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SESSIONE PLENARIA  
INTERNAZIONALE

6 novembre 2024

# La transizione energetica tra falsi miti e realtà

**Andrea Barbabella**

Responsabile Clima ed Energia, Susdef  
Coordinatore, Italy for Climate

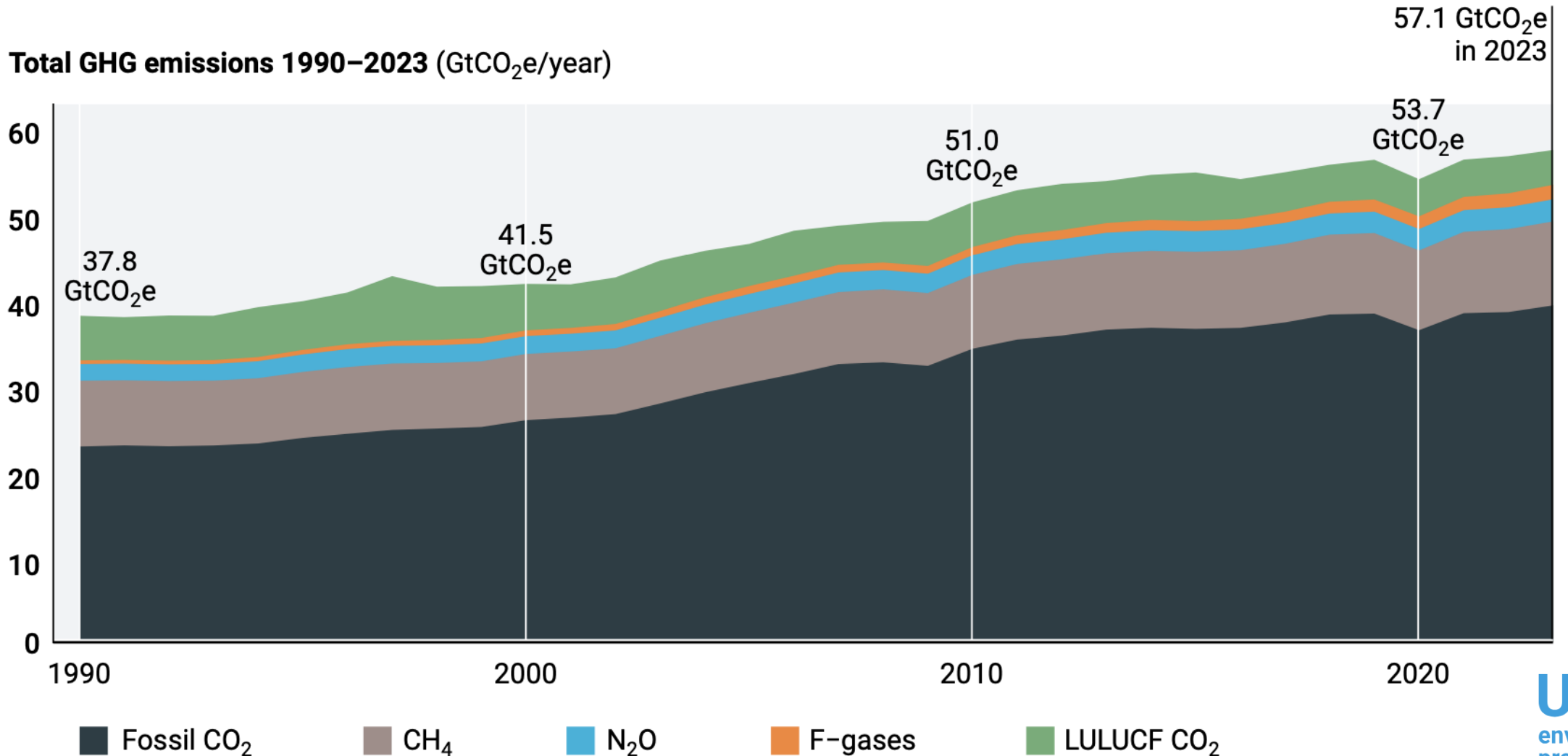
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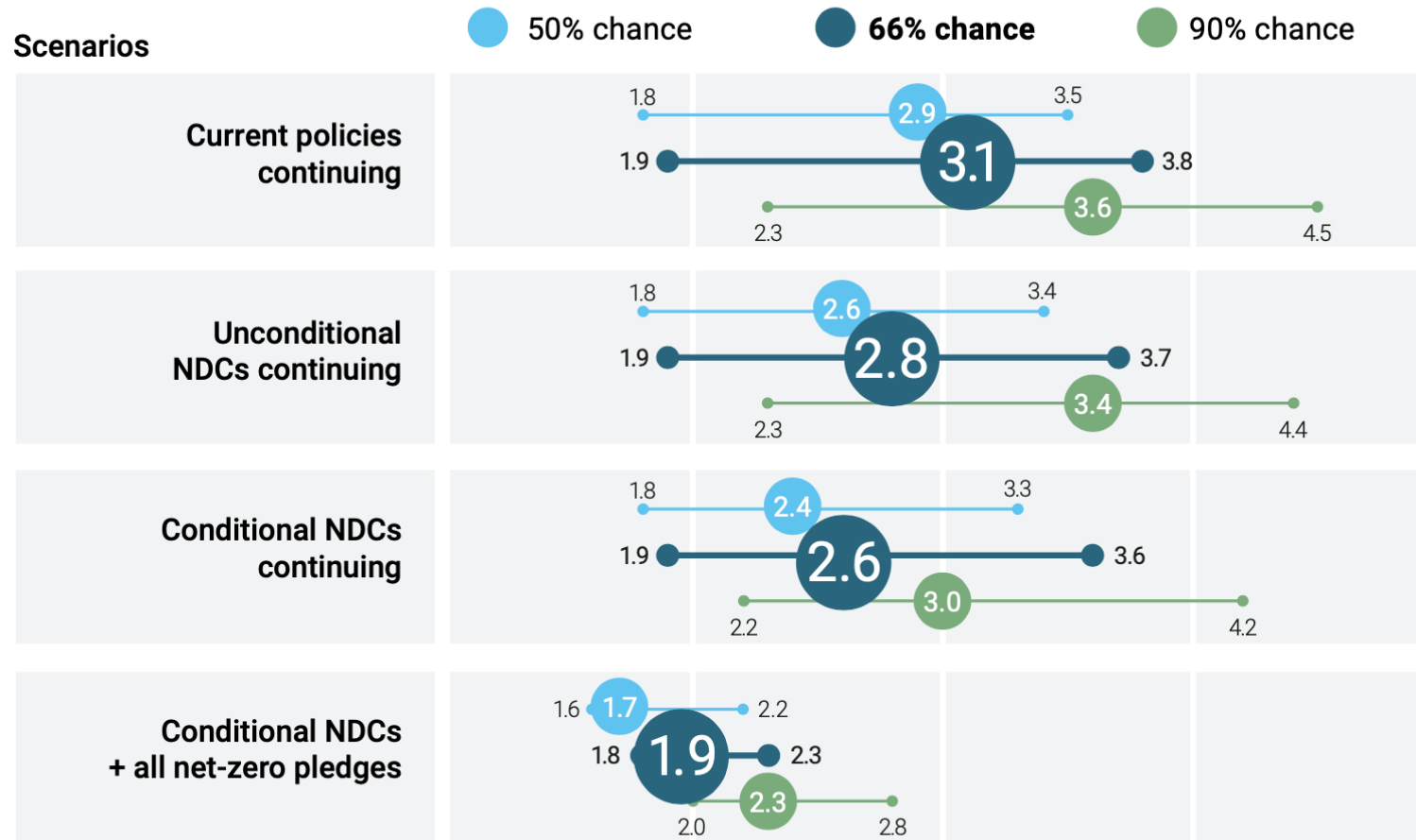
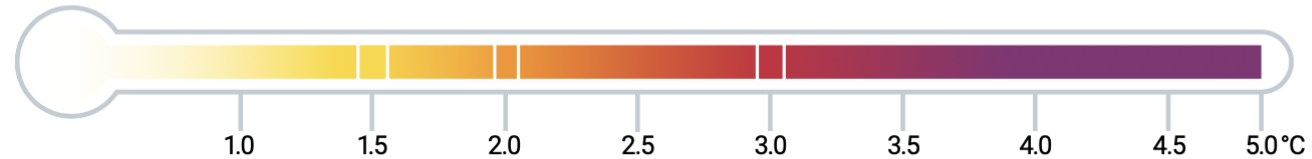
# Emissioni 2023: +51% sul 1990, +5% sul 2015

Total GHG emissions 1990–2023 (GtCO<sub>2</sub>e/year)

