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# Who is TÜREB/TWEA?

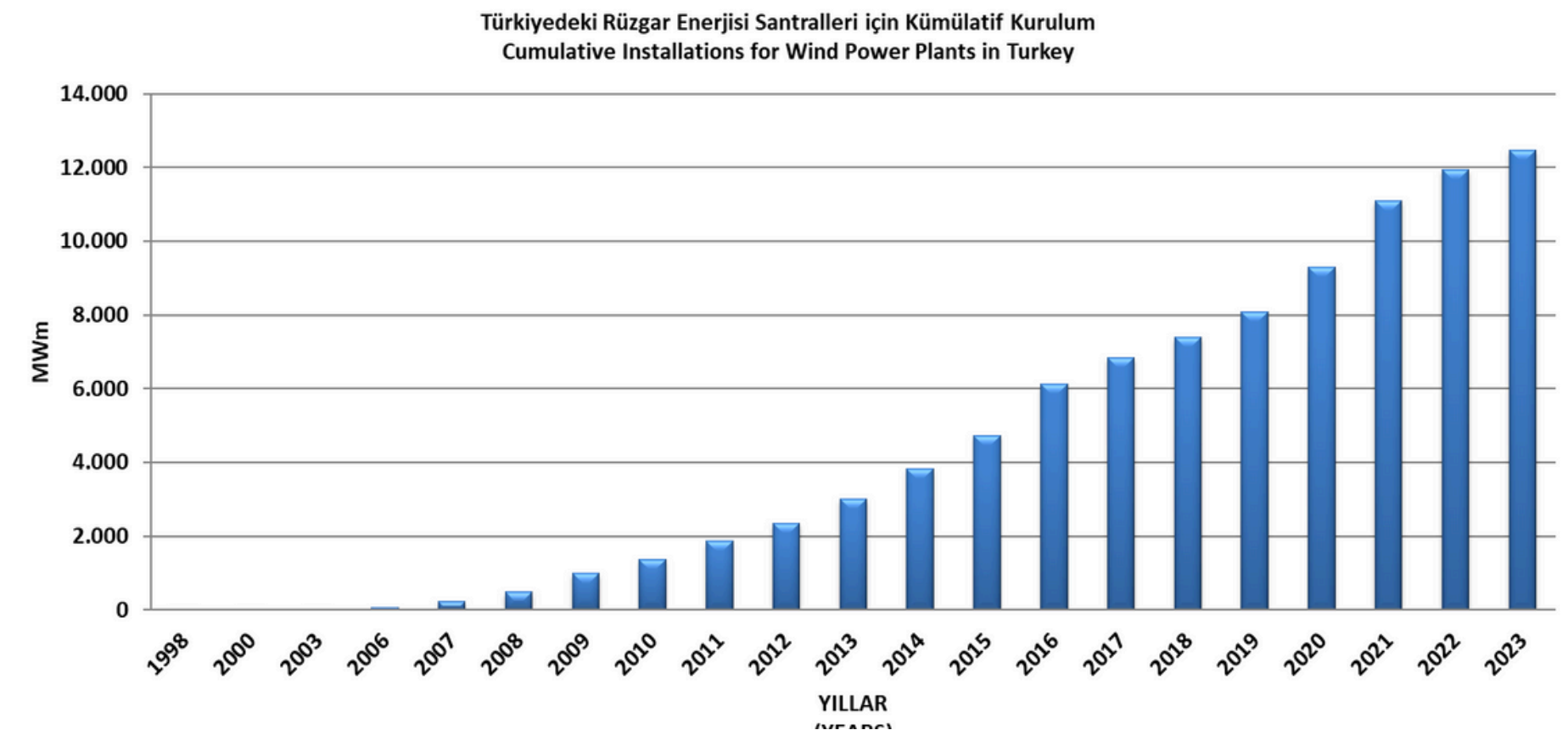
- Established by a Council of Ministers decision in 1992, TÜREB is a sectoral non-profit organization.
- Its aim is to increase the utilization of wind energy in Türkiye, improvement of wind industry, and enlarge the employment potential with localization of technological know - how .
- It prepares technical reports and conducts studies for this purpose.
- Membership structure:
  1. WPP Investors & Operators
  2. Turbine Manufacturers
  3. Industrialists, Consultants, Engineering Firms, etc.
  4. Service & Maintenance Companies
  5. Ministry of Energy & Natural Resources
  6. Presidency Investment office
- Member of GWEC and WindEurope
- Number of Members: 180> Corporate, 330> Individual

# Development of Turkish Wind Installed Capacity



- Installed capacity total: 12,483 MW (as of 18.04.2024)
- There are more than 280 WPP (Wind Power Plant) and more than 4,100 Wind Turbines in operation.
- In 2023, more than 10.90% of the total energy consumption was met by wind power.
- In 2023, 538 MW of WPPs were commissioned lowest in past 15 years.

