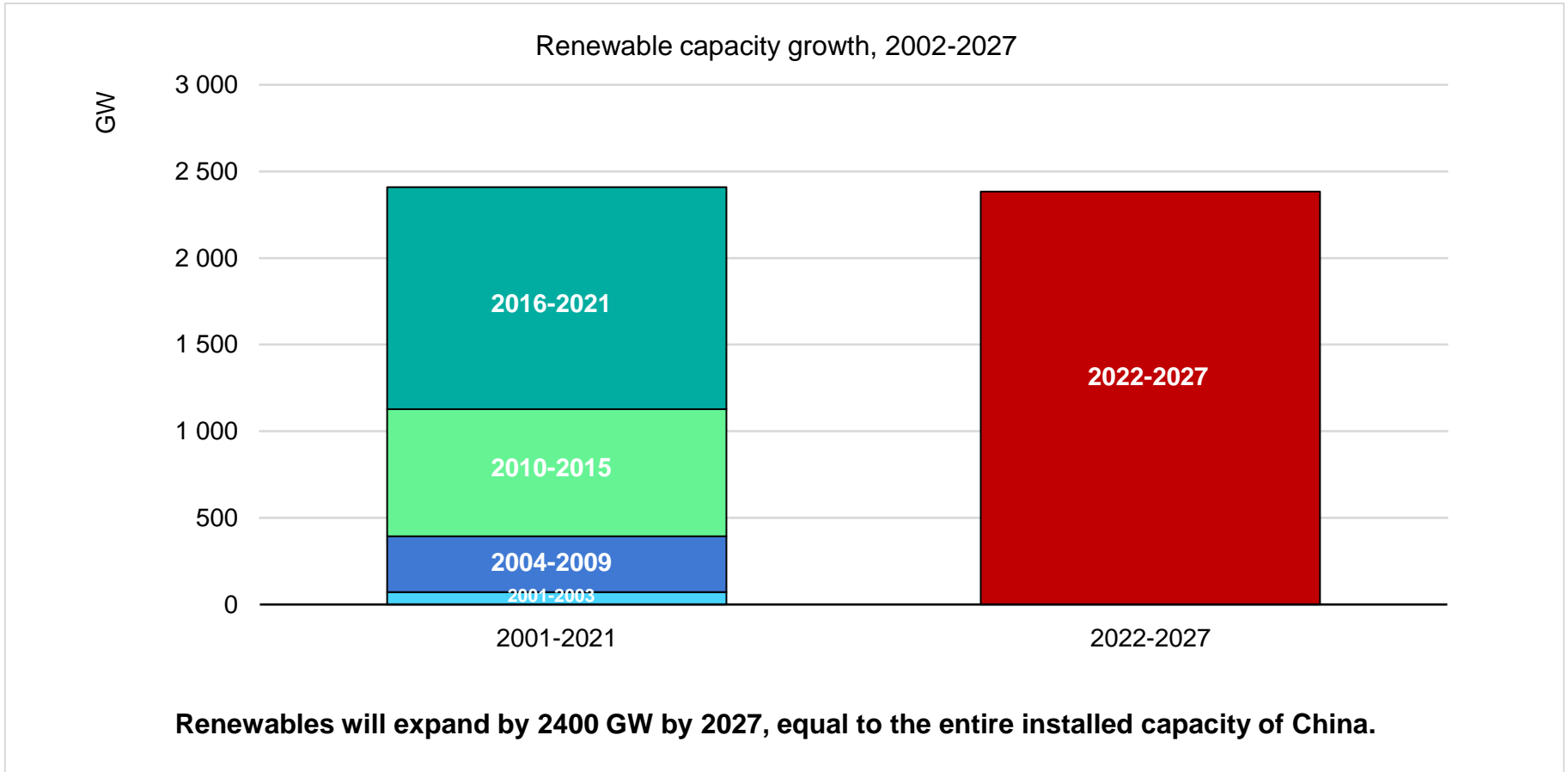




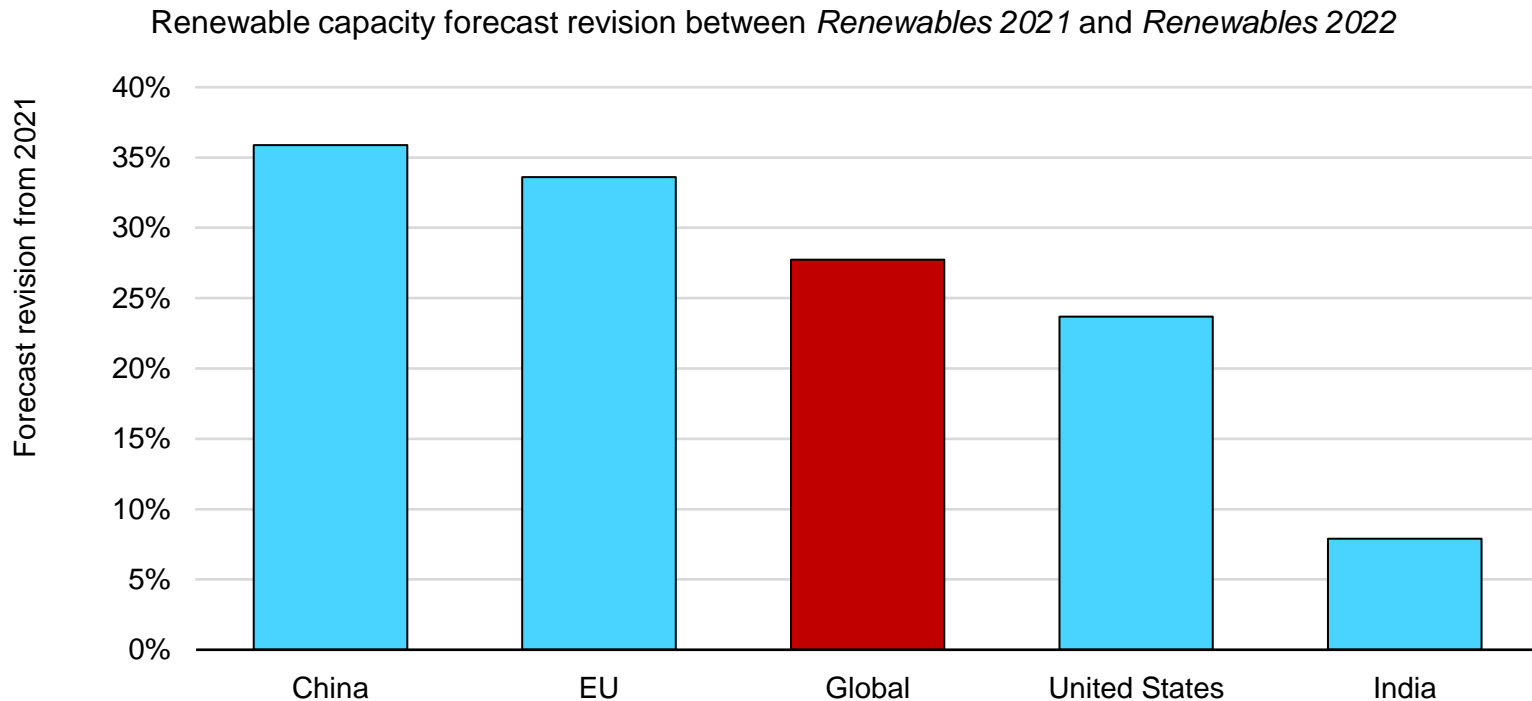
# Renewables 2022

Paris, 6 December 2022

