

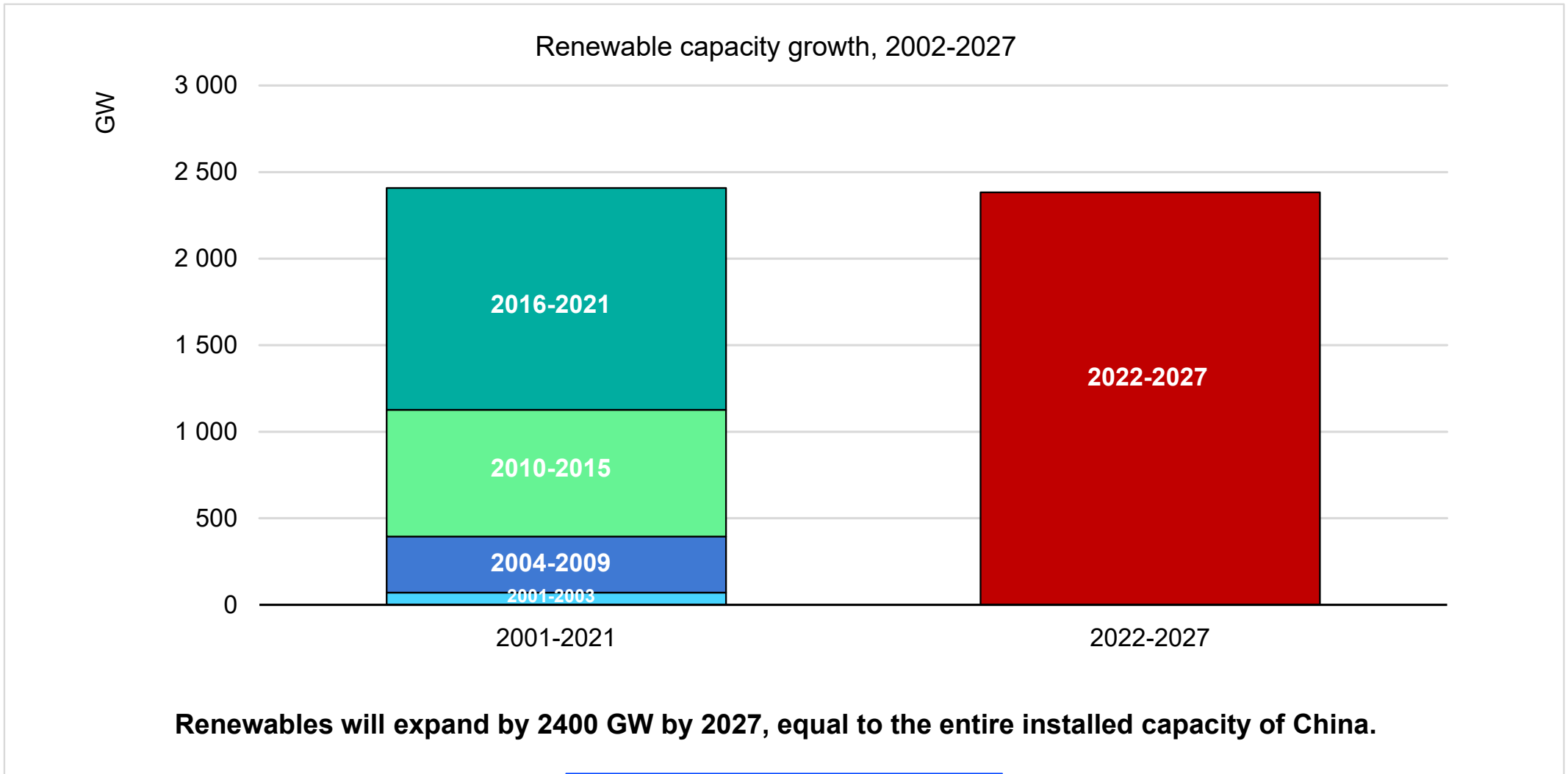


# Renewables 2022

Heymi Bahar

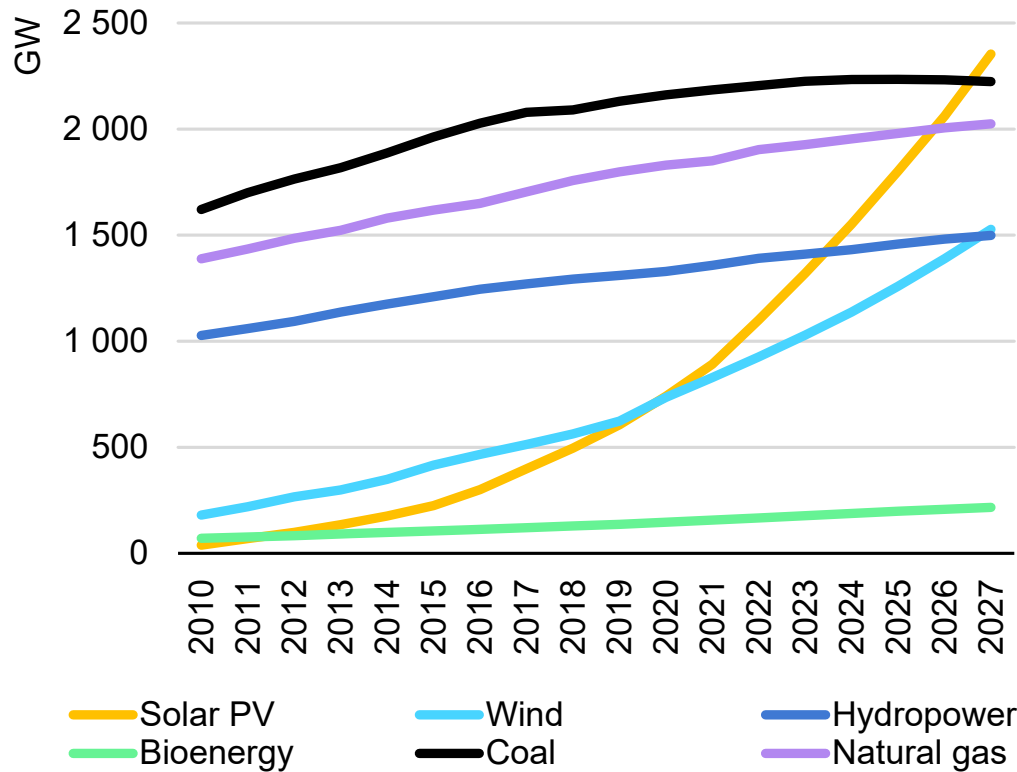
30 January 2022

# It took 20 years to achieve renewables growth in the next five years

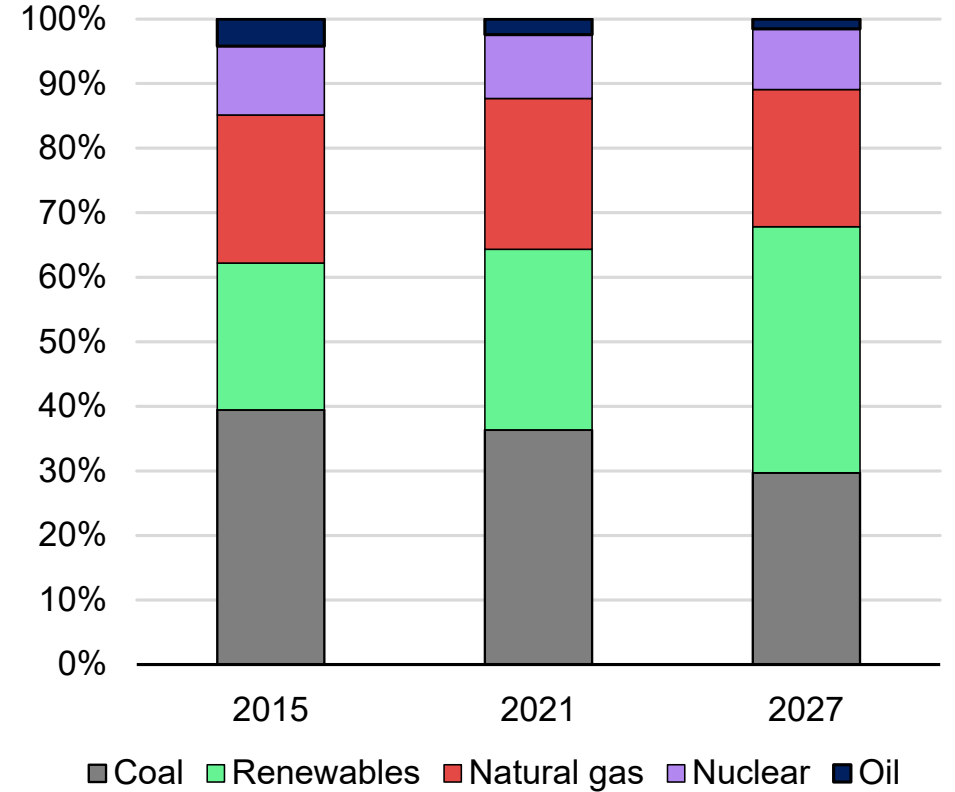


# Solar PV becomes the largest installed capacity surpassing coal

Cumulative global installed capacity by technology, 2010-2027