- In 2024, Q1 270 MW power plants were commissioned.



Nordex (3,685.73 MW)



Enercon (2,582.36 MW)



GE (2,402.69 MW)



Vestas (2,125.1 MW)



Siemens Gamesa (1,372.5 MW)



SINOVEL (109,2 MW)

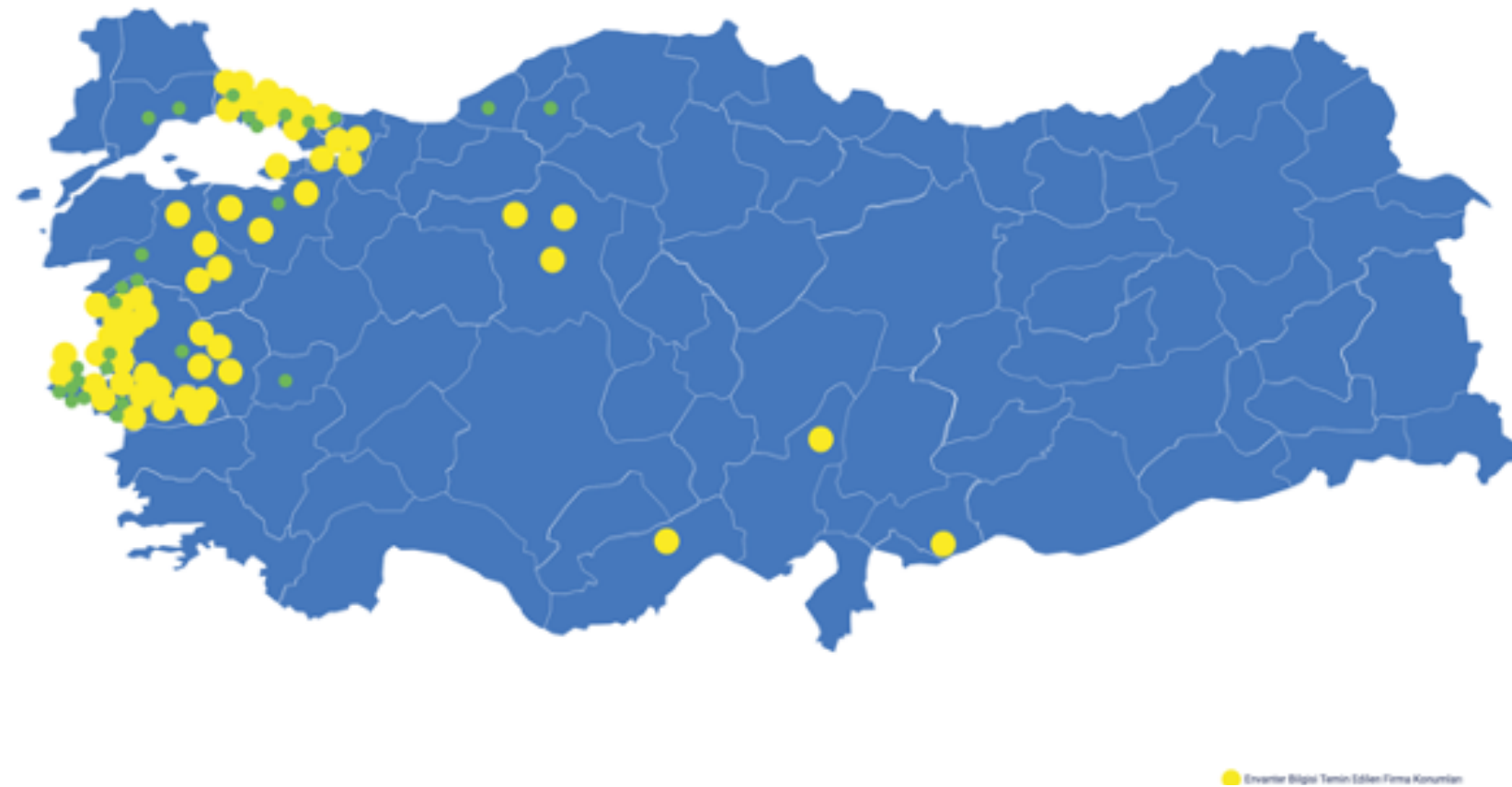


Goldwind (90.45 MW)



