

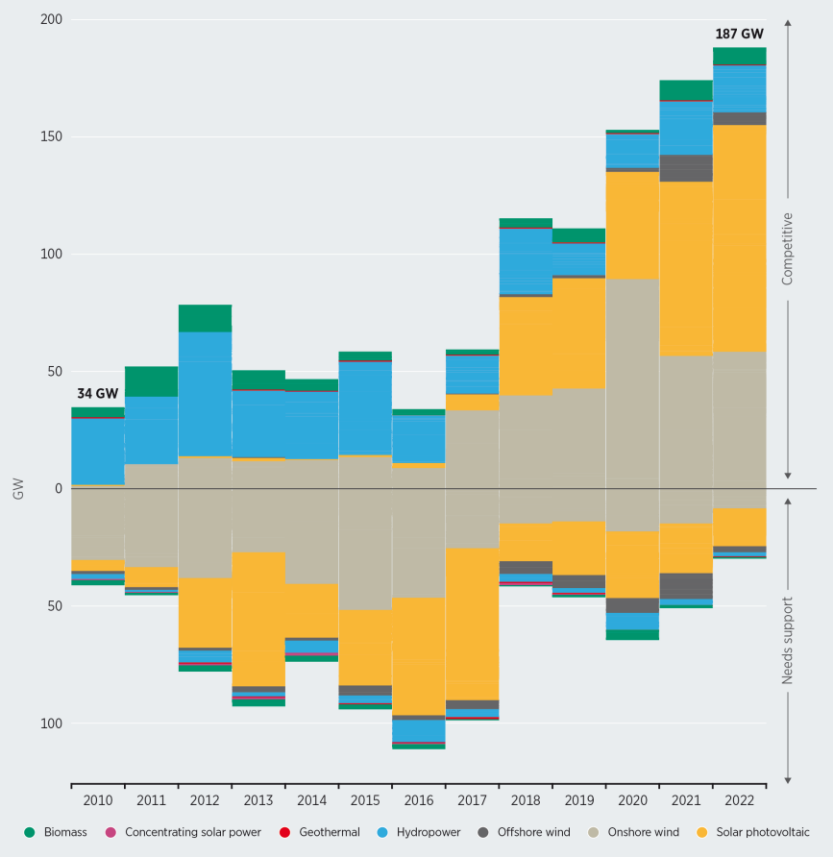
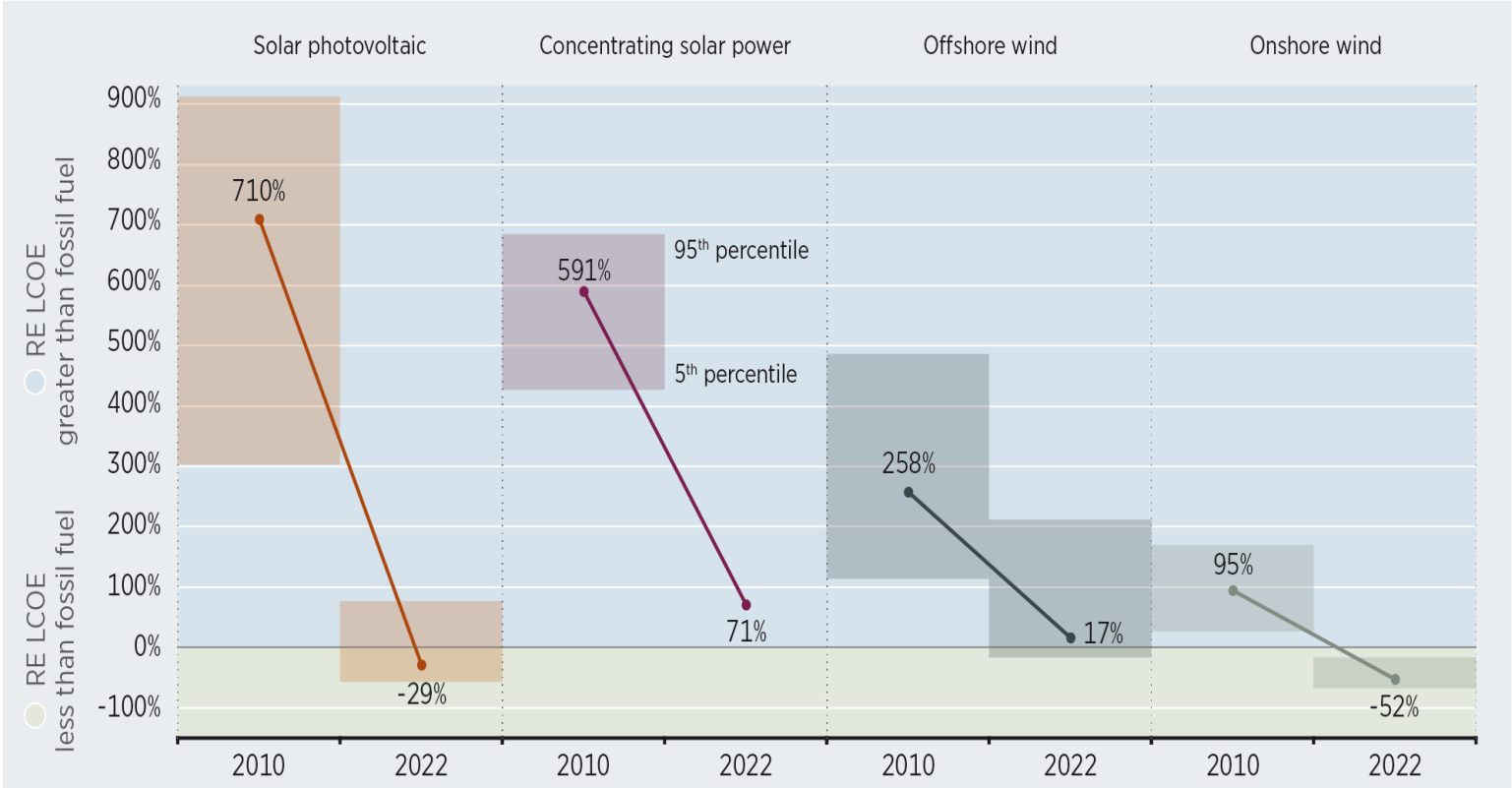
# Achieving SDG and Net-Zero: Perspectives from IRENA