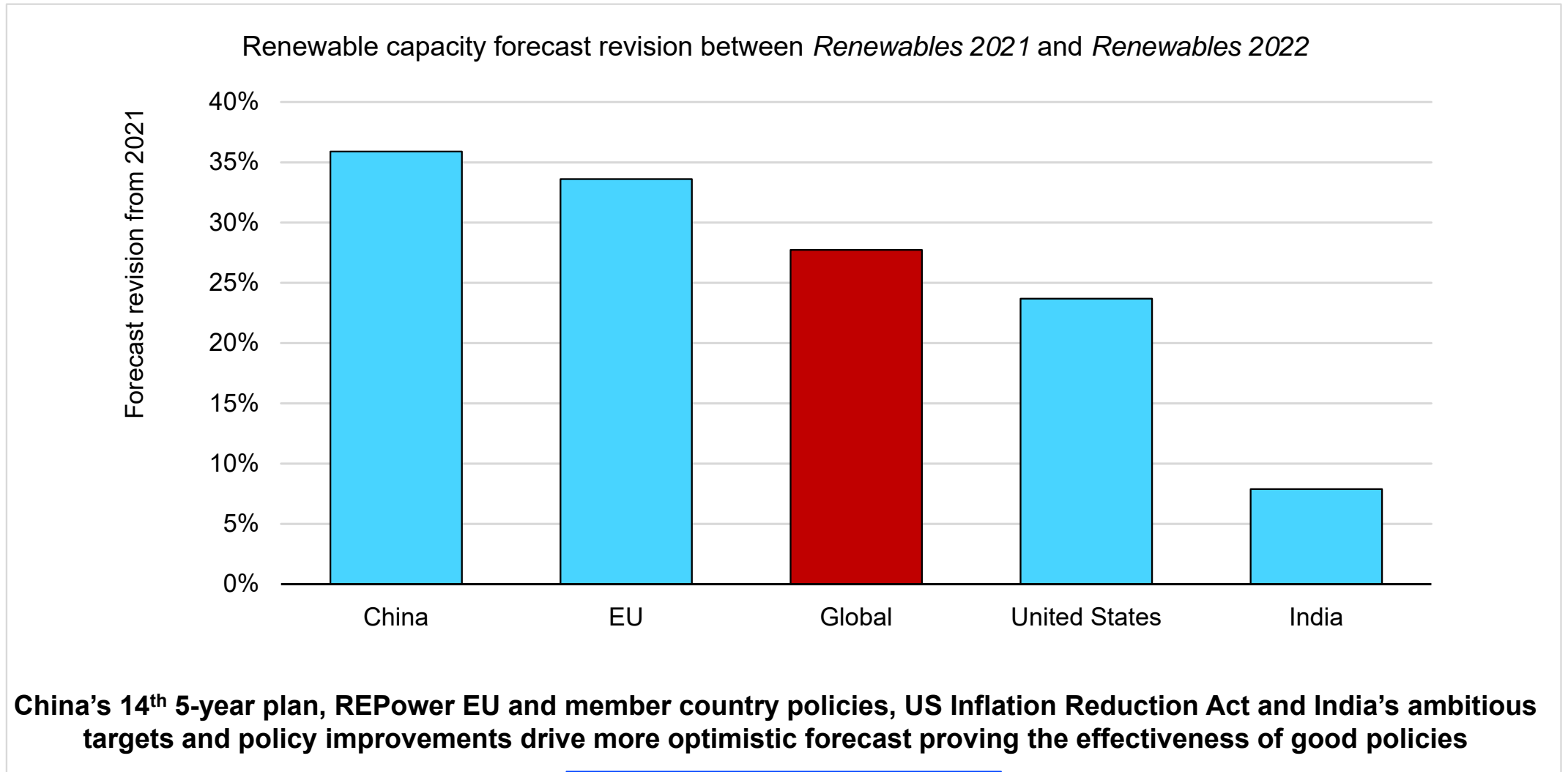


Electricity generation by technology, 2015, 2021, 2027

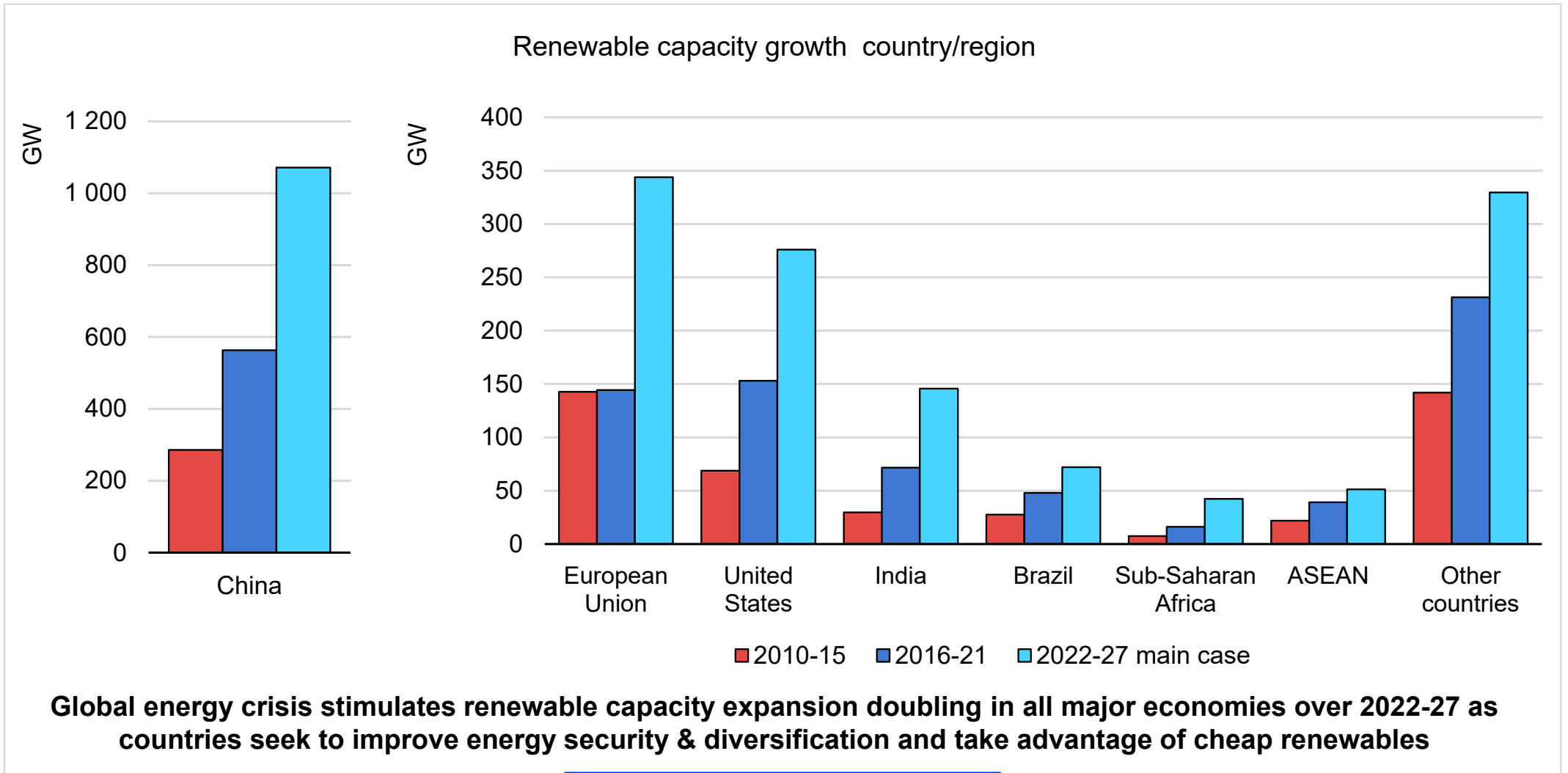


**Cumulative solar PV capacity almost triples 1500 GW surpassing natural gas by 2026 and coal by 2027 ...And renewable electricity generation surpass coal by early 2025**