# Domestically Manufactured Parts & Components

## WIND MANUFACTURING: CAPACITY IN 15 PROVINCES



- 100> small and medium-sized producers are engaged in manufacturing in the sector, with a focus on exports accounting for over 70%.
- Out of these producers, 33 are clustered mainly in Izmir and its surrounding areas Balıkesir, Bursa, Yalova and İstanbul.
- Turkish wind industry accounts 2,2 Billion worth of production with a 70% export rate.
- These producers export to over 52 countries.

# Domestically Manufactured Parts & Major Components

## GENERATOR & GEARBOX MANUFACTURERS

## BLADE MANUFACTURERS



## TOWER MANUFACTURERS



## ENGINEERING & SERVICES

Ülke Enerji	Securitas	Kavaken
Ari-Es	PwC	DNV
YEO	PNE	Fichtner
uSens	GlobalWindService	UL

## SUBCONTRACTORS OTHER PARTS & COMPONENT SUPPLIERS

XGEN	Tibet Makina	İzmir Vinç
B&B	Dirinler Döküm	Berdan Civata
Duratek	DowAksa	Mitaş Group

# How Did Türkiye Improve Its Wind Power Capacity & Wind Industry

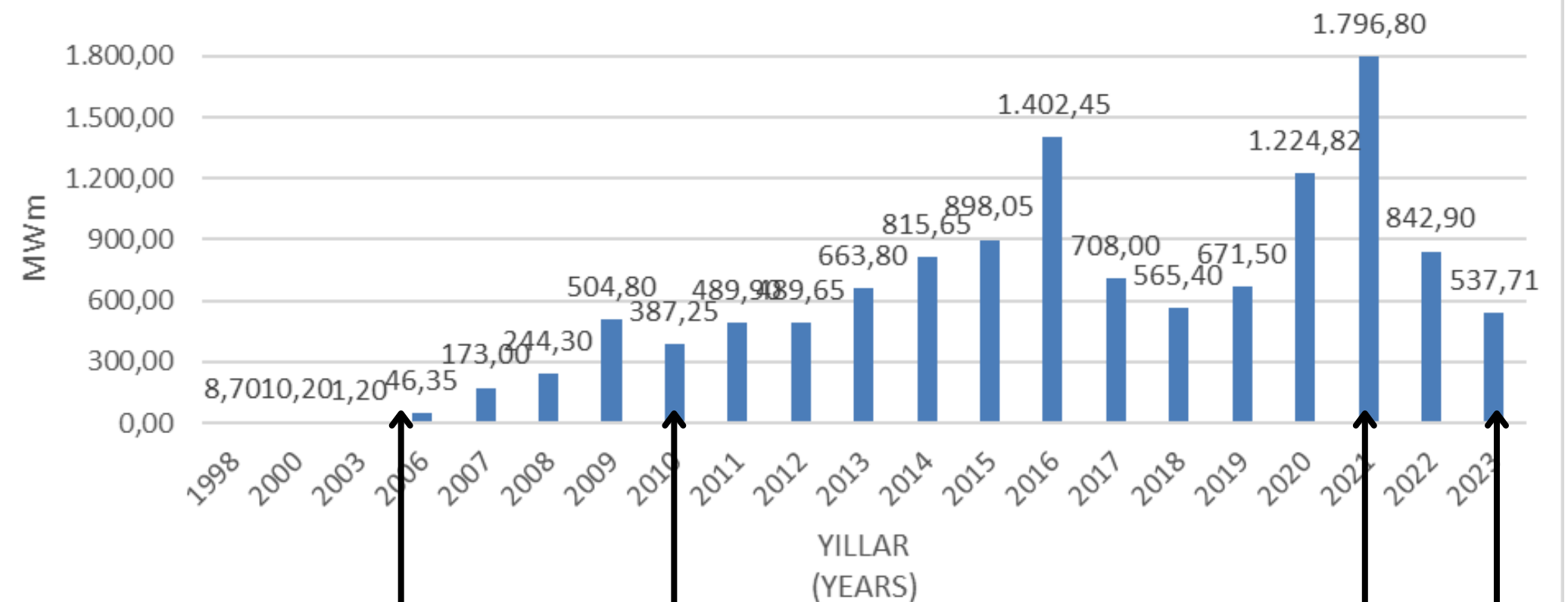
**1 2005 Renewable Energy Law**

**2 YEKDEM #1**

**3 YEKDEM #2 (TL)**

**4 NEW YEKDEM**

Türkiyedeki Rüzgar Enerjisi Santralleri için Yıllık Kurulum  
Annual Installations for Wind Power Plants in Turkey