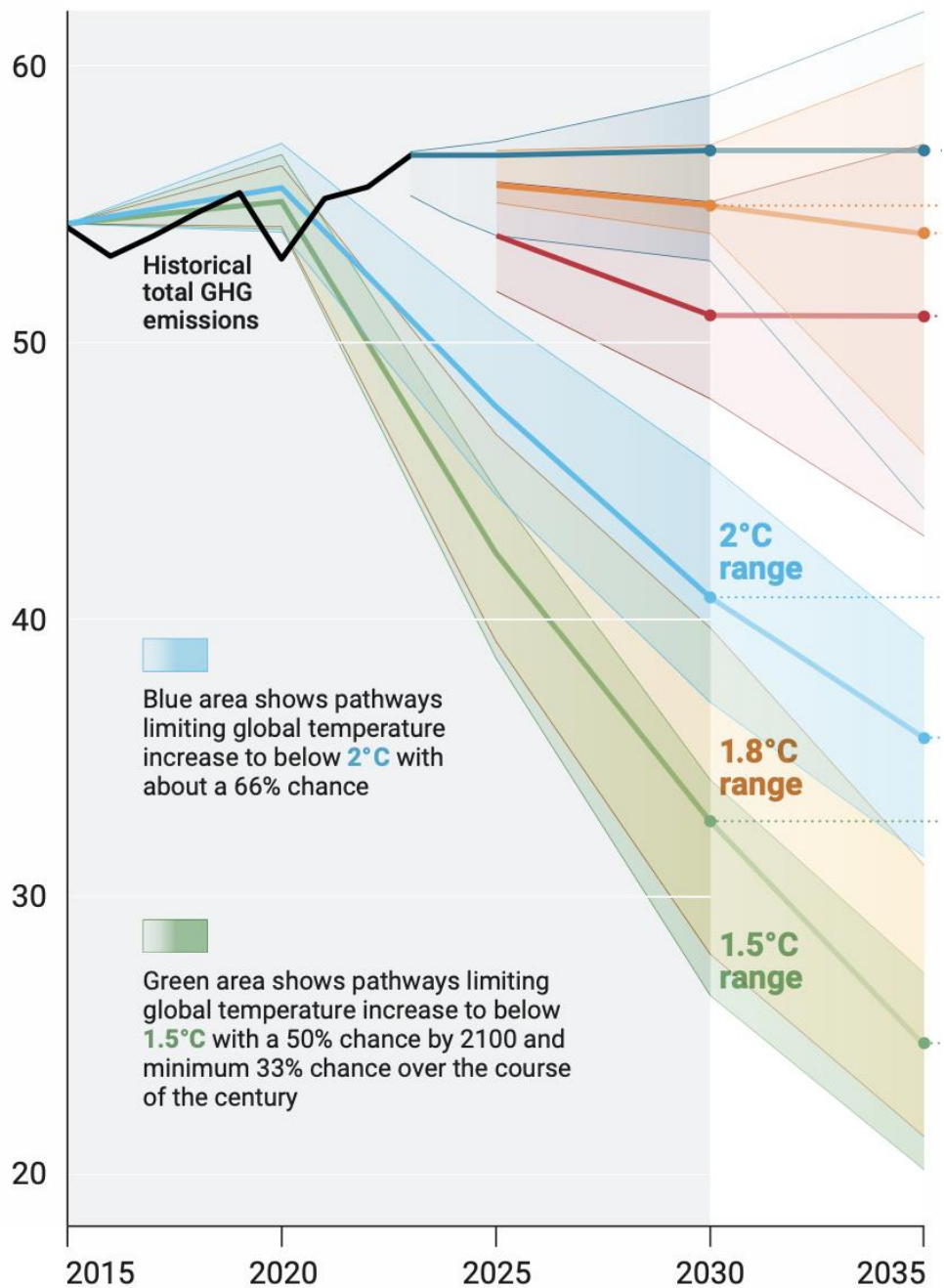


# Scenari: verso un mondo a +3 °C

Peak warming over the twenty-first century (°C) relative to pre-industrial levels



GtCO<sub>2</sub>e



## Emission gap al 2030:

- 11-14 GtCO<sub>2</sub>e per il +2 °C
- 19-22 GtCO<sub>2</sub>e per il +1,5 °C

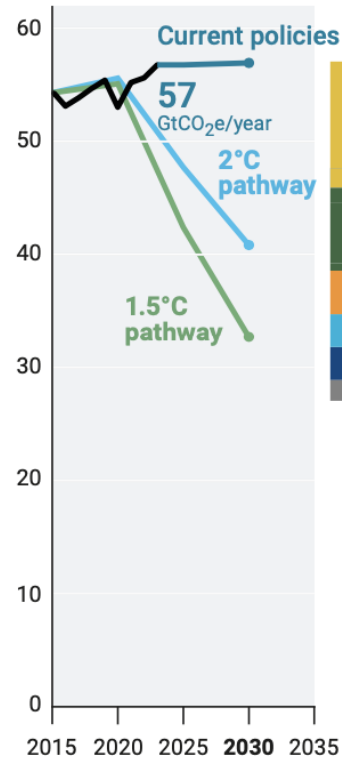
- Current policies scenario
- Unconditional NDC scenario
- Conditional NDC scenario

# **No more hot air ... please!**

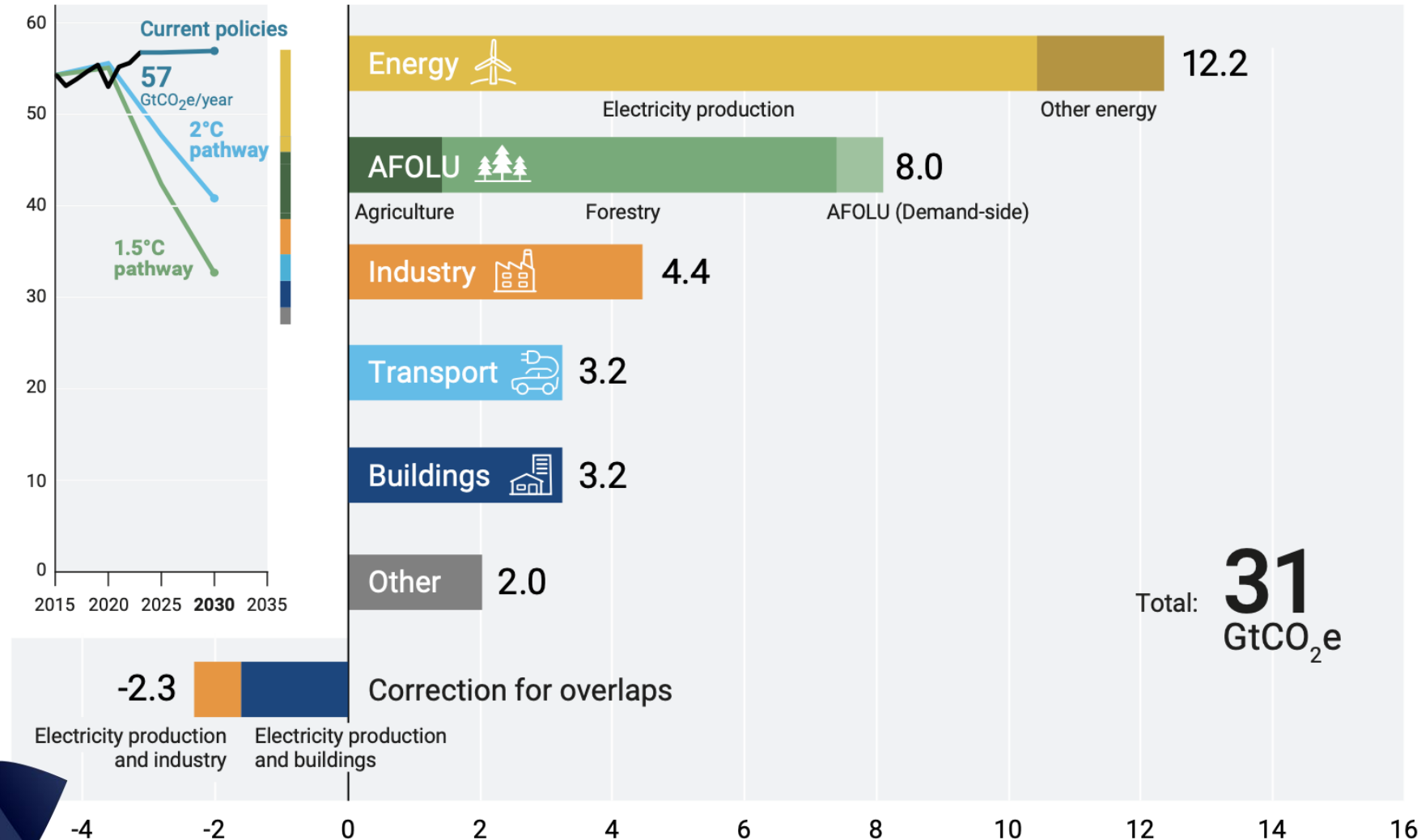
With a massive gap between rhetoric and reality,  
countries draft new climate commitments

# Good news: oltre la metà o potenziale è di mitigazione attuale è *low cost* (meno di 20\$/tCO<sub>2</sub>e)

GtCO<sub>2</sub>e



Mitigation potentials 2030 (GtCO<sub>2</sub>e)