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Deputy Director, Country Engagement and Partnerships

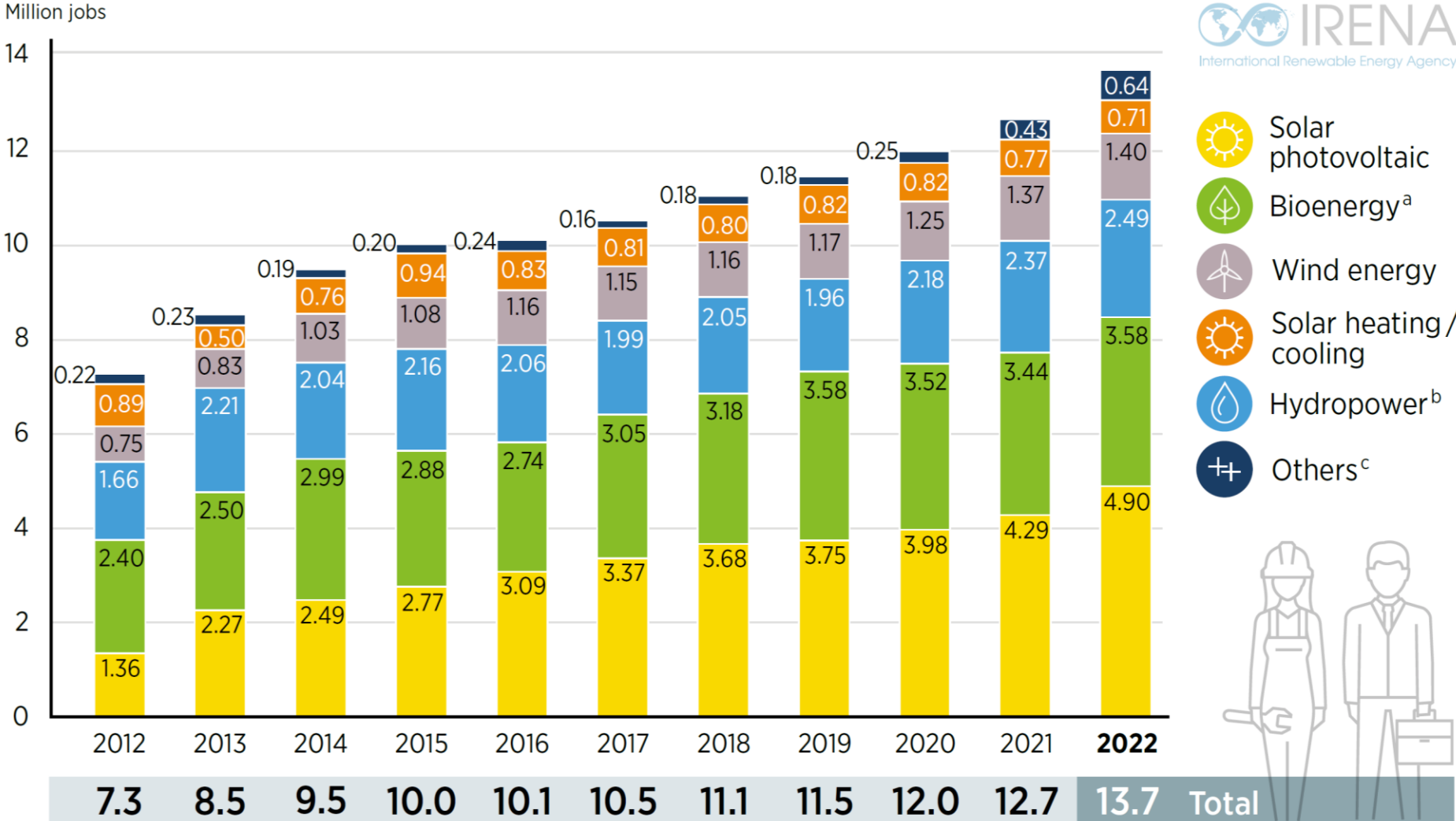
2 November 2023

# Solar and wind power now offer low-cost electricity



86% of the new utility-scale capacity added in 2022 cost less than cheapest fossil option by country/region

# More Energy Transition Jobs



- Solar photovoltaic
- Bioenergy<sup>a</sup>
- Wind energy
- Solar heating/cooling
- Hydropower<sup>b</sup>
- Others<sup>c</sup>