# Energy security and new policies lead to the largest ever forecast revision

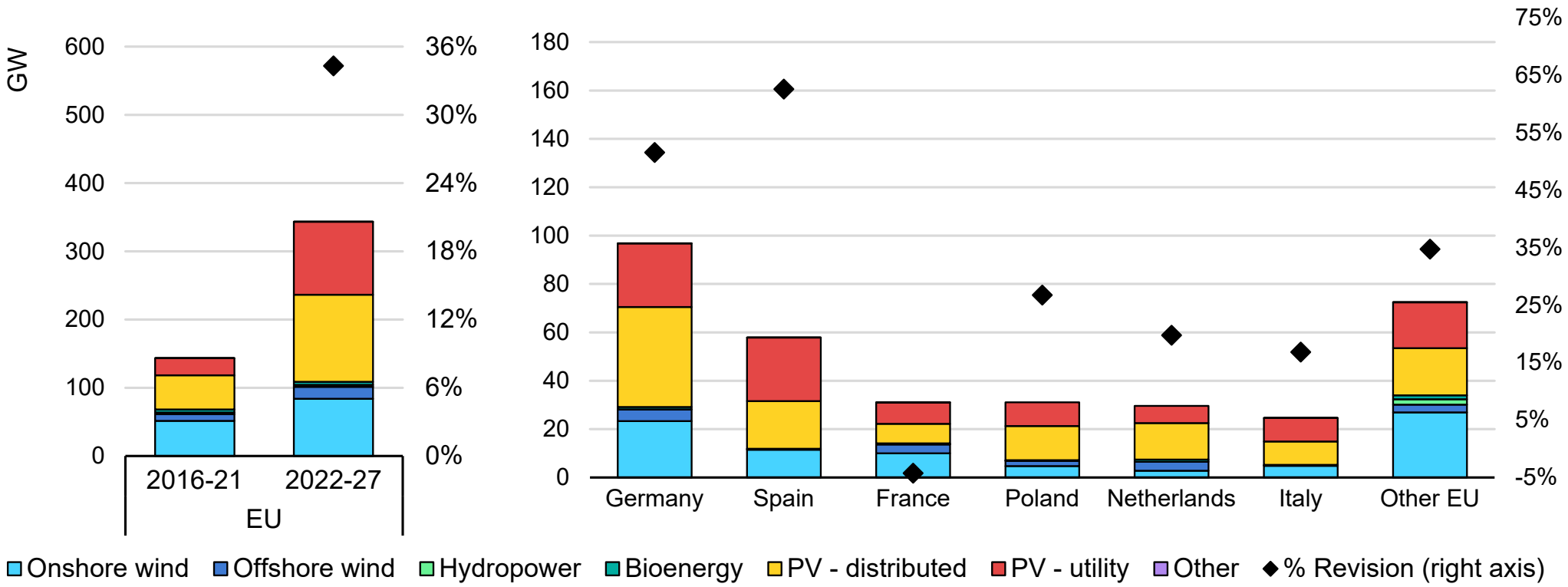


# Global renewable capacity growth doubles in the next five years



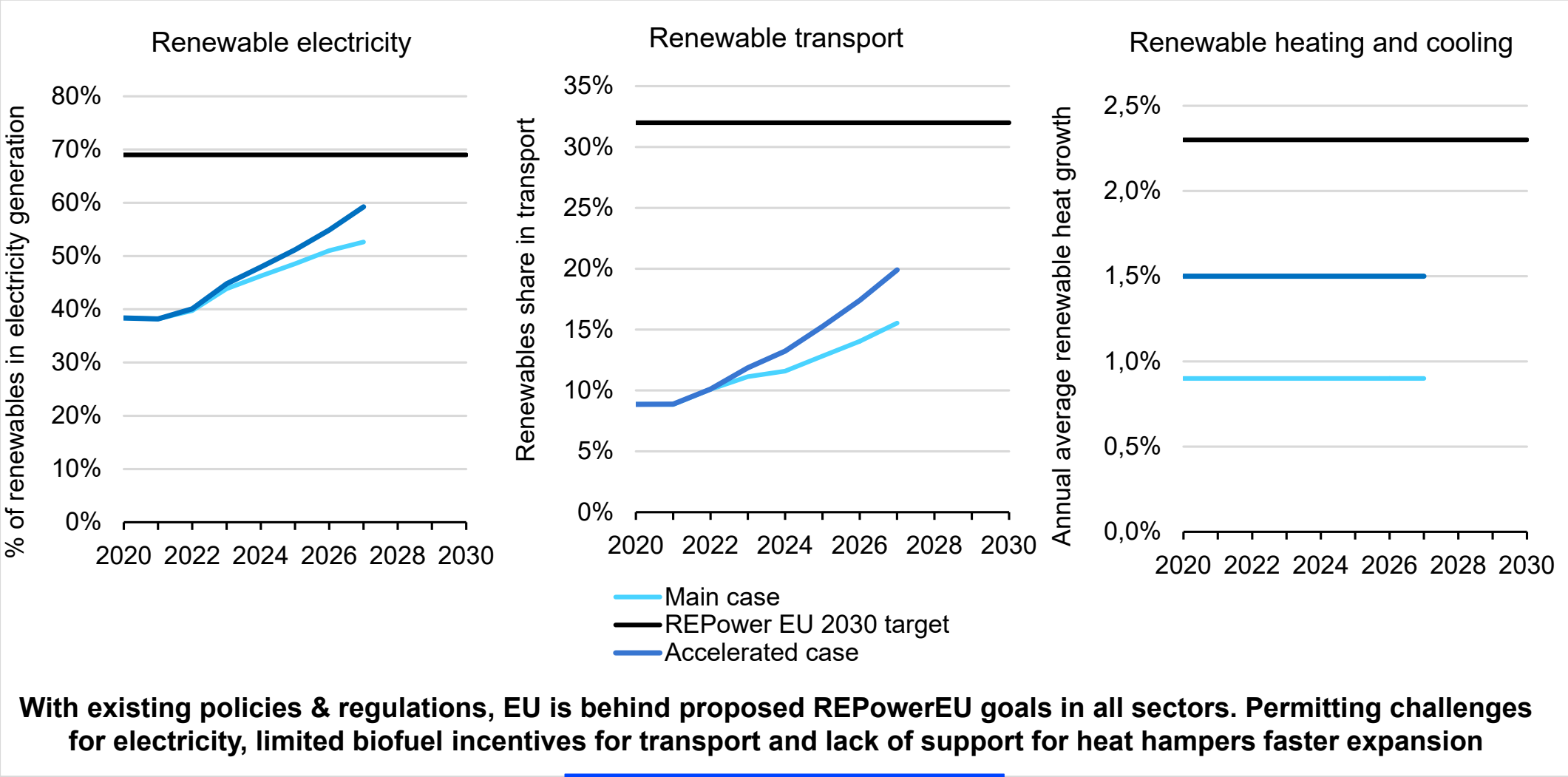
# EU: Energy security concerns accelerate action towards climate goals

EU renewable capacity growth 2016-27 (left) and 2022-27 by country (right)



**The EU's upwards revision is a result of specific policy actions that raise renewable ambitions, increase financial support, and facilitate permitting approvals and grid connections.**

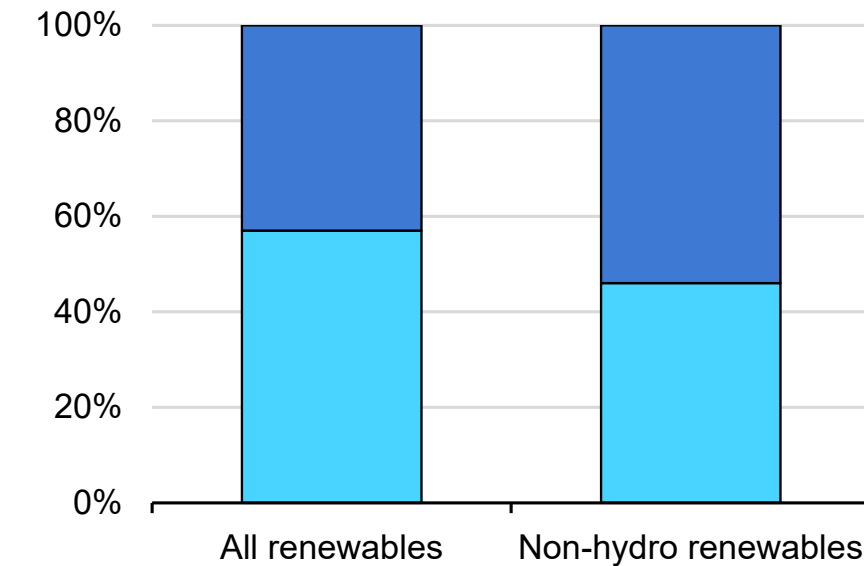
# EU needs to step up policies to be on track with REPowerEU proposal