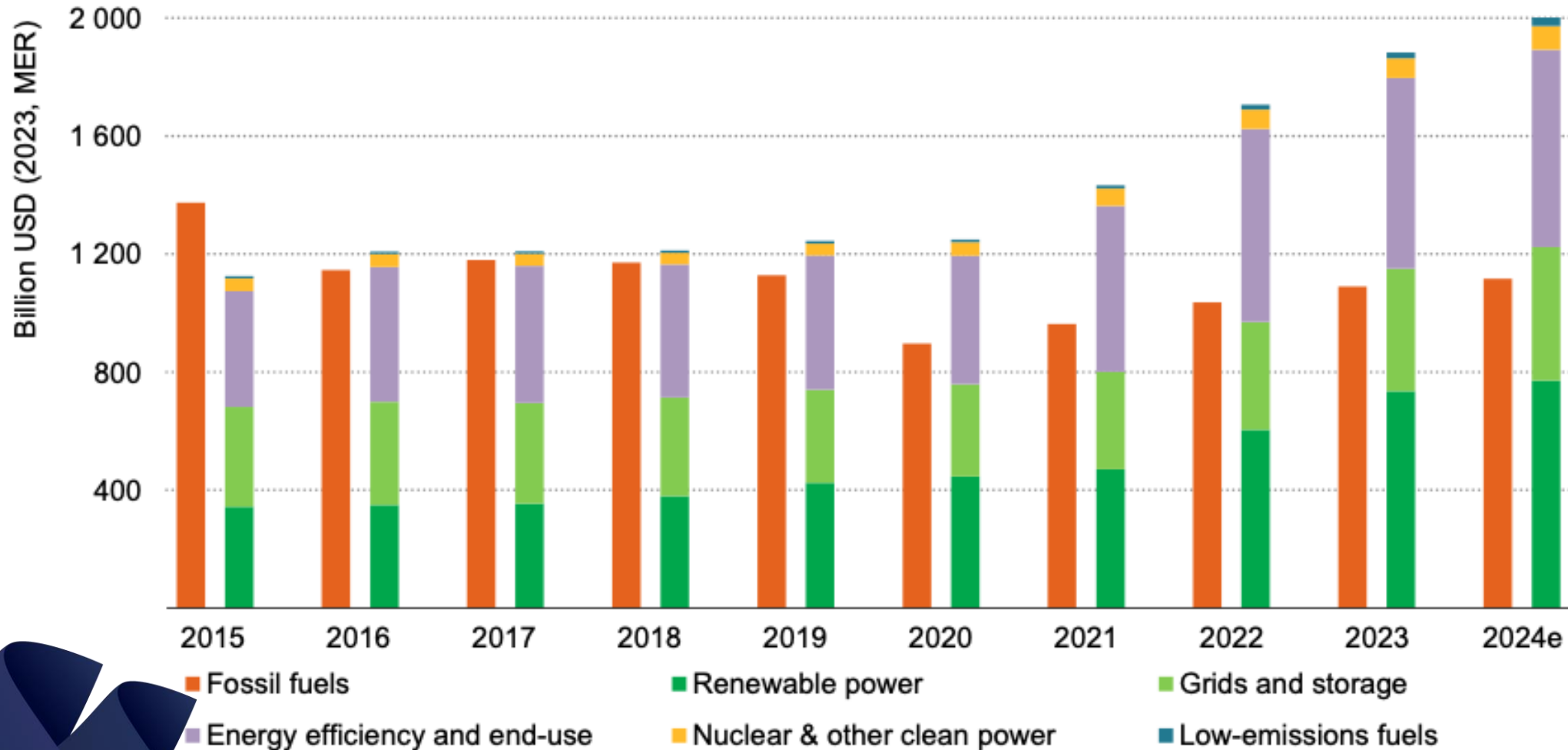


# Signals



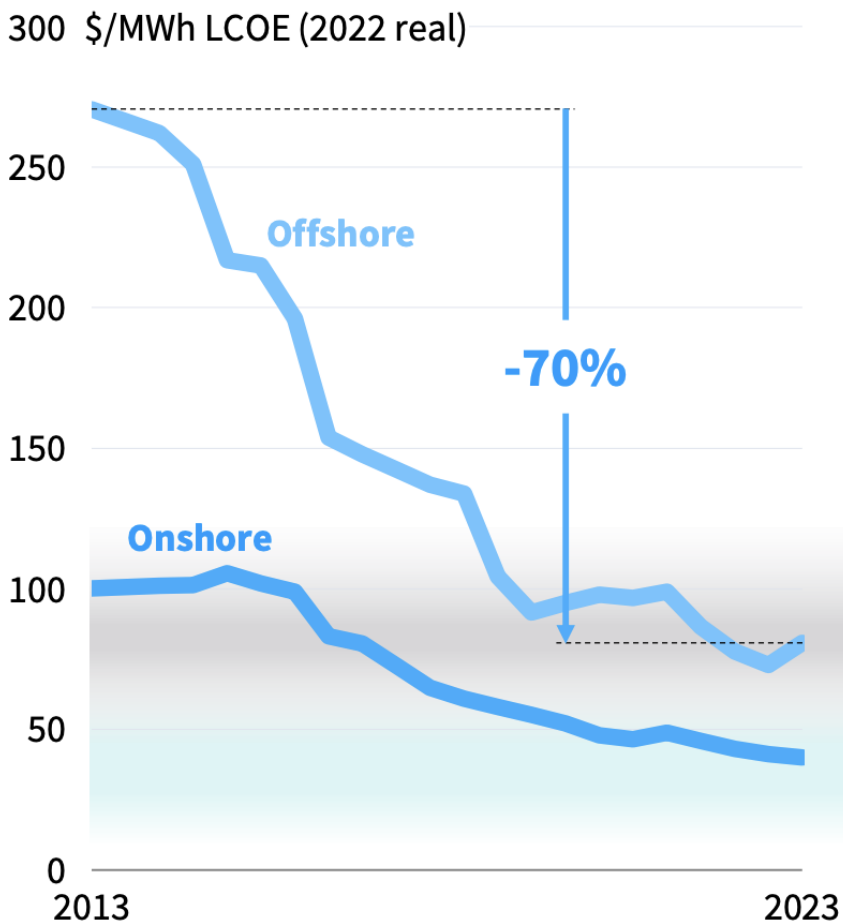
# Nel 2024 gli investimenti nell'energia pulita doppiaranno quelli dei fossili