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

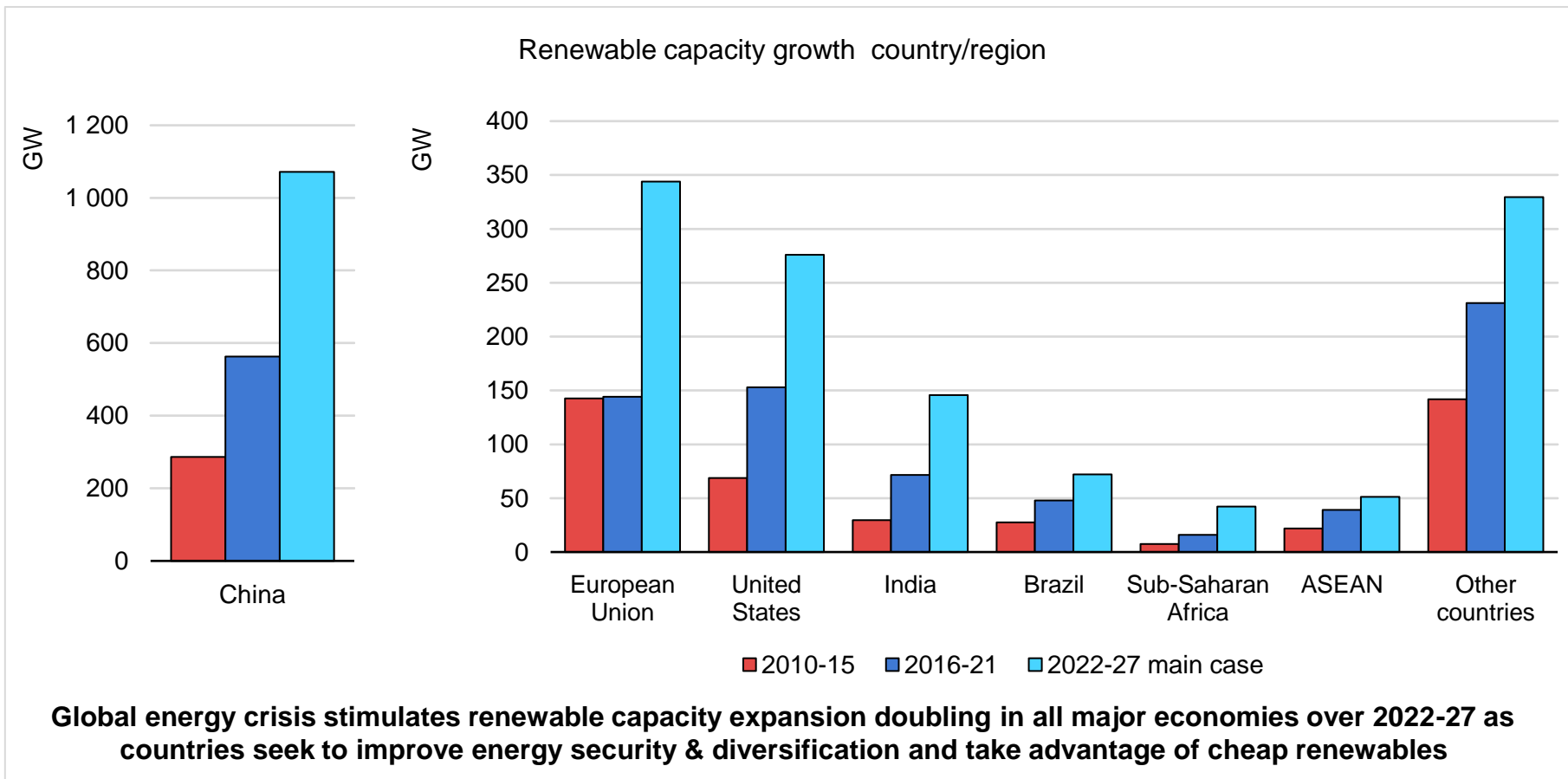


# Energy security and new policies lead to the largest ever forecast