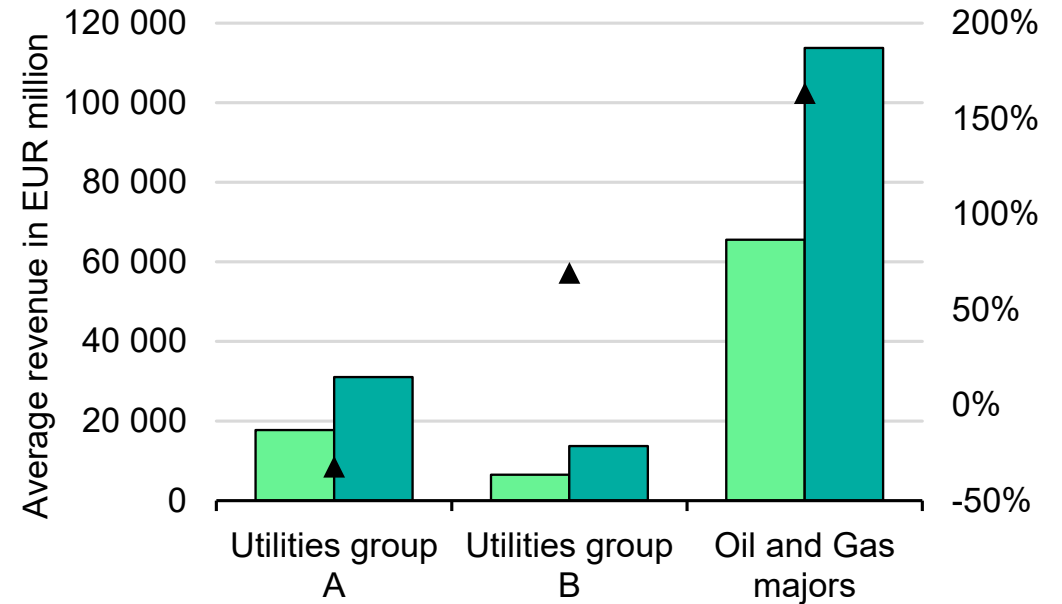
# Are renewables making windfall profits in Europe?

Renewable capacity's possible exposure to electricity spot prices

Financial situation of major European energy companies



- Policy schemes not enabling wholesale electricity price exposure
- Policy schemes enabling wholesale market exposure