Global investment in clean energy and fossil fuels, 2015-2024e

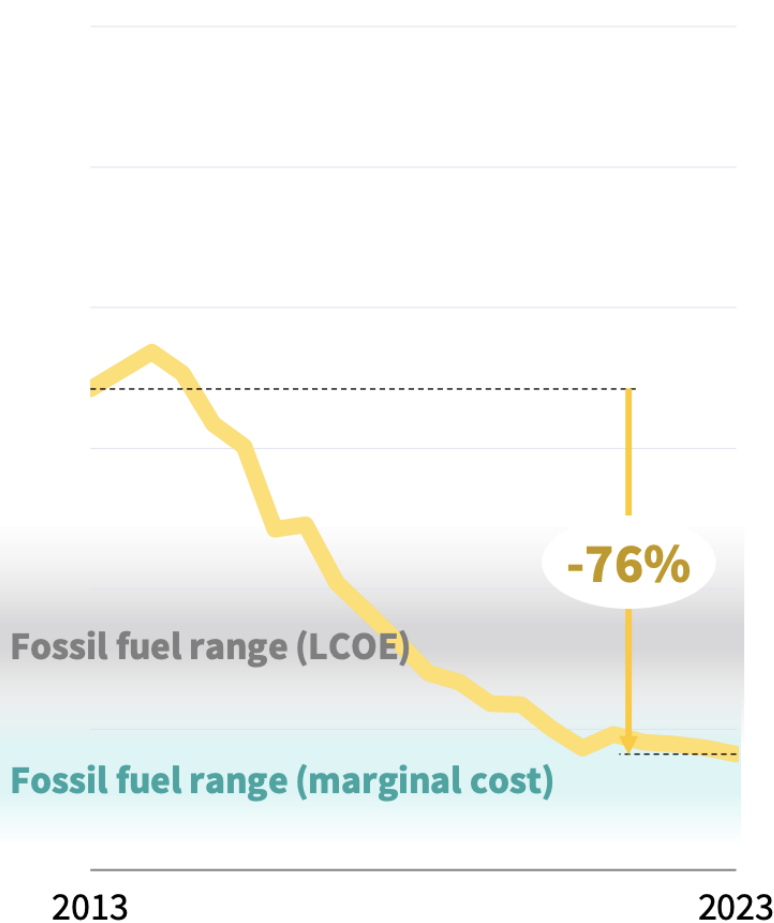


# La (dura) legge di Wright: i costi scendono di circa il 20% ogni raddoppio di produzione

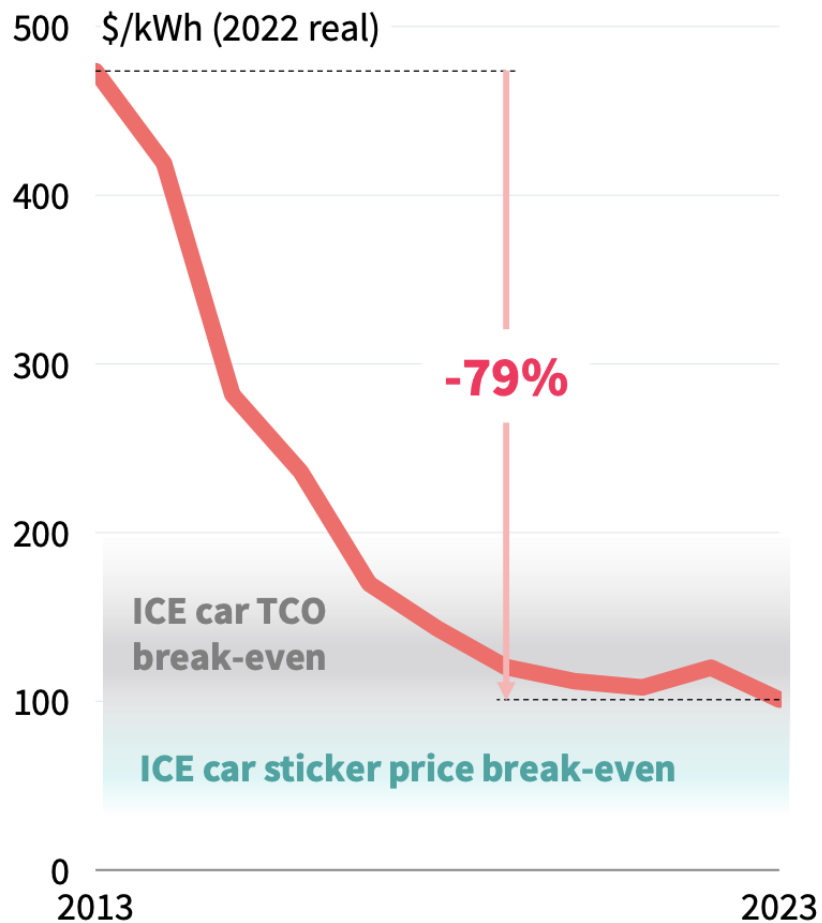
## Wind



## Solar



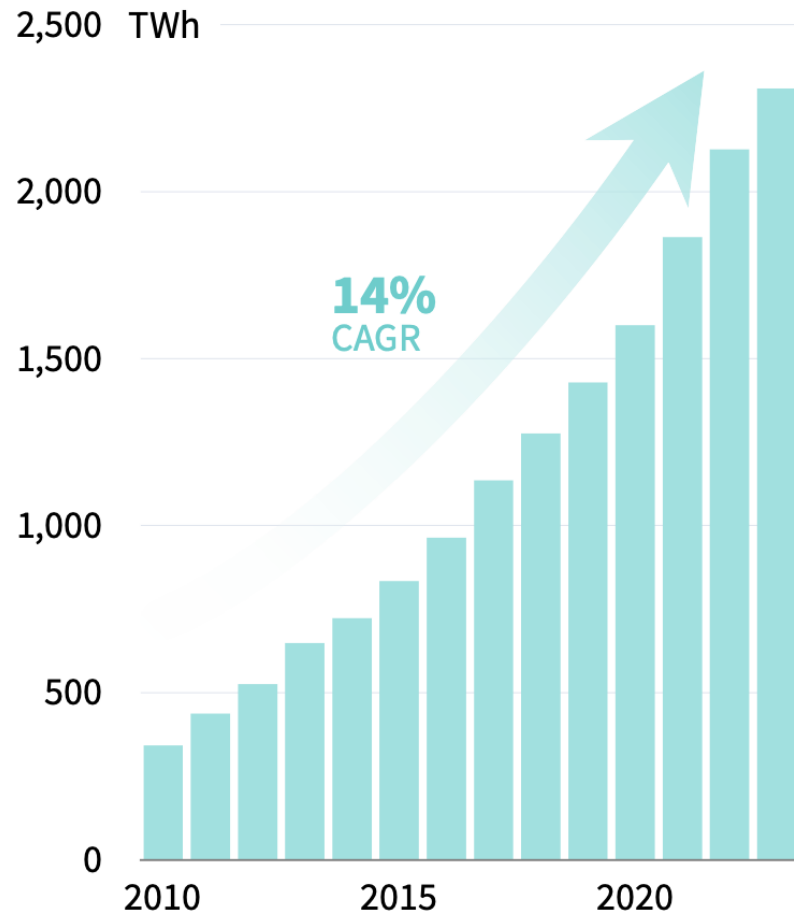
## Battery costs



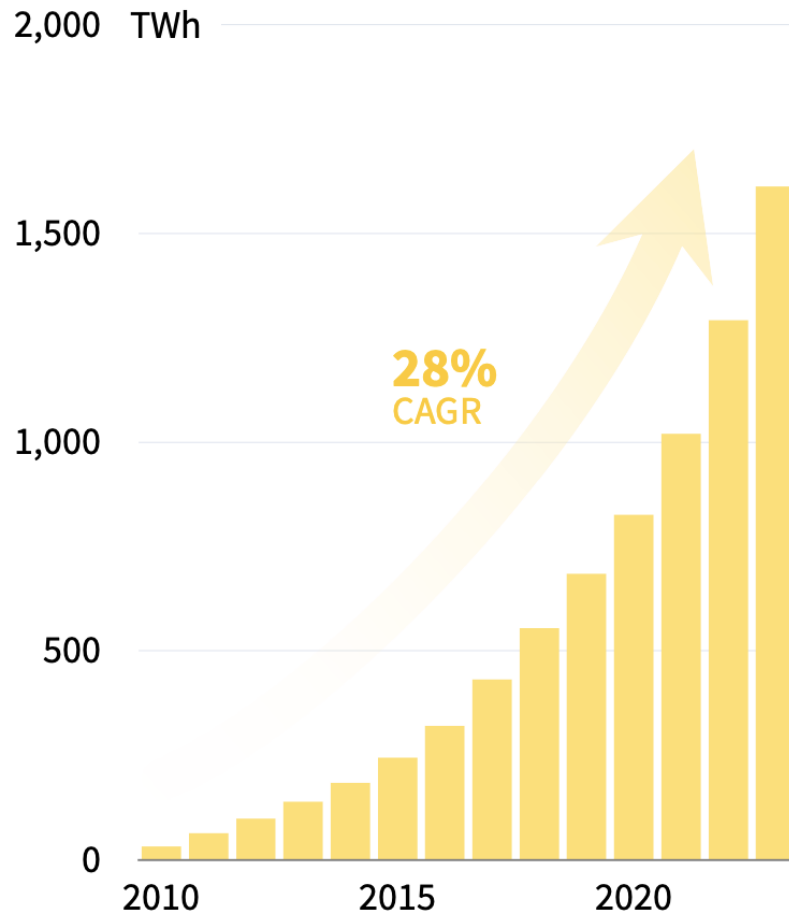
# Exponential growth!

