh

Wind

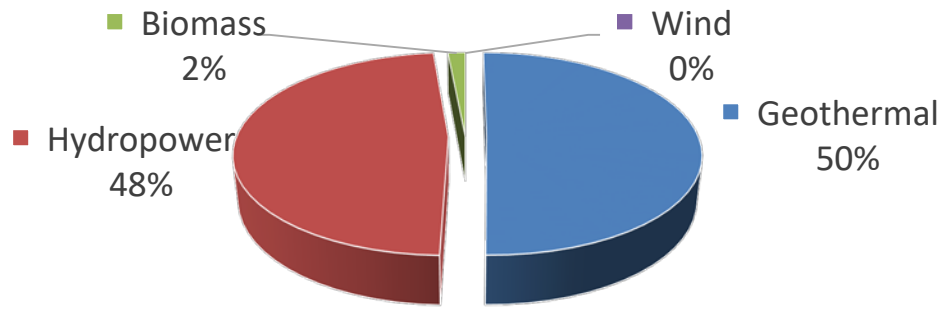
15.862 MWh

5,018,763 MWh of certificates were canceled to end consumer*

*As of 18th of June 2023



Bilateral Contract



Geothermal

1,113,666 MWh

Hydropower

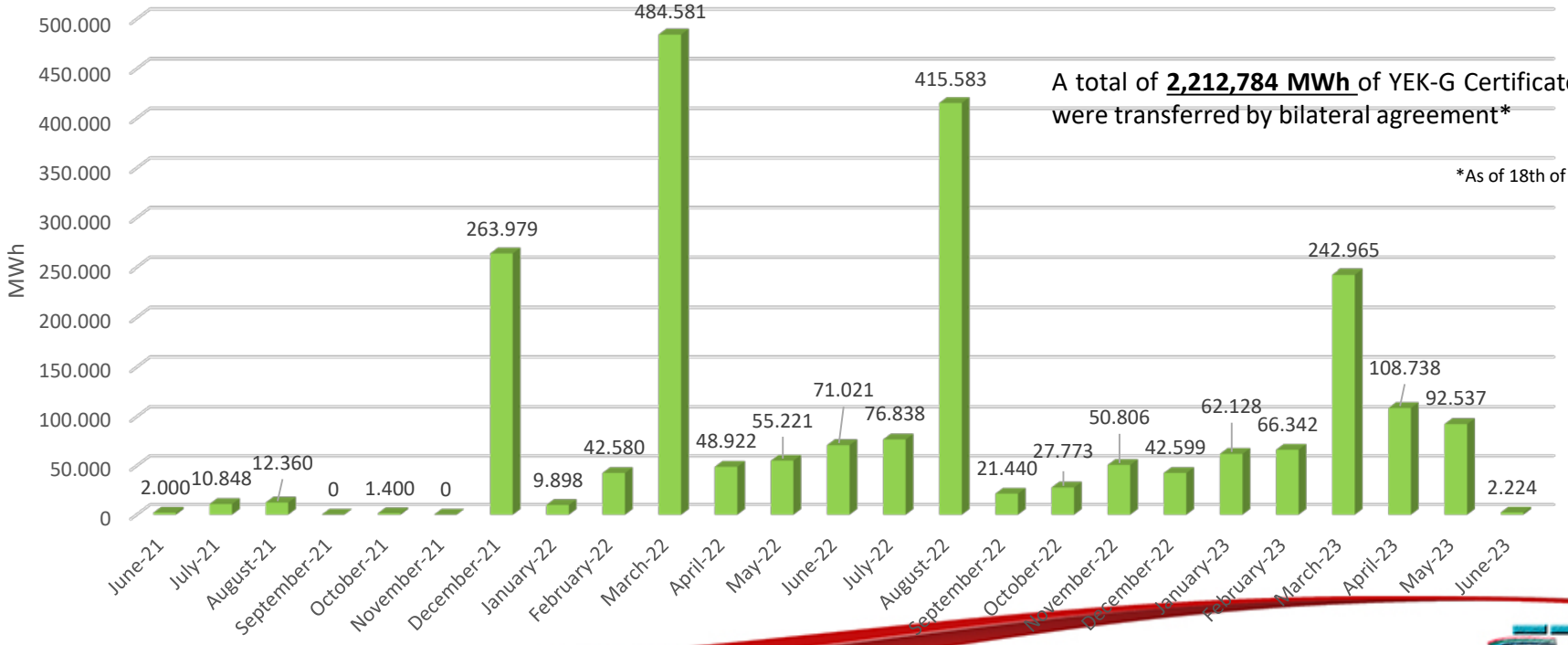
1,065,136 MWh

Biomass

33,972 MWh

Wind

10 MWh



A total of **2,212,784 MWh** of YEK-G Certificates were transferred by bilateral agreement*

*As of 18th of June 2023

Organized YEK-G Market

Organized Market Weighted Average Price (TL/MWh)						Matching Amounts (MWh)
Session	Hydro	Wind	Geothermal	Biomass	Solar	
June-21	0,38	0,44	3,34	5	0	2.710
July-21	0,39	0,25	0,5	0	0	3.081
August-21	0,29	1	0,45	0	0	5.830
September-21	0,2	0	0	0	0	26
October-21	0,78	1	0,34	1	0	14.048
November-21	0,25	1	0,25	0	0	28.155
December-21	0,3	0	0,32	0	0	959.265
January-22	0,25	0	0	0	0	24.540
February-22	0,19	0	0	0	0	17.882
March-22	0,13	0	0	0	0	8.057
April-22	0,08	0,5	0	0	0	10.414
May-22	0,09	0,5	0	0	0	16.344
June-22	0,08	0	0	0	0	14.350
July-22	0,08	0	0	0	0	5.078
August-22	0,12	0,5	0	0	0	16.114
September-22	0,1	0	0	0	0	4.933
October-22	0,14	0	0	0	0	1.006.719
November-22	0,14	0,5	0,35	0	0	54.203
December-22	0,14	0,5	0	0	0	138.209
January-23	0,23	0	0,25	0	0	3.721
February-23	0,26	1,5	0	0	0	38.643
March-23	0,28	0	0	0	0	23.581
April-23	0,29	0	0	0	0	7.785
May-23	0,29	0	0	0	0	4.895

T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

T.C. ENERJİ PİYASASI DÜZENLEME KURUMU

THANK YOU FOR YOUR ATTENTION!

msever@epdk.gov.tr

www.epdk.gov.tr