



# 14<sup>TH</sup> SE Europe Energy Dialogue

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## Energy Transition, Decarbonisation strategies and RES investments in Türkiye

Assoc. Prof. Dr. Muhsin MAZMAN  
Director (Energy Storage Division)  
TDinamik Energy



## 2015

196 countries adopted the historic Paris Agreement to reduce global warming and build resilience to climate change. Its overall goal: limit warming to no more than 1.5 degrees Celsius.





## 2050

The transition to net-zero emissions must be fully complete.

# By What Year Have Countries Pledged to Reach Net-Zero Emissions?

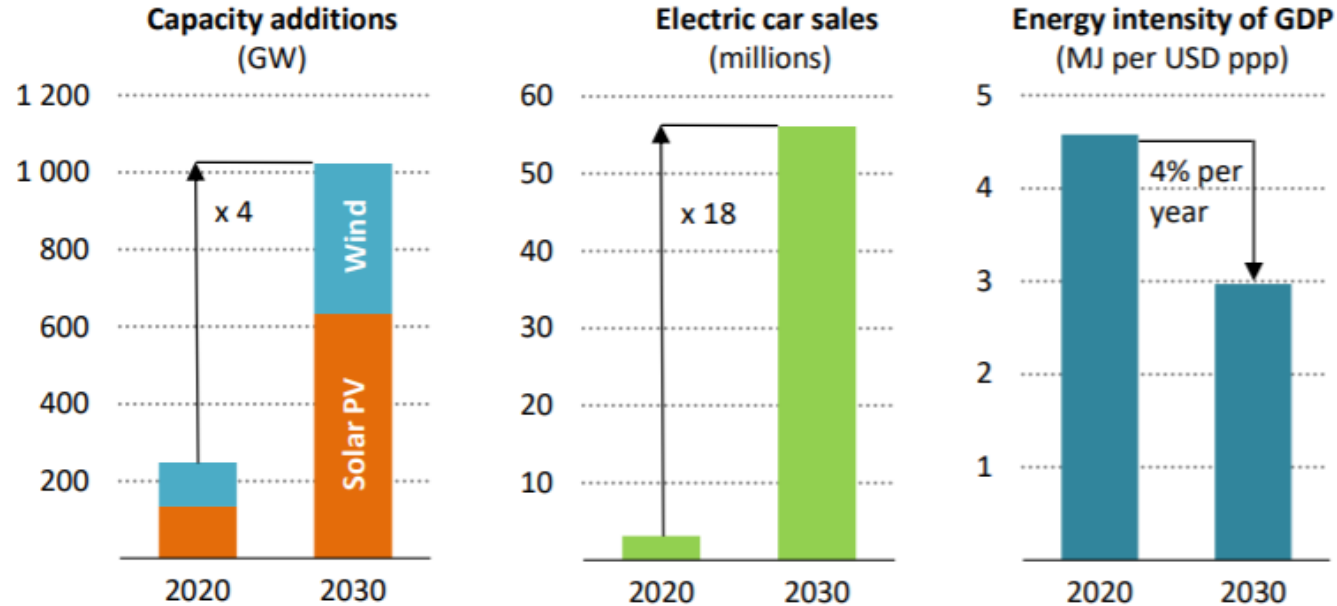
Already Achieved	2030	2035	2040	2045	2050	2053	2060	2070
Bhutan	Barbados	Finland	Austria	Germany	Andorra	Turkey	Bahrain	India
	Maldives		Iceland	Sweden	Argentina		China	Mauritius
	Mauritania			Nepal	Australia		Kazakhstan	
					Brazil		Nigeria	
					Bulgaria		Russia	<b>2<sup>nd</sup> half of 21<sup>st</sup> century</b>
					Canada		Saudi Arabia	Malaysia
					Cape Verde		Sri Lanka	Namibia
					Chile		Ukraine	Singapore
					Colombia			Thailand
					Costa Rica			
					Cyprus			
					Denmark			
					Dominican Republic			
					European Union			
					Fiji			
					France			
					Hungary			
					Ireland			
					Israel			
					Italy			

Several design choices impact the rigor of these targets.  
Read our paper *Designing and Communicating Net-Zero Targets*

- Net-zero target set in law or policy
- Political pledge to reach net zero

# For Net Zero up to 2030

## Key clean technologies ramp up by 2030 in the net zero pathway



Note: MJ = megajoules; GDP = gross domestic product in purchasing power parity.