**2005 Renewable Energy Law**

**YEKDEM #1**

**YEKDEM#2**

**NEW YEKDEM**

# Development of Legal Regulations:

## 2005 Renewable Energy Law



In 2005, Turkey implemented the Renewable Energy Resources Support Mechanism (YEKDEM), which was a significant regulatory support for the development of renewable energy sources.

Long term renewable targets had been set, for example, 20 GW Wind for 2023.

This mechanism aims to provide incentives to the renewable energy sector to reduce dependence on imported energy sources and minimize the current account deficit.



**2007: 148 MW**



**2023: 12,483 MW**

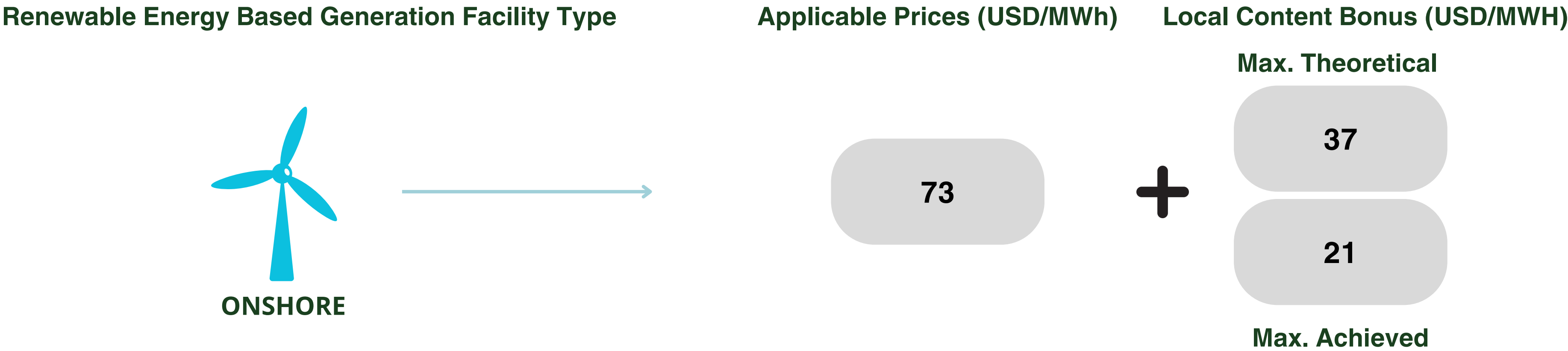
# Development of Legal Regulations:

## YEKDEM #1



The first implemented YEKDEM provided a fixed purchase guarantee based on resource-specific to the dollar exchange rate.

Plus Local Content Premium had been defined.





# Development of Legal Regulations:

## YEKDEM #2

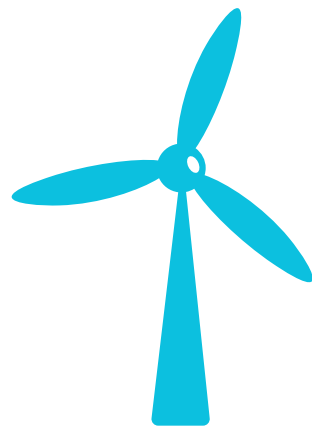
The new YEKDEM provides a purchase guarantee in Turkish Lira for renewable energy producers.

YEKDEM prices and local content bonus were adjusted and converted in TL.

Escalation mechanism implemented to regularly adjust the prices:

%50 - [€ + \$] & %50 - [PPI + CPI].