## Il FV raddoppia ogni 2-3 anni e gli accumuli ogni 1, ma...

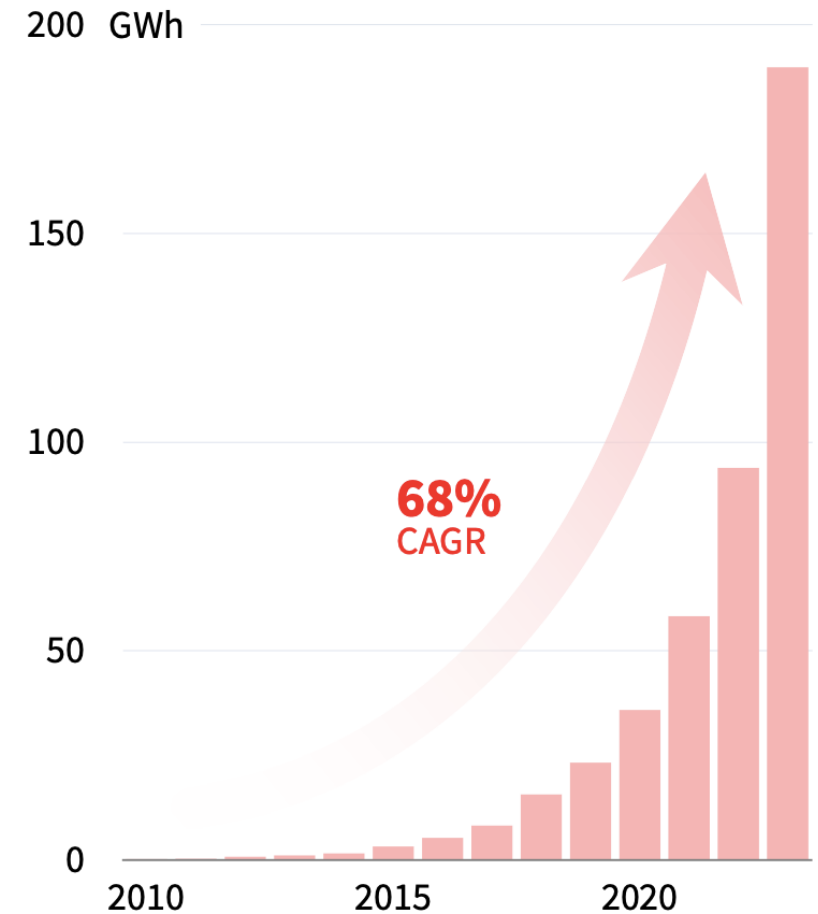
### Wind generation



### Solar generation

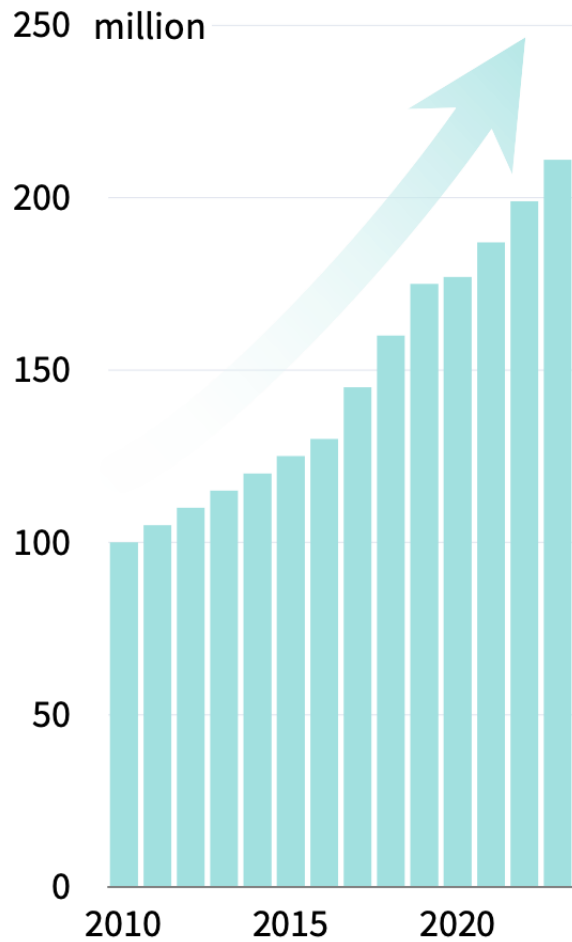


### Battery storage

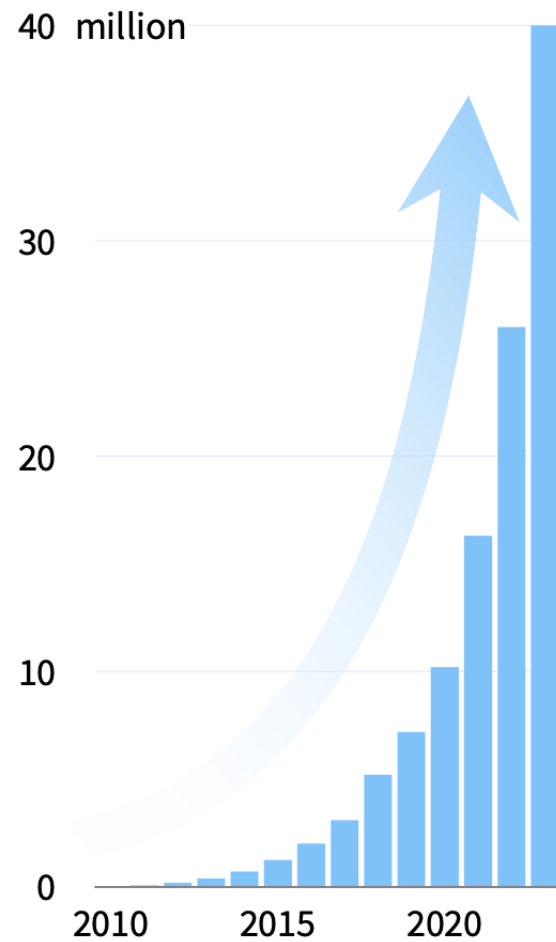


# ...non è solo rinnovabili!

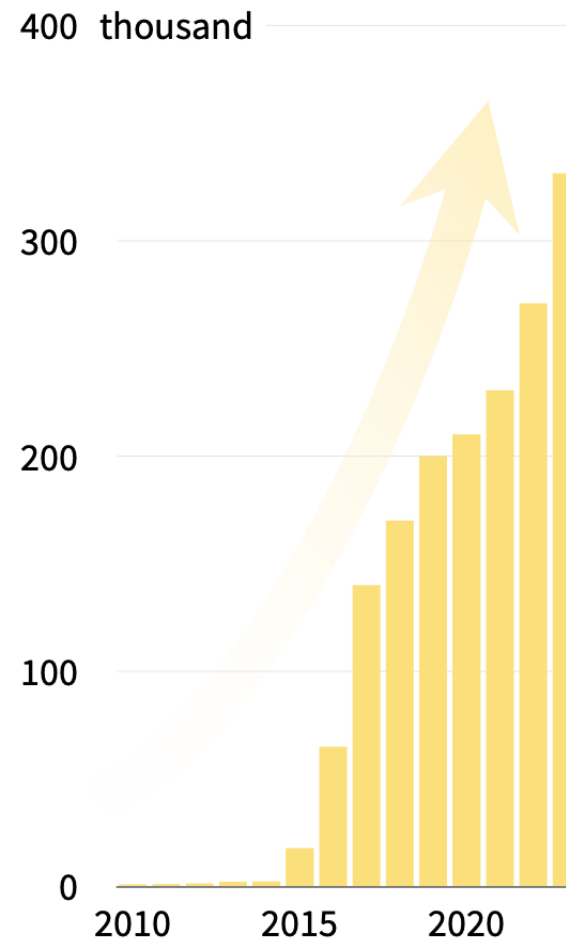
## Heat pumps



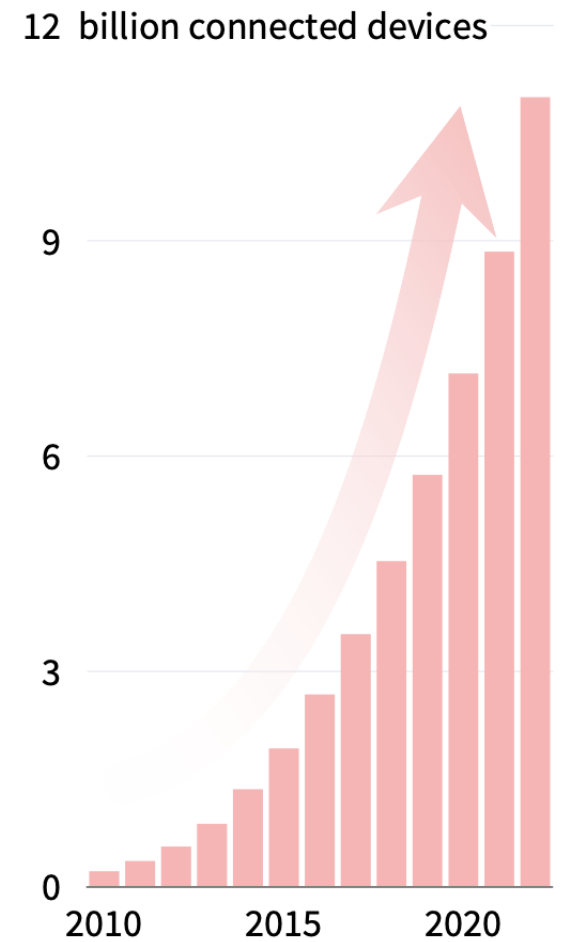