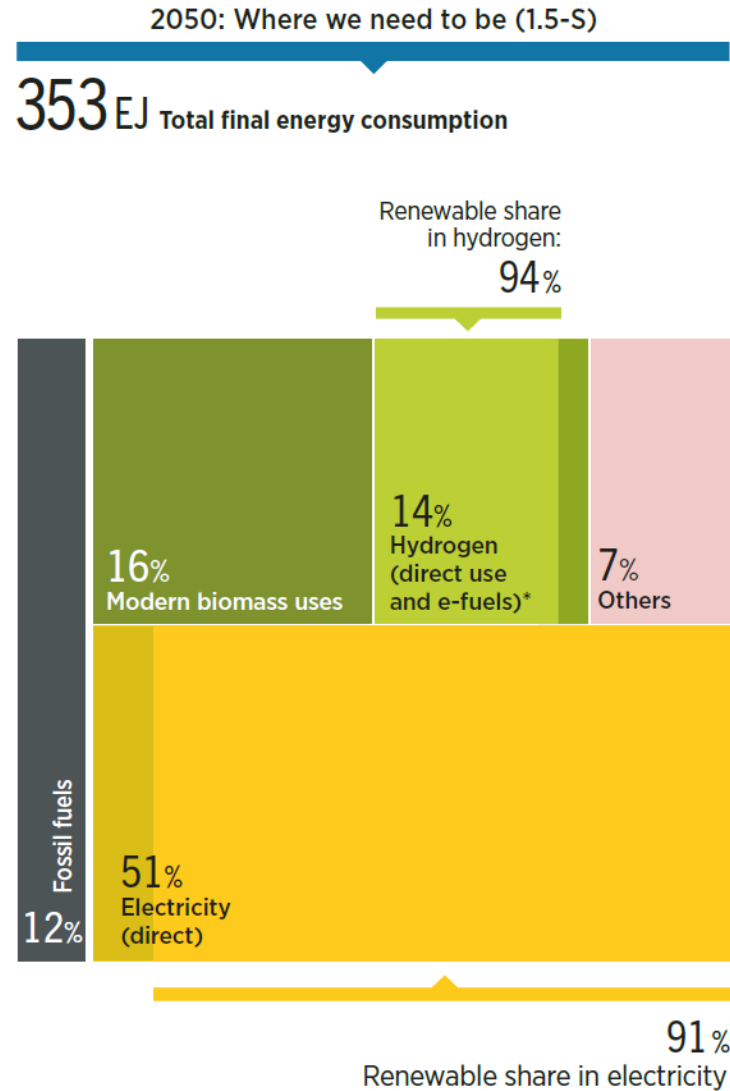
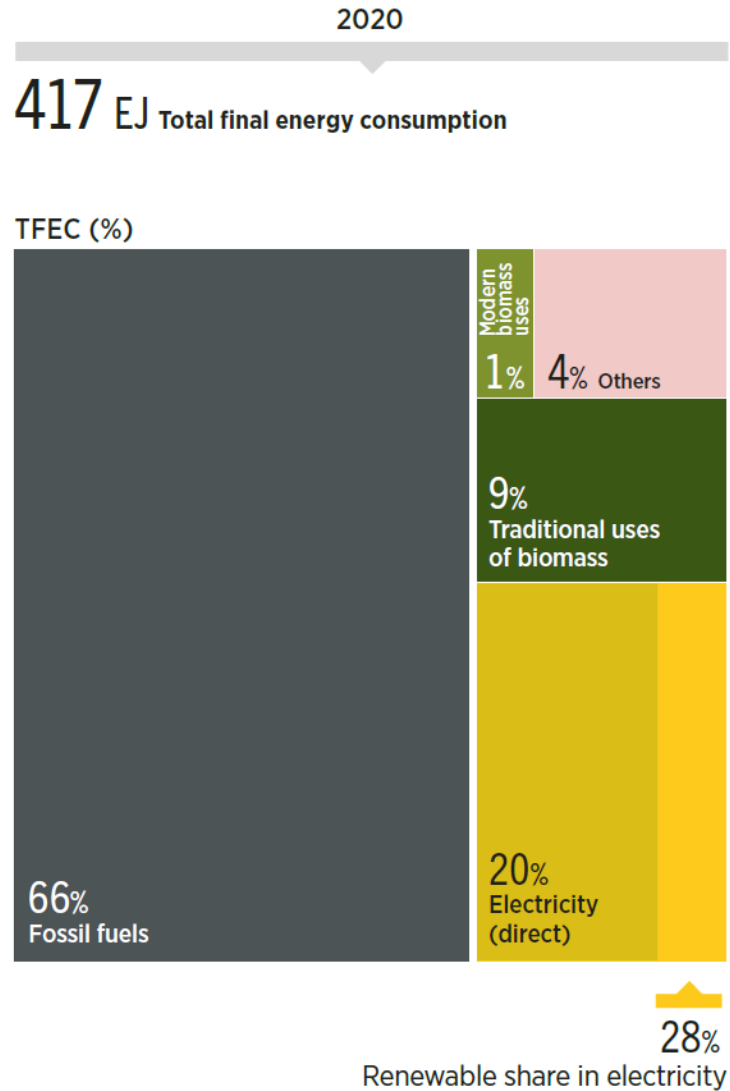
- Renewable energy jobs soar to 13.7 million in 2022, almost double in 10 years.
- Solar PV is the fastest-growing sector with almost 4.9 million jobs in 2022, more than a third of the total workforce in the renewable energy sector.