revision



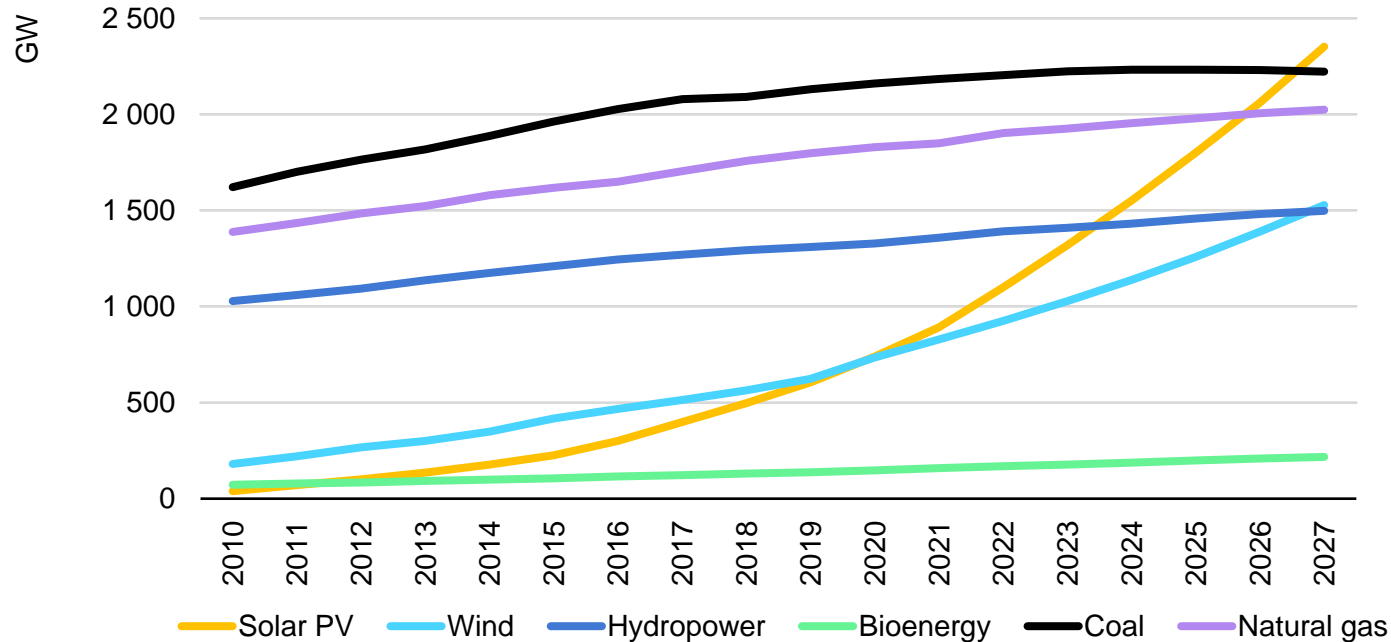
**China's 14<sup>th</sup> 5-year plan, REPower EU and member country policies, US Inflation Reduction Act and India's ambitious targets and policy improvements drive more optimistic forecast proving the effectiveness of good policies**