## EV cars



## EV trucks

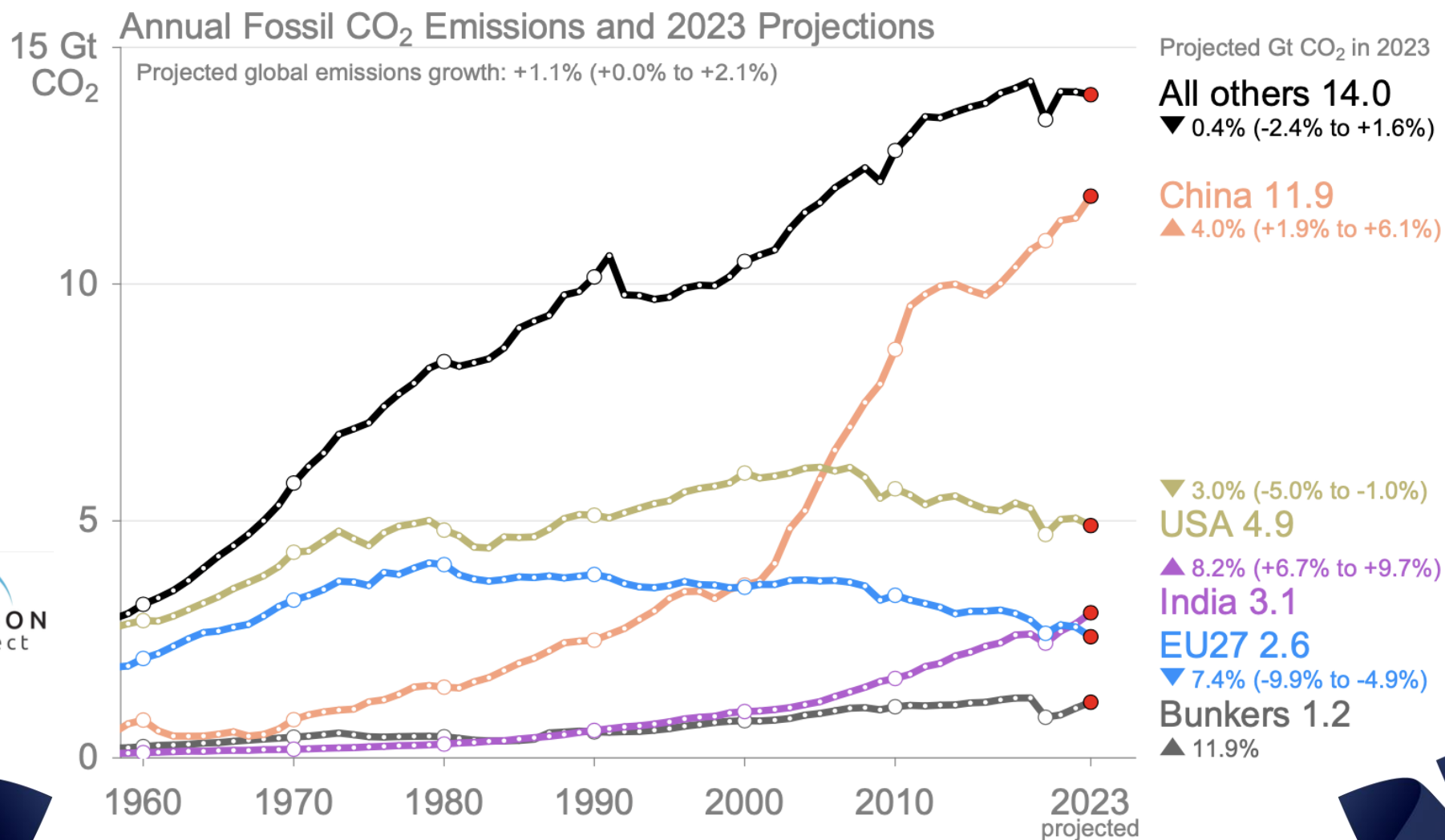


## Digitally enabled automated devices



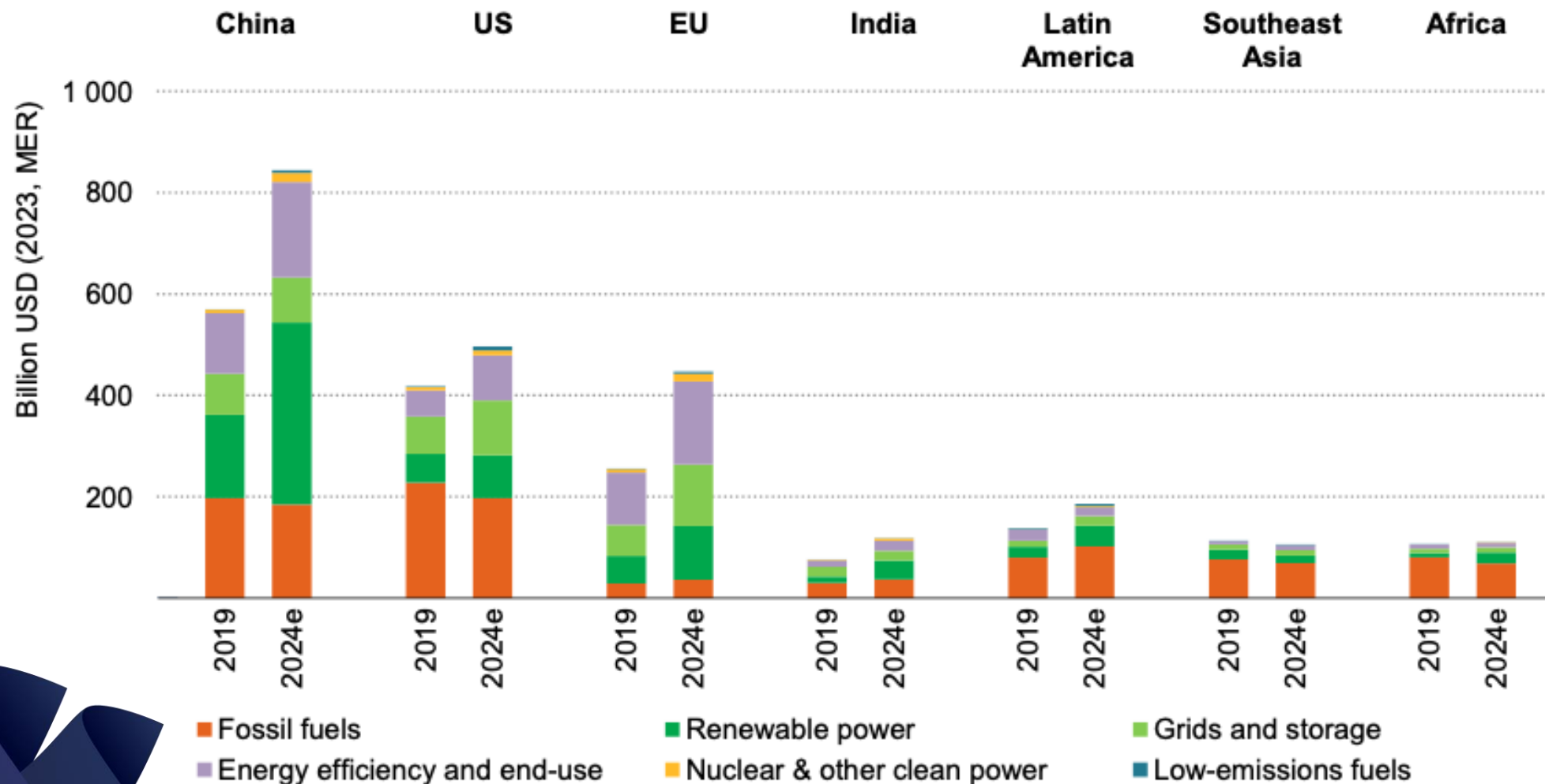
# Actors

# Cina, Usa, India e UE27 responsabili del 60% delle emissioni globali, ma con dinamiche molto diverse



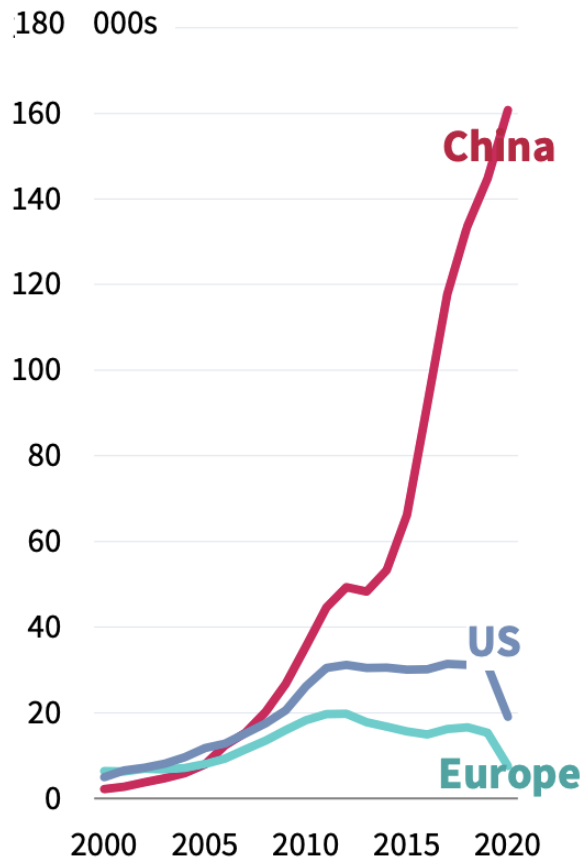
# Cambia anche anche la geografia degli investimenti...