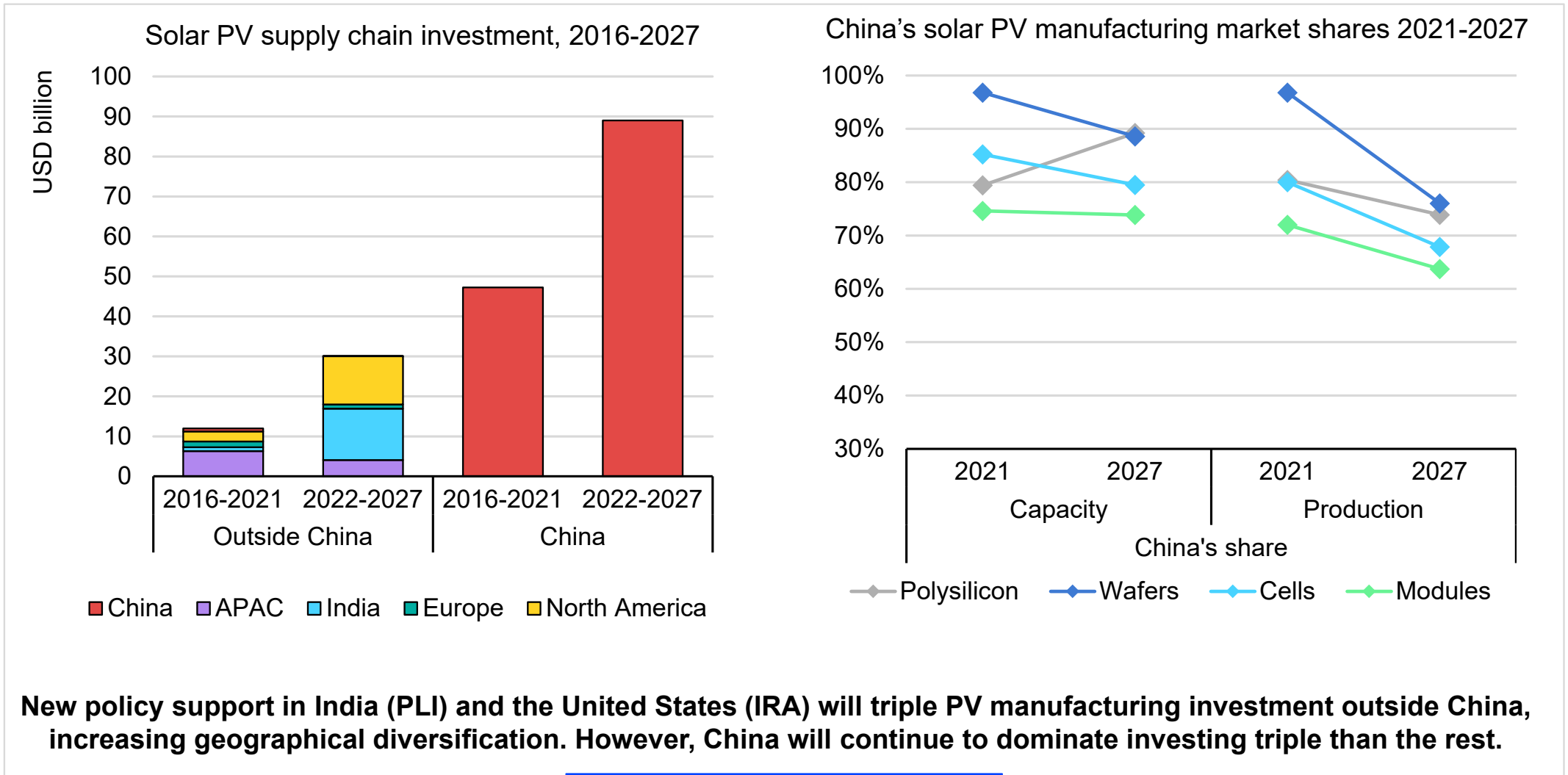


- H1 2021
- H1 2022
- ▲ EBITDA variation in 2022 from 2021

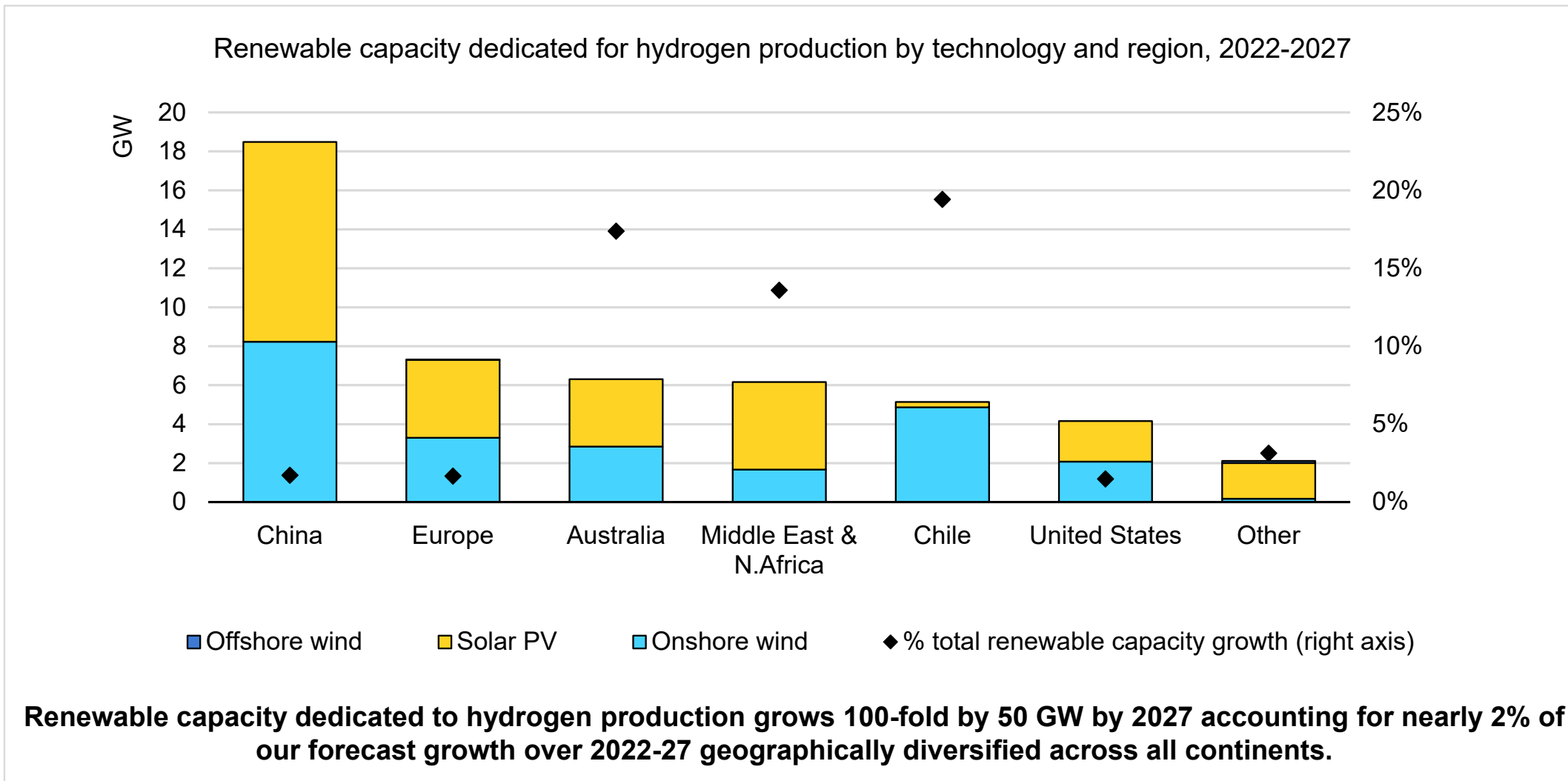
**While policies enable more than half renewable capacity to receive high electricity price, only a small portion actually