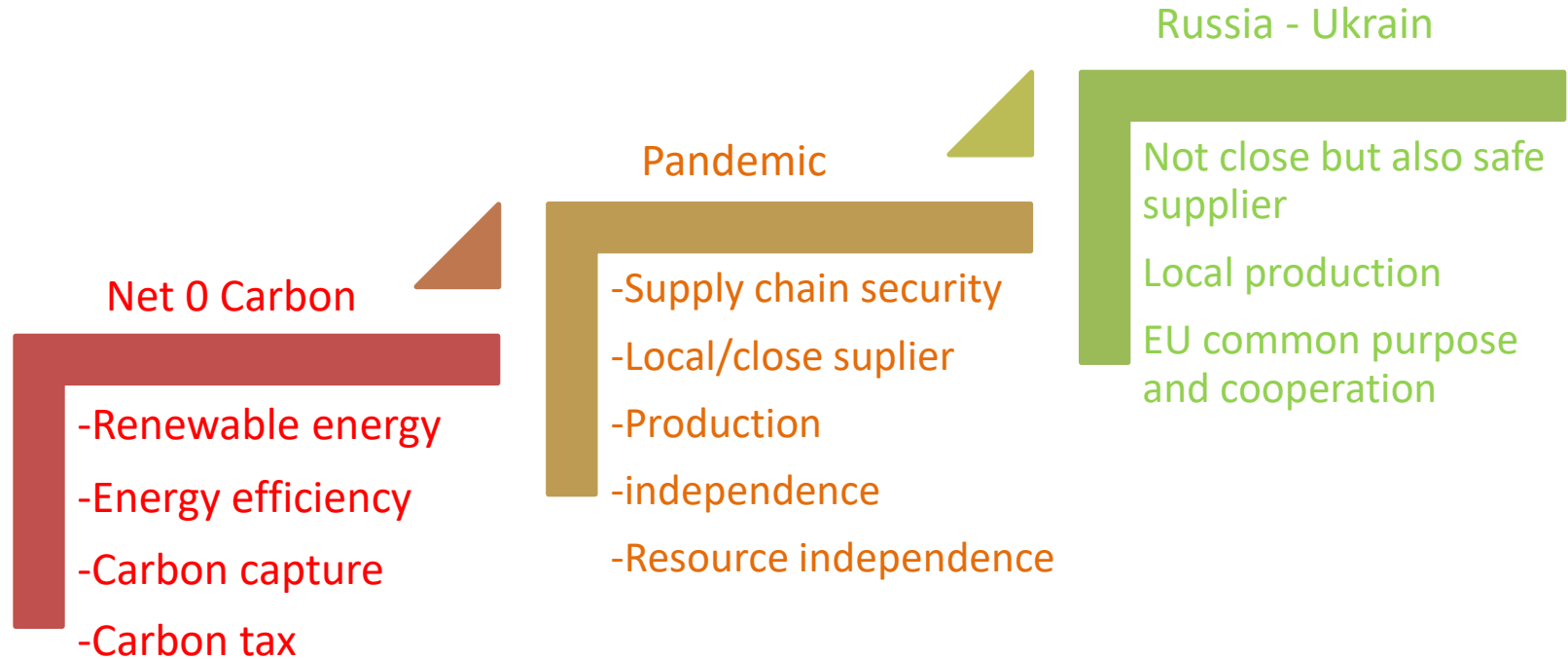
- RES will be x4,
- Electric vehicles will be 60% (x18)
- Energy intensity 4% less (IEA, 2021).

# Carbon-free Energy Future



- The electric grid will be supported by generation from sustainable, low-carbon energy sources
- Share of renewable Energy will increase
- Energy storage at different scales for reliable power supply, grid security, and cost reduction will increase

# World: Situation



# Power Generation Capacity in Turkey

**Turkey- Total  
Installed Capacity**  
104.496 MWm

**Turkey- Total  
RES(Wind+Solar+Hydro+Jeo)  
Capacity**  
54. 92 GWm

(2023/April)

Source	Total Installed Capacity 105 GW- Rate (%)	Capacity-GW
Coal	20,9	21,945
NG	24,3	25,515
Hydro	30,2	31,71
Wind	11	11,55
Solar	9,5	9,975
Jeotermal	1,6	1,68
Others	2,5	2,625
<b>TOTAL RES</b>	<b>52,3</b>	<b>54,915</b>

<https://www.enerji.gov.tr/>



## 5 July 2022 , New legislation on ESS

- 1- Solar and wind farms production licence will given only by integrated with ESS.
- 2- The current licenced solar and wind plants can be increased their licence capacity by adding ESS.



# Legislation for RES + Storage in Turkey

Min. : 20 MW

20MW : 20 MWh

Wind:  
20MW min.  
250 MW max.



Min. : 10 MW

10MW : 10 MWh

Solar  
10MW min.  
250 MW max.



# Situation after the Legislation on RES+ESS

1. Connectible capacity (GW): 30 GW
2. Applications : 240 GW
3. Wind farms: 60%
4. Solar Farms: 40%
5. Given, Pre-licence: 13GW
6. Under evaluation: 24GW



**Results: 13 GW pre-licence given for Wind and Solar +Storage(>15GWh)**

# Activities for Energy Transition in Turkey



1. RES + ESS
  - PV production (7,5 GW)
  - Wind Turbine components production
2. EV
3. EV Charge Station
4. Battery
5. Hydro PP
6. Nuclear (4800 MW)
7. NG PP
8. Coal



A composite image featuring a white wind turbine, solar panels, a sunflower, and a bright sun in a blue sky over a green field. The wind turbine is positioned in the upper left, with its three blades extending across the sky. In the foreground, solar panels are visible on the left, and a large yellow sunflower is on the right. The background consists of rolling green hills under a bright blue sky with a sun in the top right corner.

**THANK YOU**