Annual energy investment by selected country and region, 2019 and 2024e

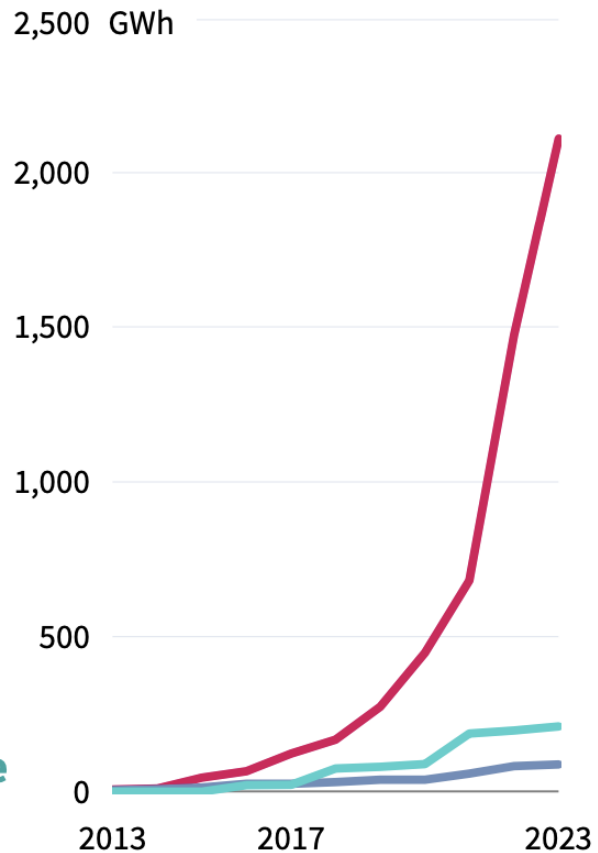


# ...e la Cina domina il mercato mondiale della transizione energetica

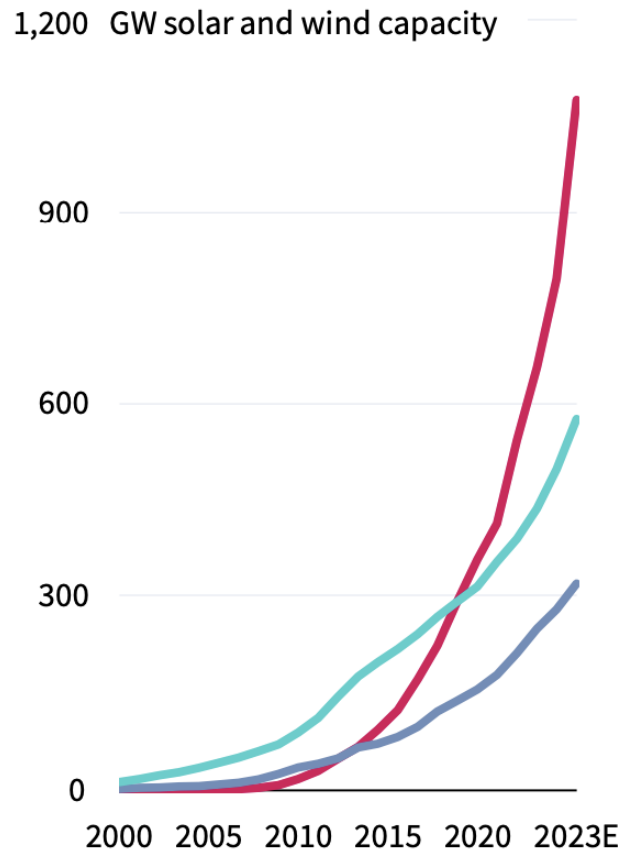
## Clean energy patents



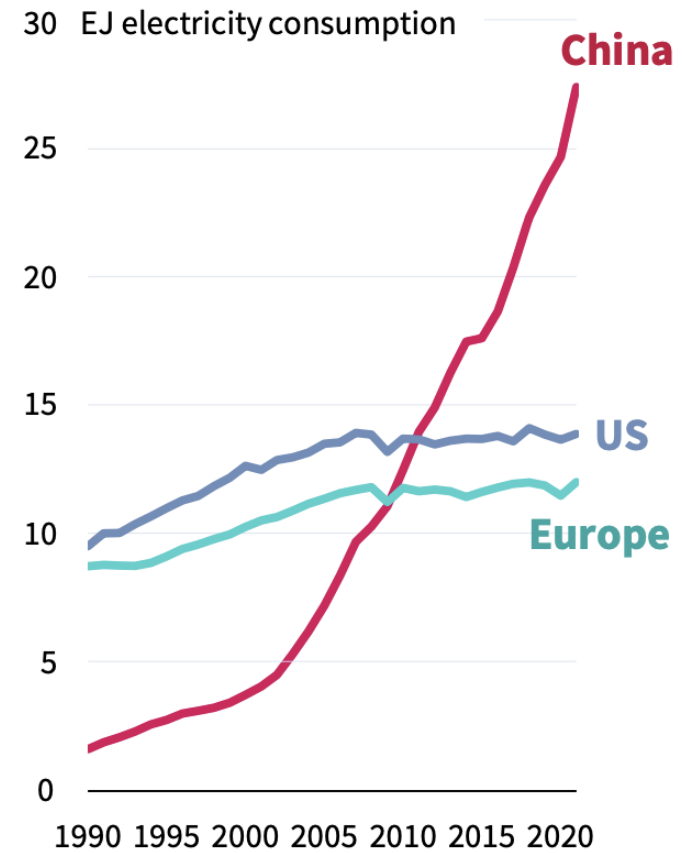
## Battery manufacturing capacity



## Renewables



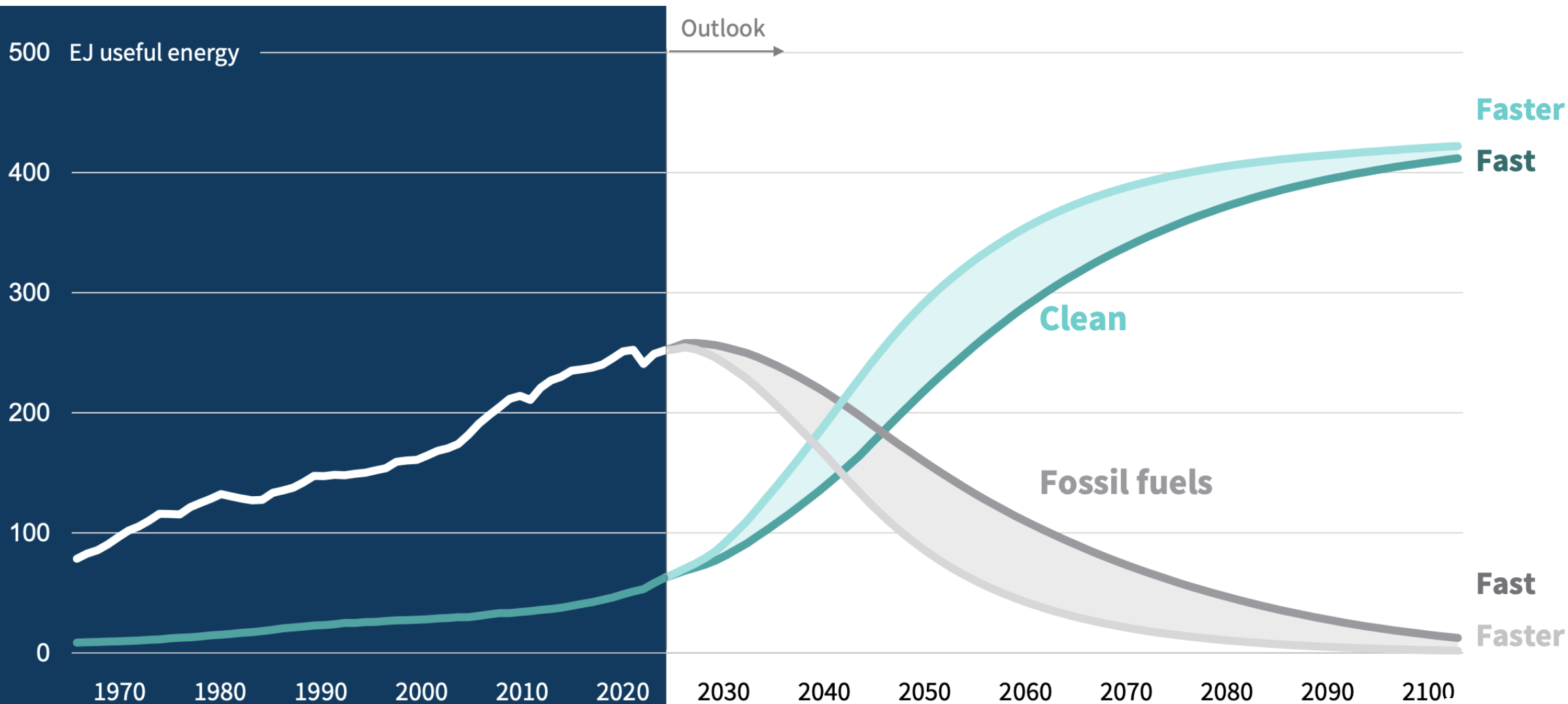
## Electrification





**X Factor**

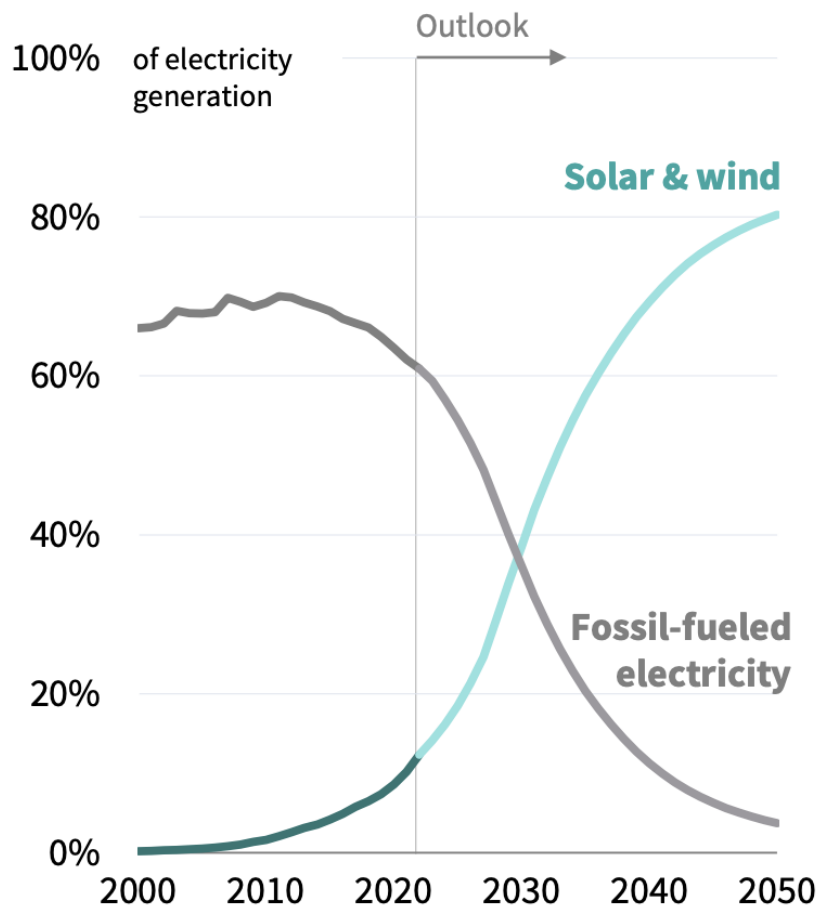
# Per vincere la sfida del clima il mondo deve fare una inversione ad X