# The energy transition is off track to 1.5°C and net-zero by 2050

	Indicators	Recent years	2030 <sup>1)</sup>	2050 <sup>1)</sup>	Progress (Off / on track)
RENEWABLES	Share of renewables in electricity generation	28% <sup>2)</sup>	68%	91%	
	Renewable power capacity additions	295 GW/yr <sup>4)</sup>	975 GW/yr	1 066 GW/yr	
ENERGY EFFICIENCY	Energy intensity improvement rate	1.7%/yr <sup>16)</sup>	3.3%/yr	2.8%/yr	
ELECTRIFICATION	Share of direct electricity in final energy consumption	22% <sup>19)</sup>	29%	51%	
HYDROGEN	Electrolyser capacity	0.5 GW <sup>26)</sup>	428 GW	5 722 GW	
CCS AND BECCS	CCS/U - emissions abated	0.04 GtCO <sub>2</sub> captured/yr <sup>29)</sup>	1.4 GtCO <sub>2</sub> captured/yr	3.2 GtCO <sub>2</sub> captured/yr	

- **Significant acceleration** is needed across energy sectors and technologies from deeper end-use **electrification**, to **direct renewable use**, **energy efficiency & infrastructure** additions
- The **lack of progress** will increase future **investment needs**

# Electricity becomes the main energy carrier in 2050

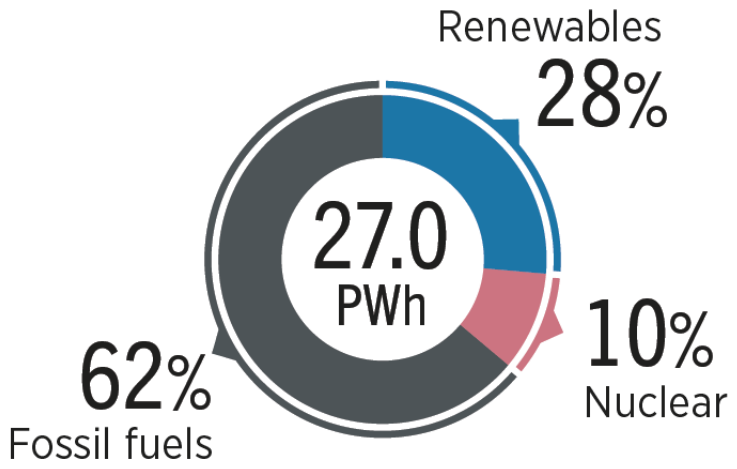


- Total final energy consumption **decrease by 15%** from 2020 to 2050
- **Renewable energy** deployment, improvements in **energy efficiency** and the **electrification** of end-use sectors contribute to this shift
- More significant roles of **modern biomass (16%)** and **hydrogen (14%)** in 2050
- **94% of hydrogen** consumption in 2050 from **renewables**