Renewable Energy Based Generation Facility Type



**ONSHORE**



Announced Price  
(TL/MWh)

**320**

Announced Price  
(USD/MWh)

**43,8**

Local Content Bonus  
(TL/MWh)

**40**

# Development of Legal Regulations:

## NEW YEKDEM

With an update in the mechanism;

- YEKDEM prices were revised,
- Escalation mechanism has been revised: %60 - [€ + \$] & %40 - [PPI + CPI]
- Floor and ceiling prices were implemented

Renewable Energy Based Generation Facility Type	Announced Price (TL/MWh)	Announced Price (USD/MWh)	Local Content max price (TL/MWh)
 <b>ONSHORE</b>	1060	55	28,80
 <b>OFFSHORE</b>	1440	75	38,45
 <b>ONSHORE BATTERY</b>	1250	65	38,45

# YEKA MODEL

- Projects were identified and developed by the Ministry of Energy And Natural Resources.
- Announced with a certain minimum localization target.
- Auction price USD or USD linked TL (with a balanced escalation mechanism)



	YEKA WPP-1	YEKA WPP-2	YEKA WPP-3
LOCATION	Edirne, Kırklareli, Sivas, Eskişehir	Aydın, Balıkesir, Çanakkale, Muğla	20 Connection Regions
DATE	August 3, 2017	May 30, 2019	May -June 2022
CAPACITY	1,000 MW	1,000 MW (4x250 MW)	850 MW
CELLING PRICE	80 USD/ MWh	55 USD/ MWh	950 TRY / MWh
WINNING BID	34.8 USD/ MWh	35.3 45.6 USD/ MWh	596.9 TRY / MWh
SPORSOR COMPANY	Kalyon, Siemens Gamesa, Türkerler	Enerjisa, Çanakkale, Enercon	Eksim ve Rönesans Holding, Kalyon Enerji, RHG Enertürk
POWER PURCHASE GURANTEEB PERIOD	15 years	15 years	First 35 GWh/MW to be produced per Mwe
LOCAL CONTENT RATIO	60%	55%	55%