sells directly in the wholesale power market due to long-term bilateral contracts and hedging strategies.**



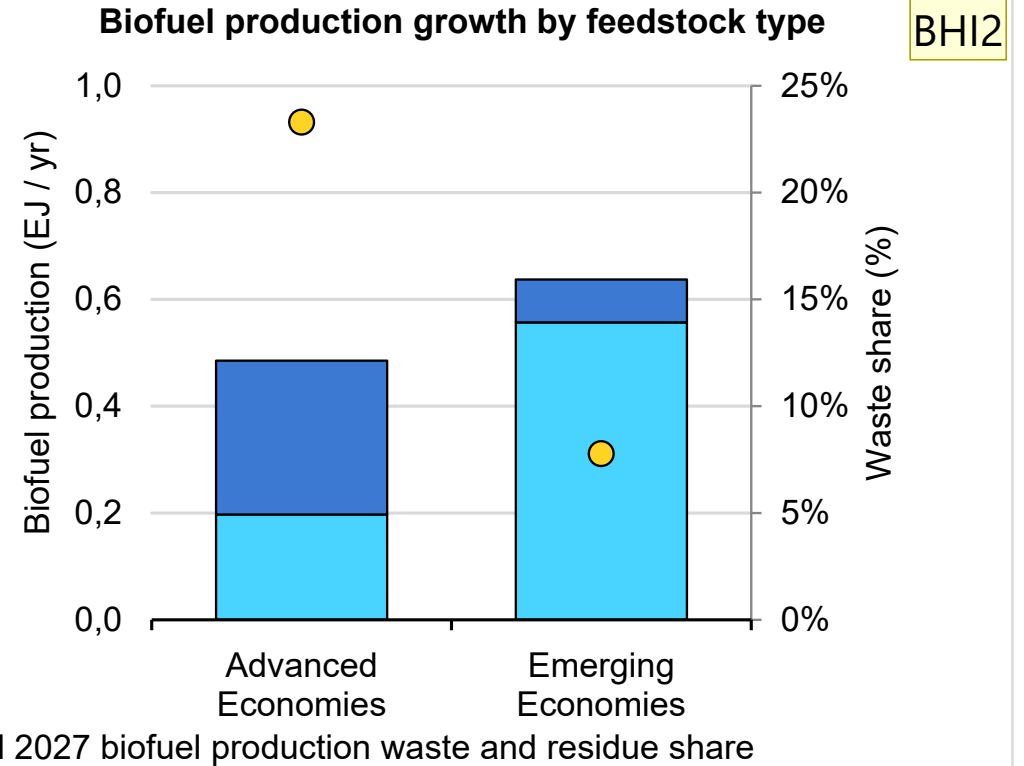
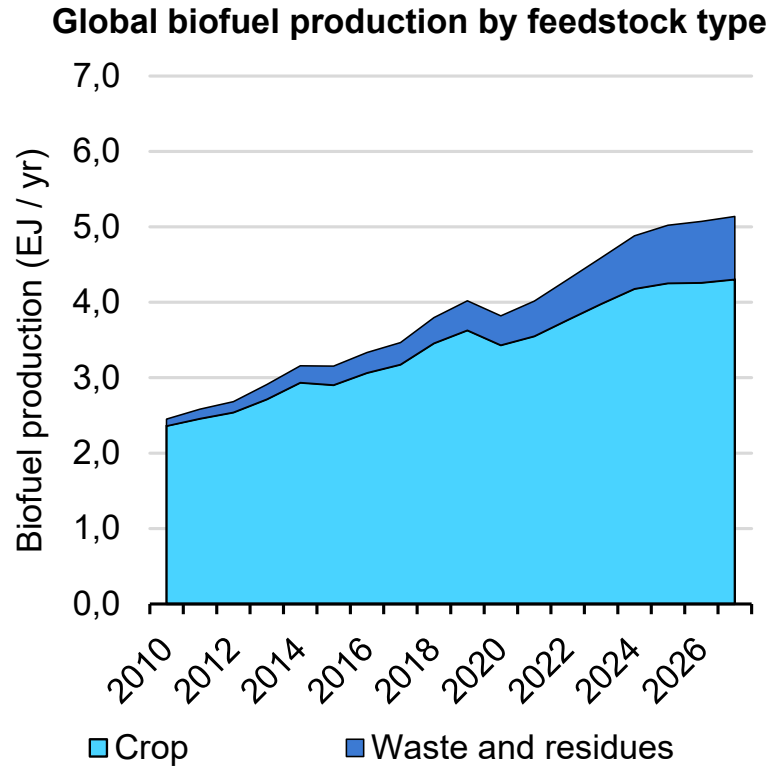
# Towards a more diversified PV supply chain & a possible supply glut