# Power generation needs to more than triple by 2050

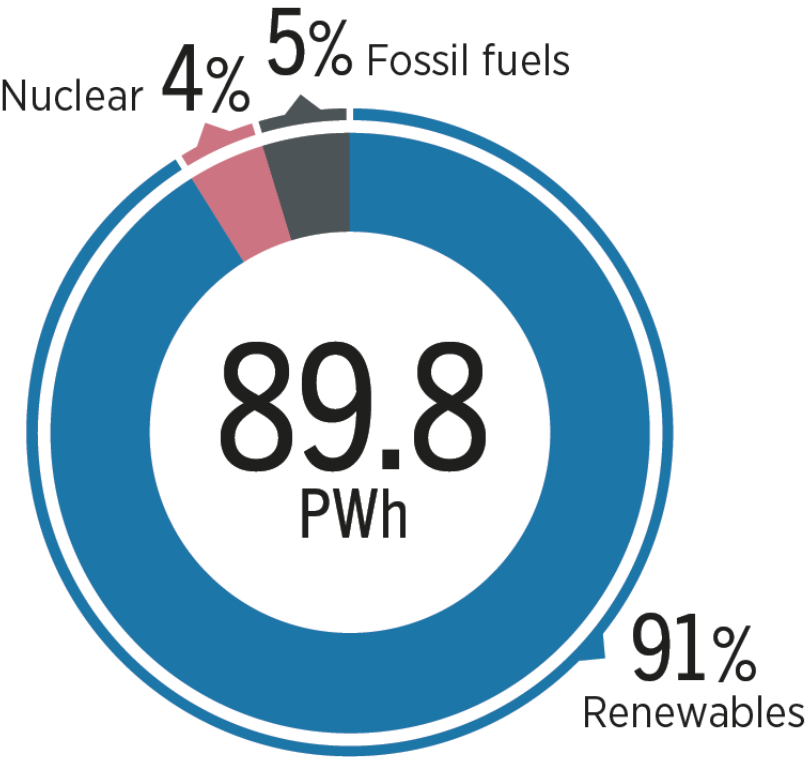
2020

Gross electricity generation (PWh)



2050: Where we need to be (1.5-S)

Gross electricity generation (PWh)

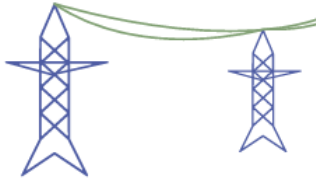


- **91%** of total electricity supply comes from **renewable** sources, compared to 28% in 2020
- **Coal-** and **oil-**based power generation will be **phased out entirely** by 2050
- **Natural gas** will only provide **5%** of total electricity needs, with **4%** met by **nuclear** in 2050

# The way forward – 3 priority pillars of Energy Transition

## PHYSICAL INFRASTRUCTURE

- Forward-looking **planning**
- Invest in **grids and trade routes on land and sea**
- Facilitate national, regional and global strategies for **new supply-demand dynamics** and promote equity and inclusion.



## POLICY AND REGULATION

- Design of **policy and regulatory frameworks**
- These need to enable different levels of the energy transition, from local to global, and **account for new supply-demand dynamics.**

## INSTITUTIONS AND SKILLED WORKFORCE

- Capacity among institutions, communities and individuals to **acquire the requisite skills, knowledge and expertise**
- Develop a **skilled workforce**



# COP28 Global Renewables and Energy Efficiency Pledge

## RE Power Capacity

Three-fold increase by 2030



x3

## Energy Efficiency

Double annual rate of improvement by 2030

x2

# COP28UAE

- To get the world back on track to achieve the Paris Agreement goals
- Commit to:
  - Support collective global goal of **tripling renewables** (11,000 GW) and **doubling efficiency improvements** by 2030
  - Set ambitious national policies on renewable energy and energy efficiency, reflecting these in NDCs



# The outlook

- Renewables are cost competitive and the most popular power generation option and job creation;
- Challenges – infrastructure, skills and policy remain;
- SDG13 and Net Zero – triple renewables deployment by 2030;
- Calls on member states to join the CoP-28 targets pledge.





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