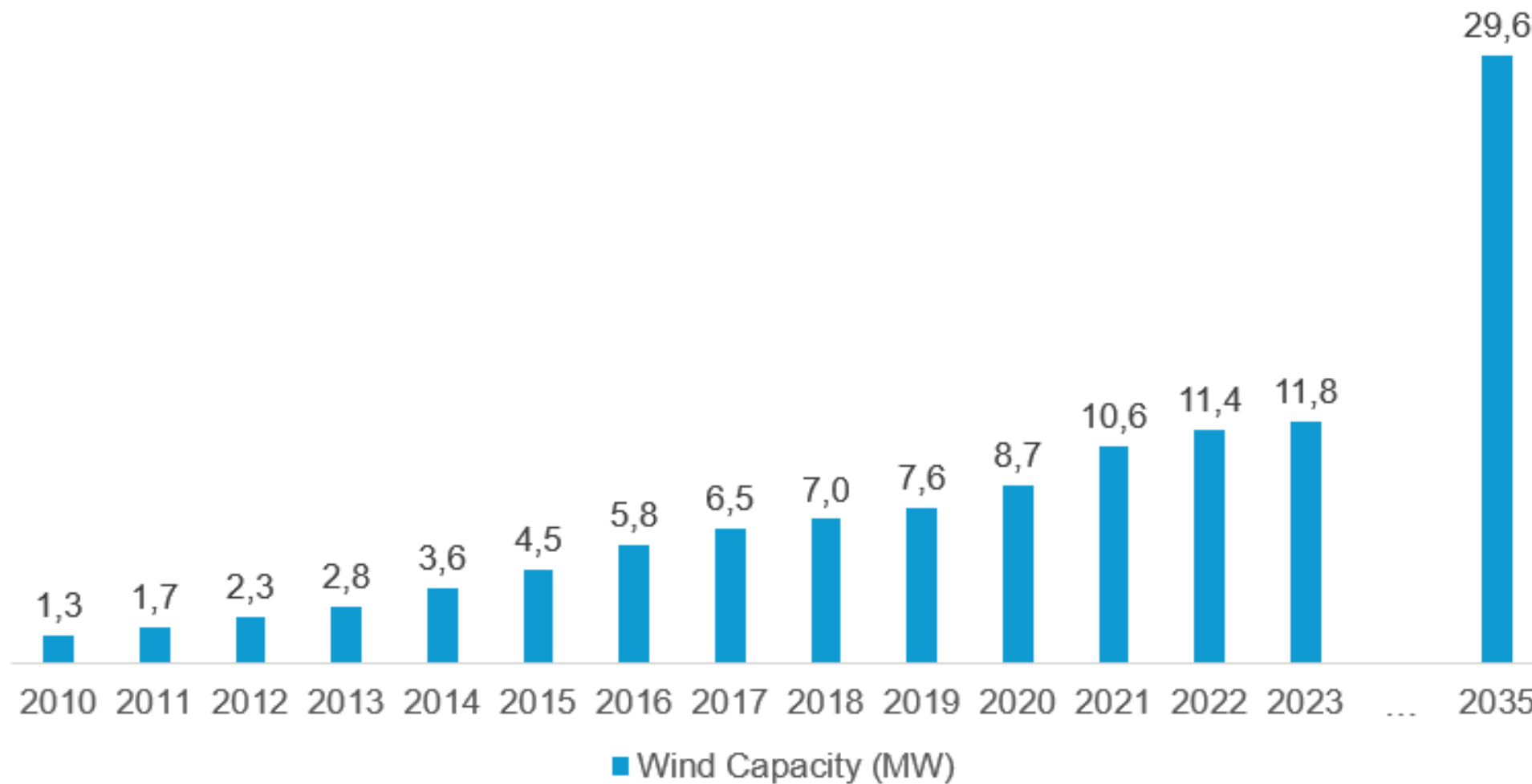
- Implemented both in solar and wind



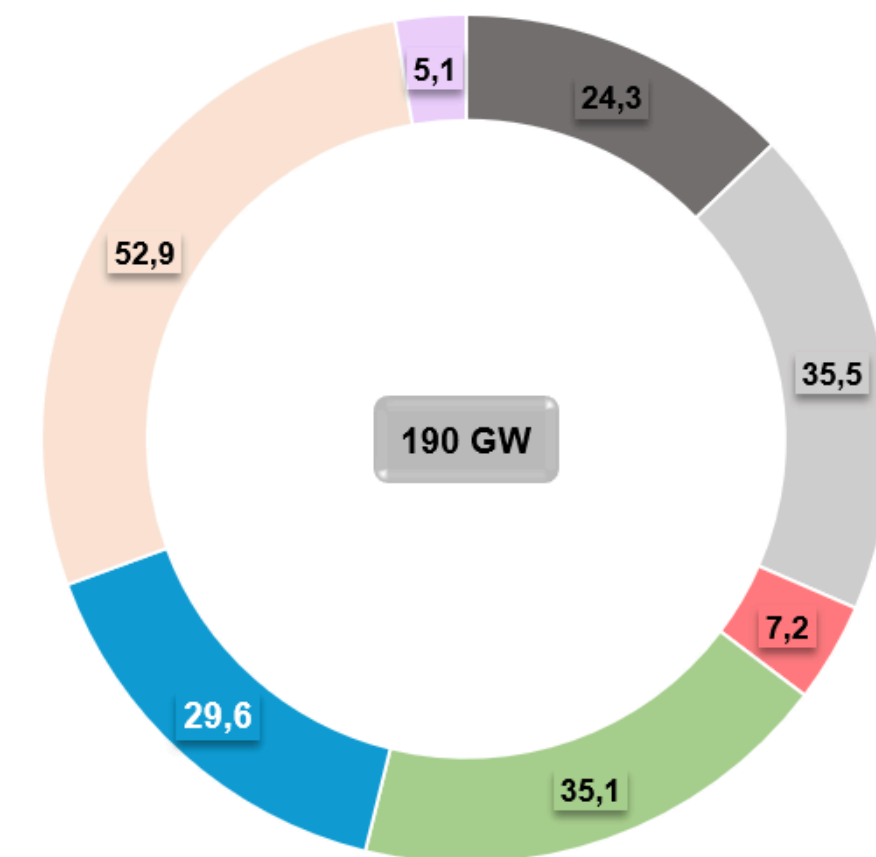
# 2035 Wind Capacity Target of Türkiye

Natural Energy Plan has been announced in January 2023 by the Ministry of Energy and Natural Resources based on 2053 Net-Zero Targets and relevant long-term roadmap.

Wind Capacity (MW)



2035 Installed Capacity (GW)



■ Coal ■ Gas ■ Nuclear ■ Hydro ■ Wind ■ Solar ■ Other (Geo + Bio)