# Hydrogen production emerges as a new driver for solar PV and wind



# Advanced economies drive growth of waste and residue biofuels



**Greenhouse gas reduction policies in the US and Europe are driving demand for waste and residue biofuels which account for 1/3 of total growth. However action is required to prevent a waste feedstock supply crunch**

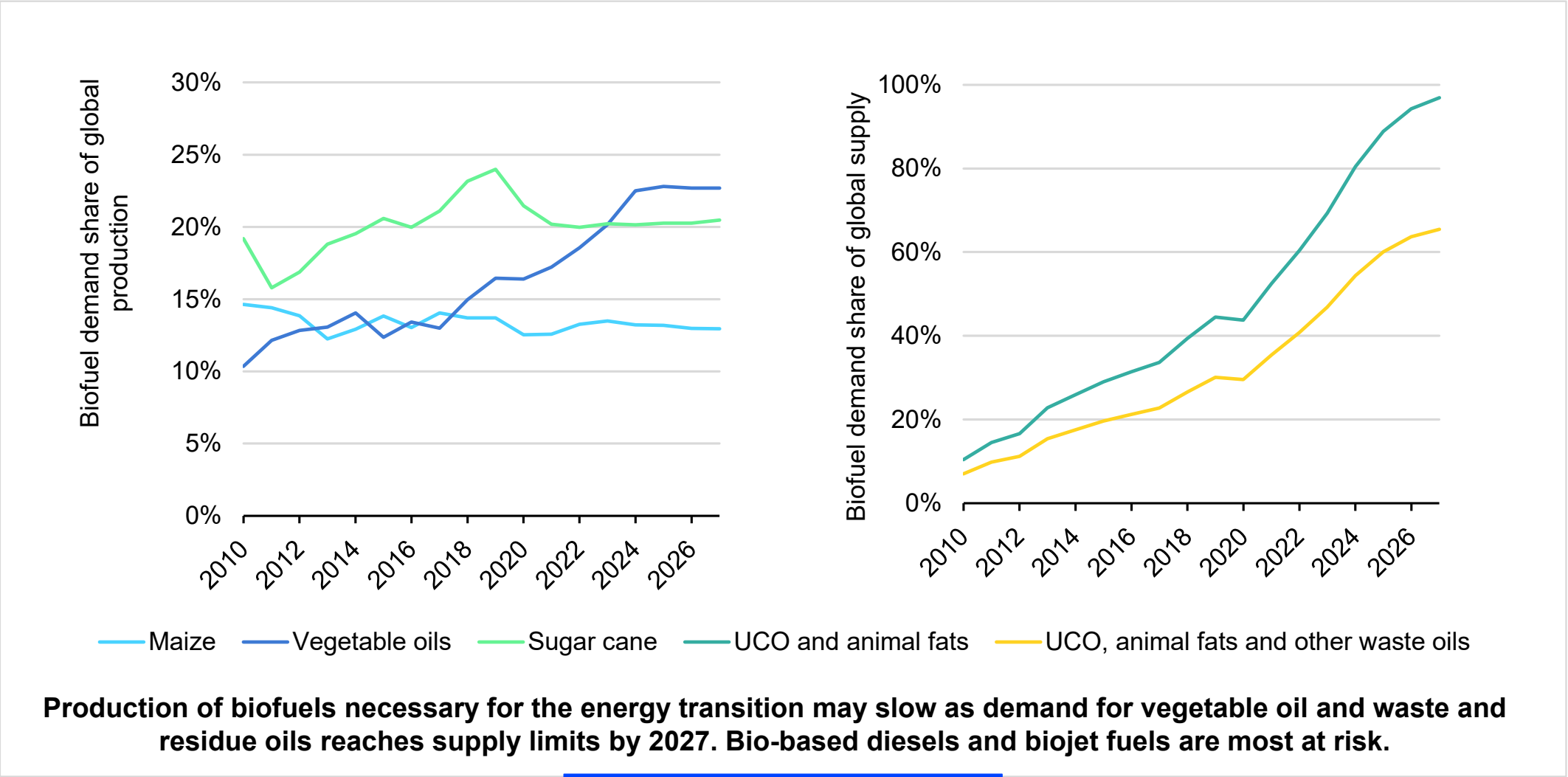
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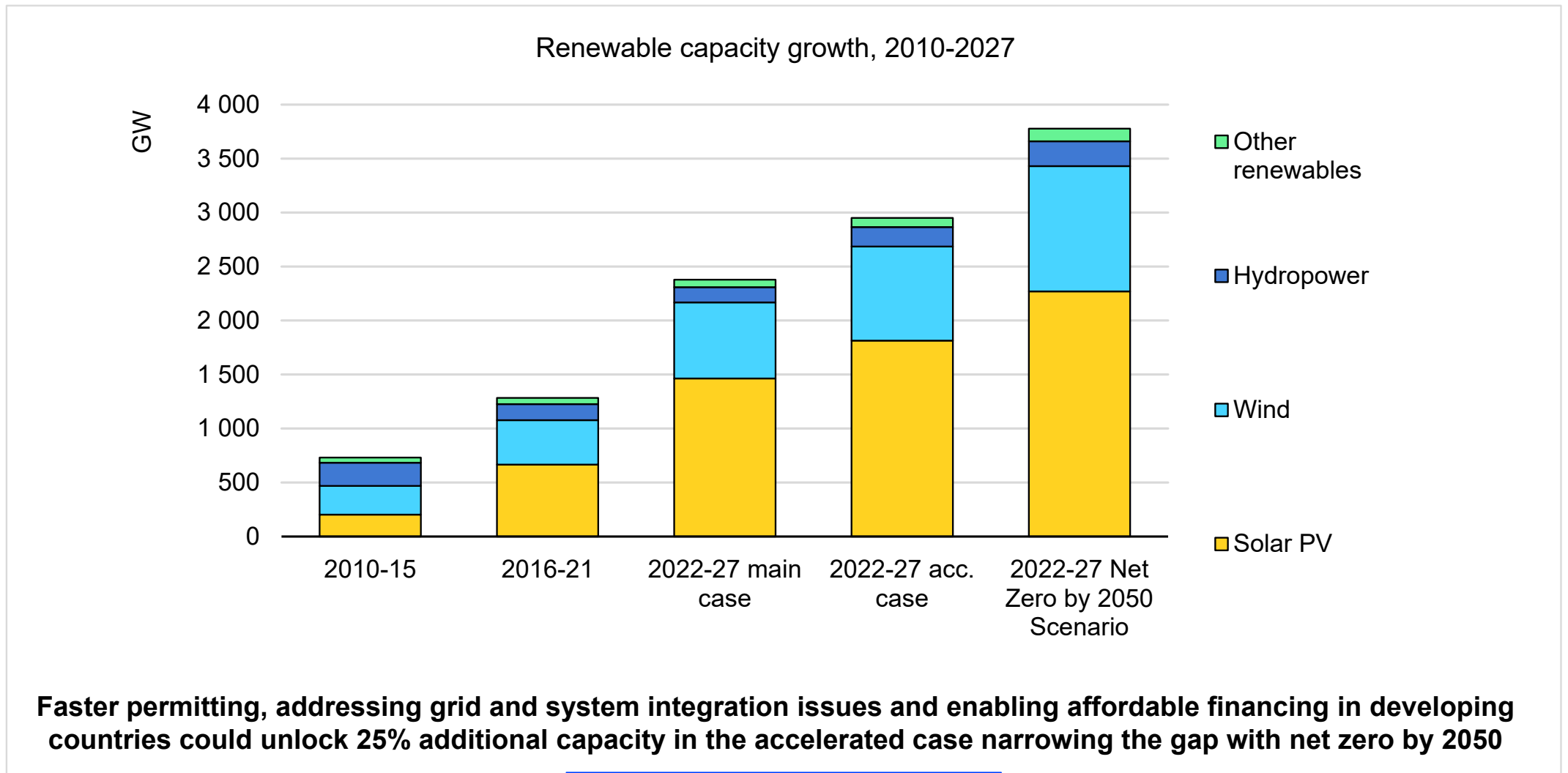
**BHI2**