# Global renewable capacity growth doubles in the next five years



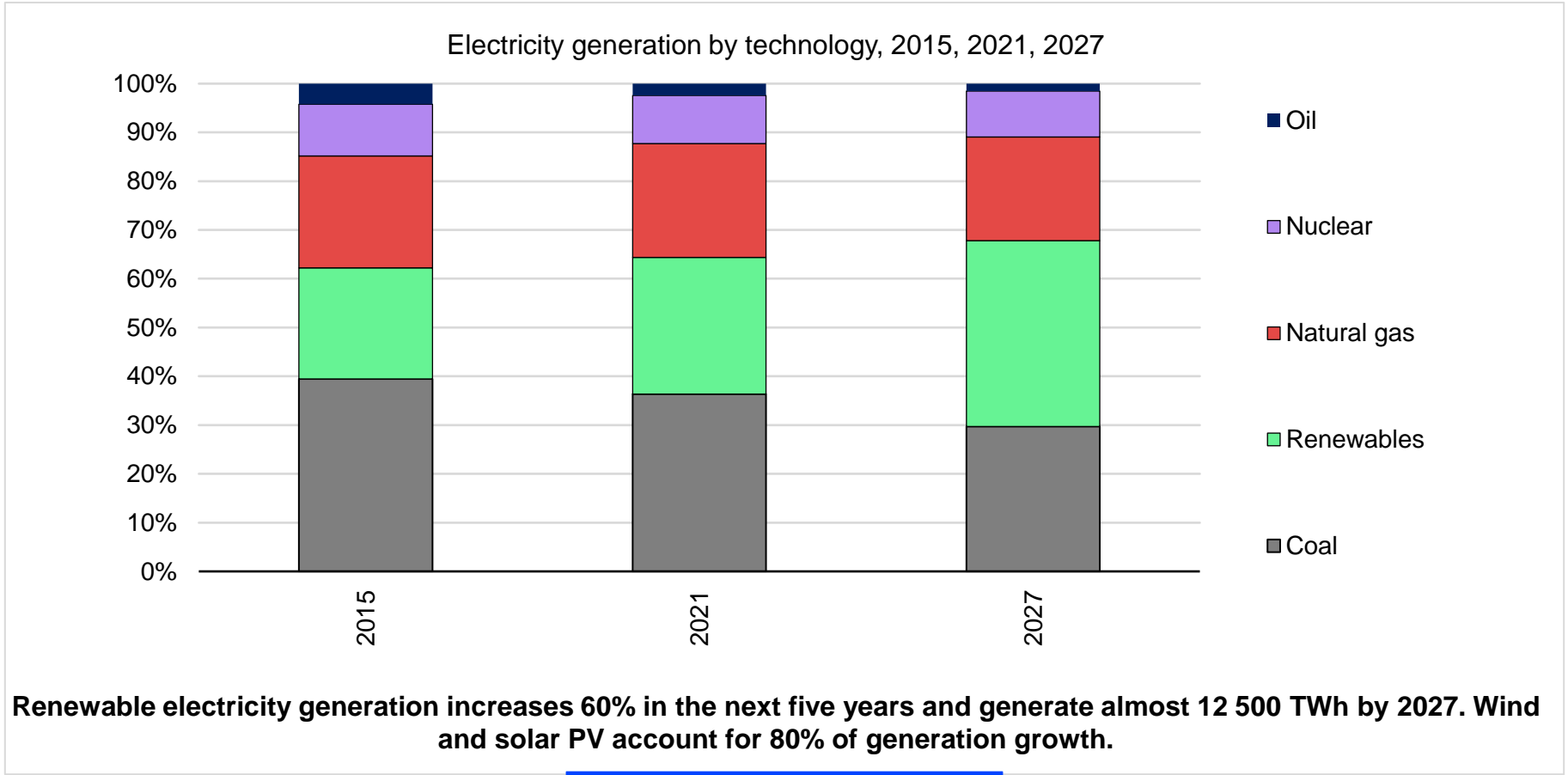
# Solar PV becomes the largest installed capacity surpassing coal

Cumulative global installed capacity by technology, 2010-2027



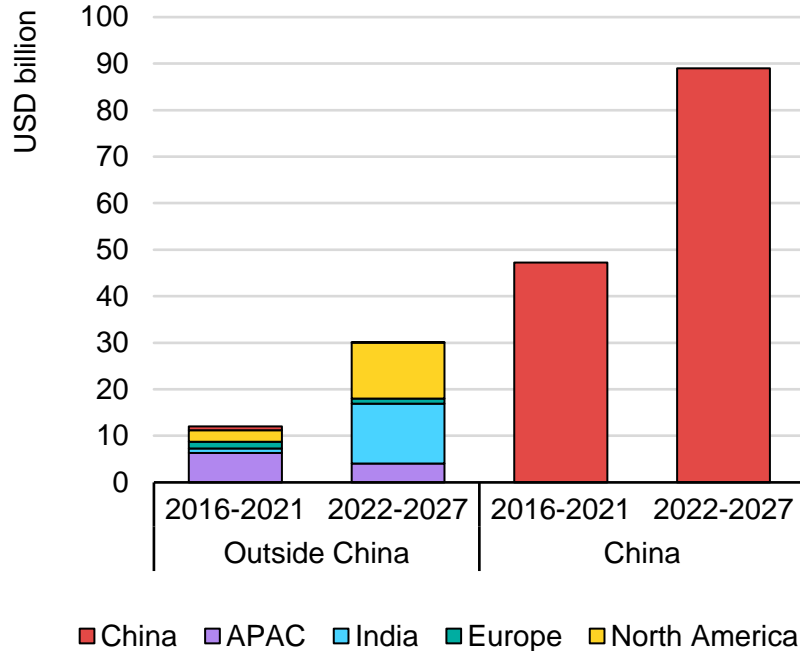
**Cumulative solar PV capacity almost triples with 1500 GW new additions surpassing natural gas by 2026 and coal by 2027. Renewables account for 90% of global electricity capacity expansion over the forecast period.**