# Anzi, molto più di una

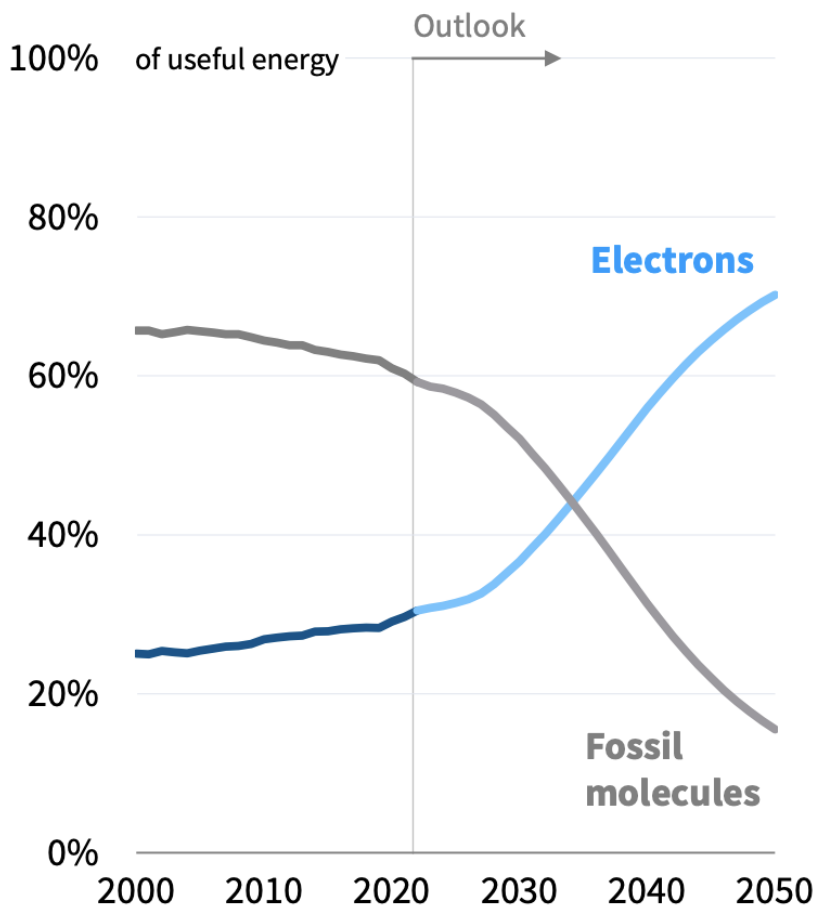
## Renewables

*Renewables beat fossil-fueled electricity*



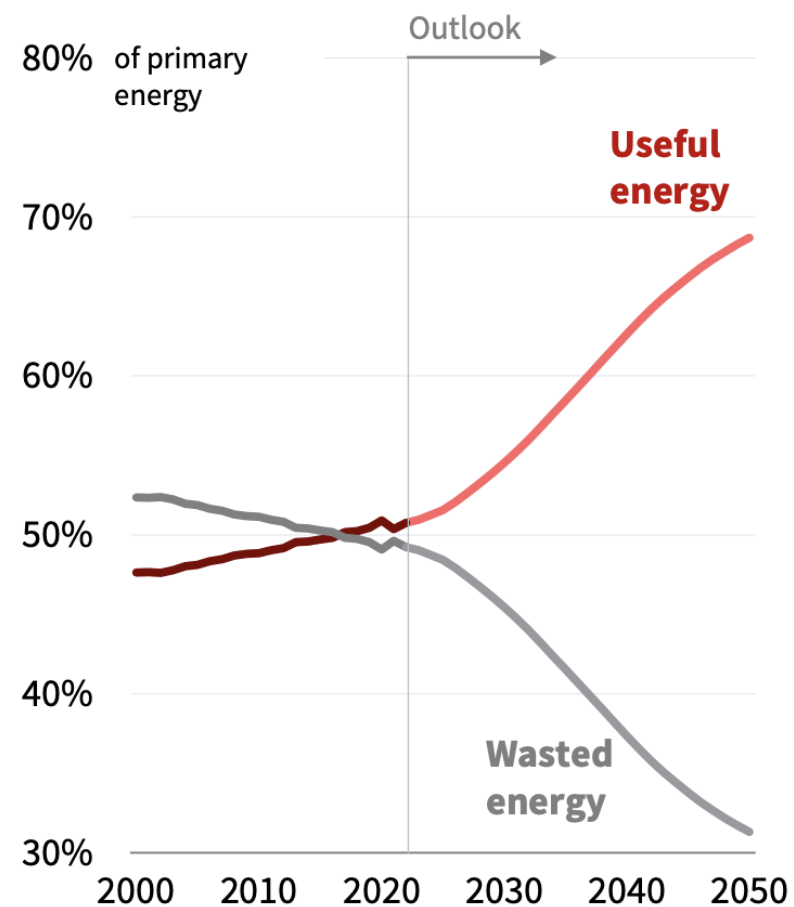
## Electrification

*Obedient electrons beat fiery molecules*



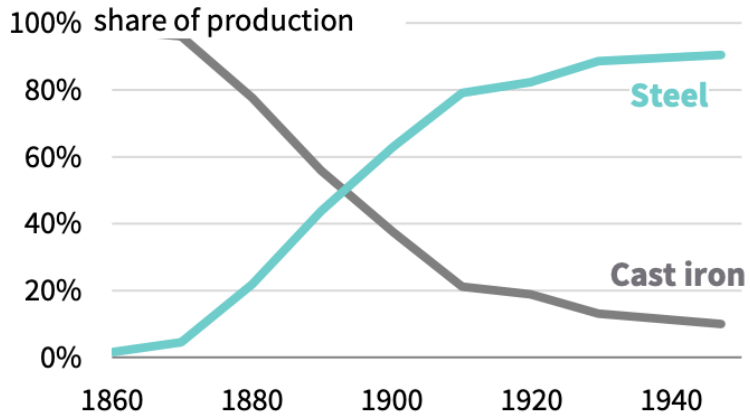
## Efficiency

*Efficiency beats waste*

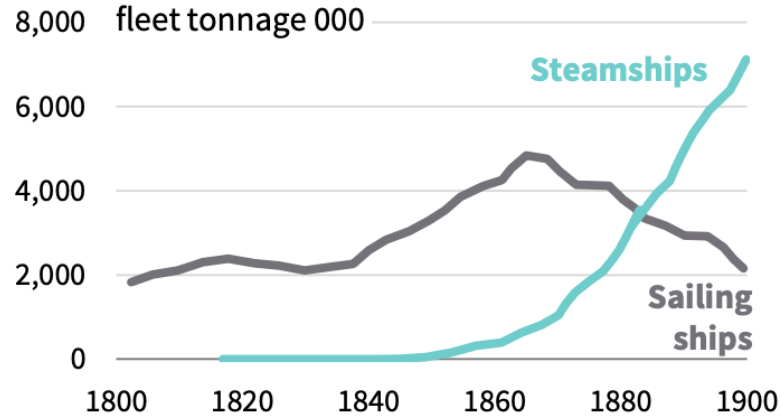


# Ma per fortuna non è una storia nuova!

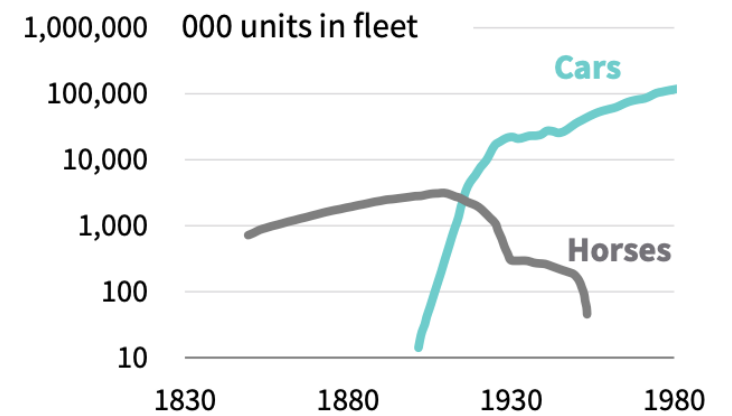
## Industry: Cast iron to steel



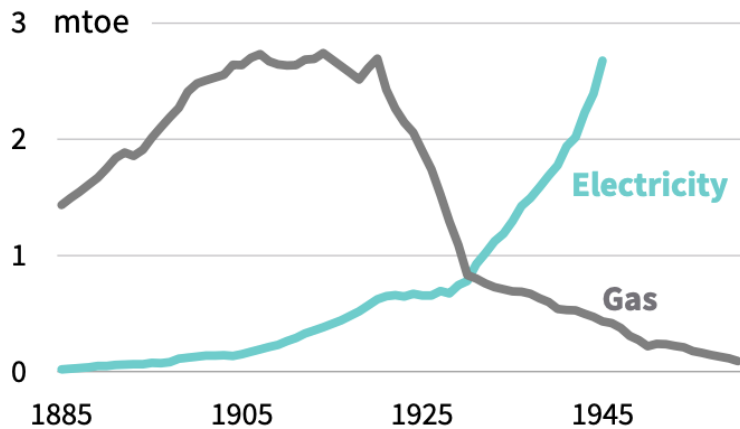
## Ships: Sailing ships to steamships



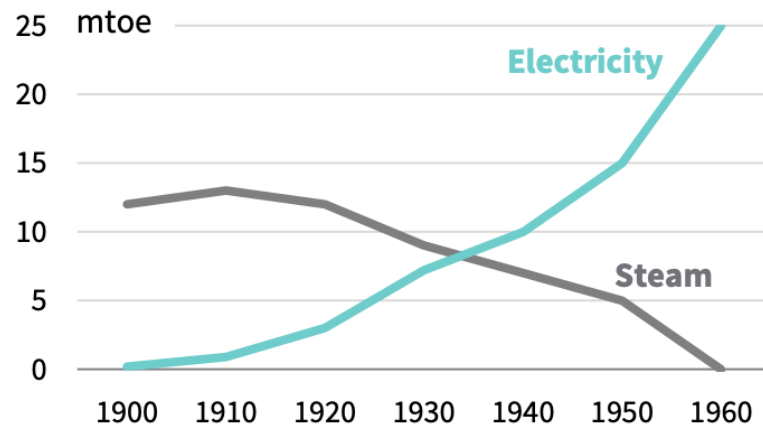
## Land transport: Horses to cars



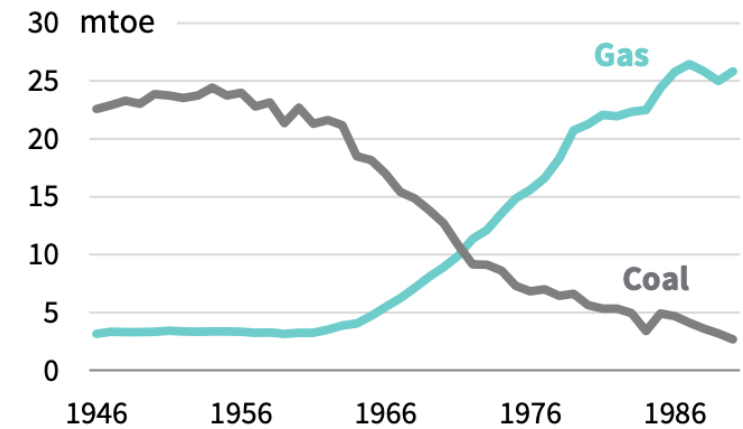
## Lighting: Gas to electricity



## Power: Steam to electricity



## Heat: Coal to gas



# McLaughlin

CARRIAGE CO.

OSHAWA, ONT.  
CANADA

MANUFACTURED BY THE McLAUGHLIN  
CARRIAGE CO. OSHAWA, ONT. CANADA  
A. B. McLAUGHLIN, PRESIDENT





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# Grazie per l'attenzione

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