BAHAR Heymi, IEA/EMS/RED; 06/12/2022

# Biofuels are facing a looming supply crunch

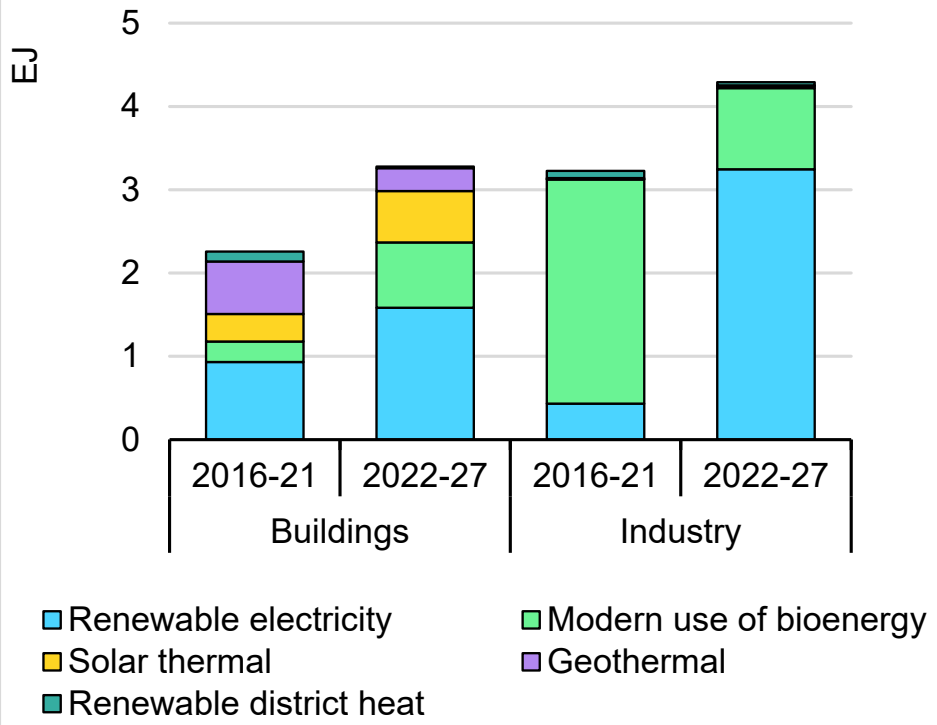


# Improved policies can further narrow the gap with net zero by 2050

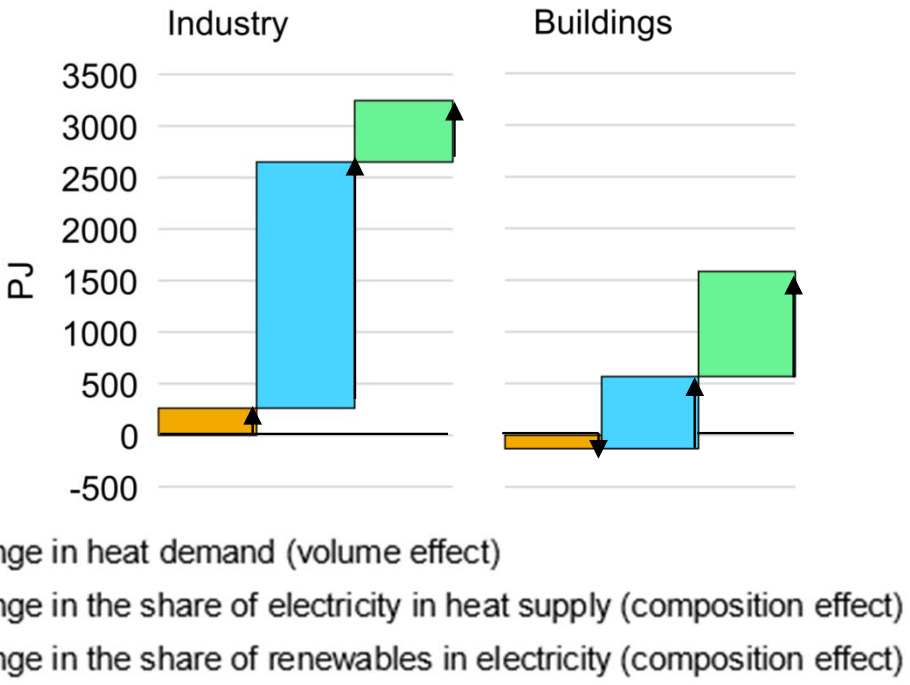


# Electricity used for heating contributes most to renewable heat uptake

Change in renewable heat consumption, World, 2016-27



Contribution of different factors to increasing renewable electricity use for heat, 2022-27



**Rising shares of renewables in electricity, heat electrification and heat pump growth in China, EU & USA boost renewable heat uptake, while improved biomass stoves displace traditional use of biomass in China, India & sub-Saharan Africa .**

# Q&A



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