# ...And renewable electricity generation surpasses coal by early 2025

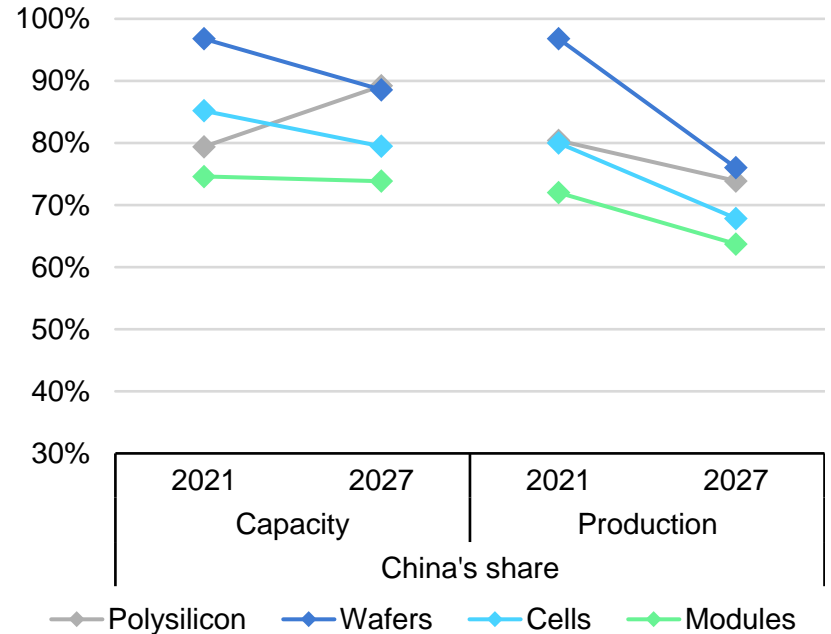


# Towards a more diversified PV supply chain & a possible supply glut

Solar PV supply chain investment, 2016-2027



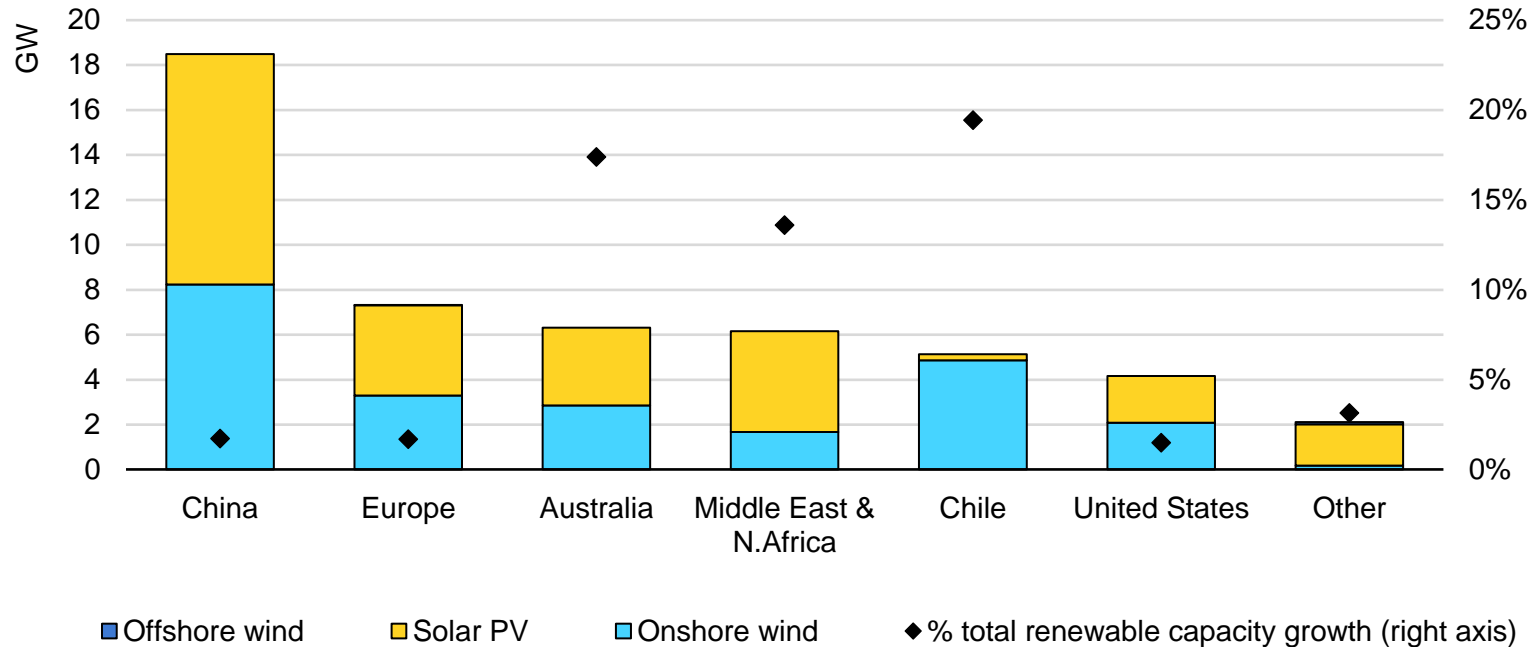
China's solar PV manufacturing market shares 2021-2027



**New policy support in India (PLI) and the United States (IRA) will triple PV manufacturing investment outside China, increasing geographical diversification. However, China will continue to dominate investing triple than the rest.**

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

Renewable capacity dedicated for hydrogen production by technology and region, 2022-2027

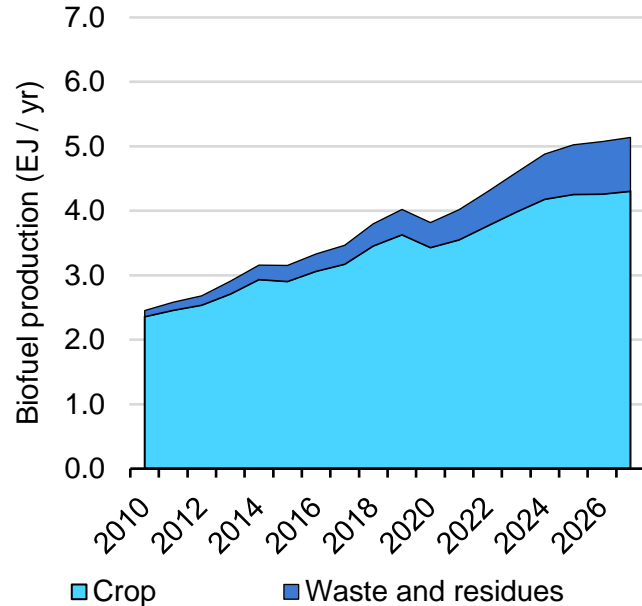


**Renewable capacity dedicated to hydrogen production grows 100-fold by 50 GW by 2027 accounting for nearly 2% of our forecast growth over 2022-27 geographically diversified across all continents.**

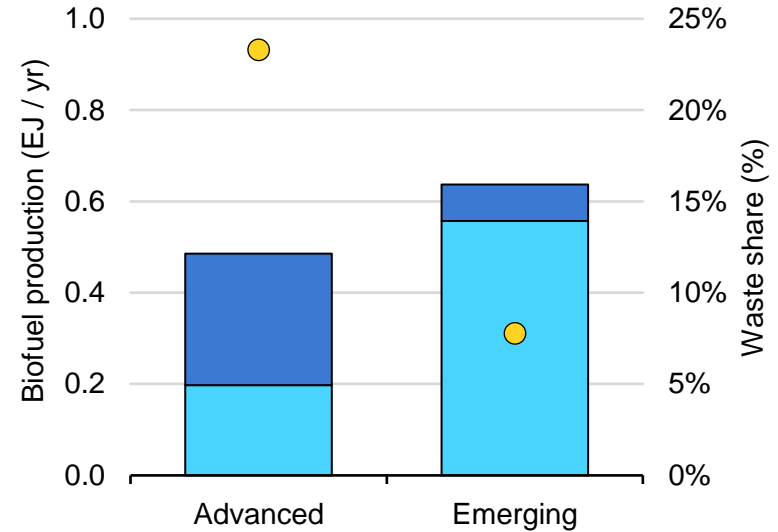


# Advanced economies drive growth of waste and residue biofuels

### Global biofuel production by feedstock type



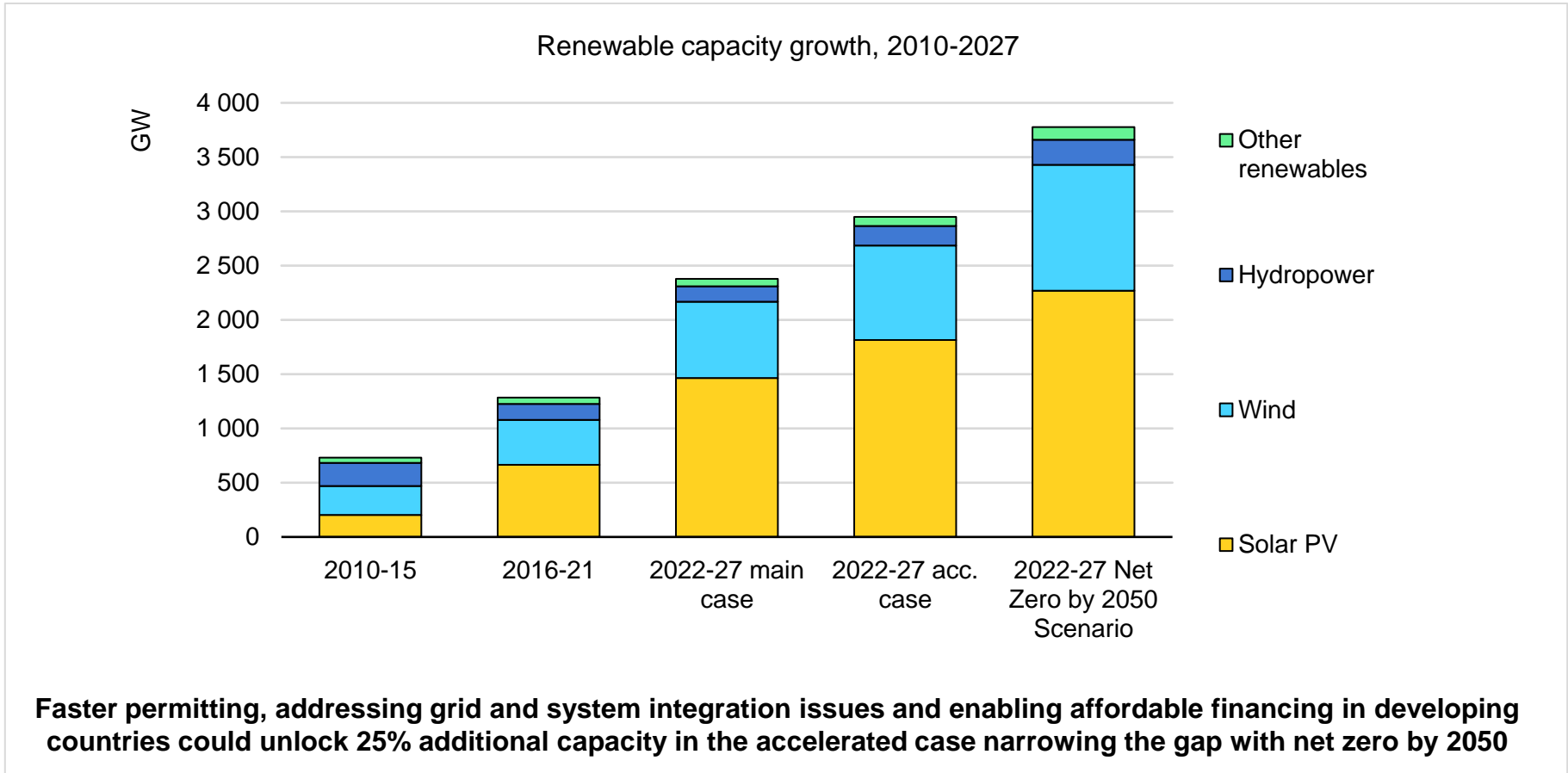
### Biofuel production growth by feedstock type



● Waste & residue share in total biofuel production in 2027

**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**

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



**Faster permitting, addressing grid and system integration issues and enabling affordable financing in developing countries could unlock 25% additional capacity in the accelerated case narrowing the gap with net zero by 2050**

