



# Renewables 2017

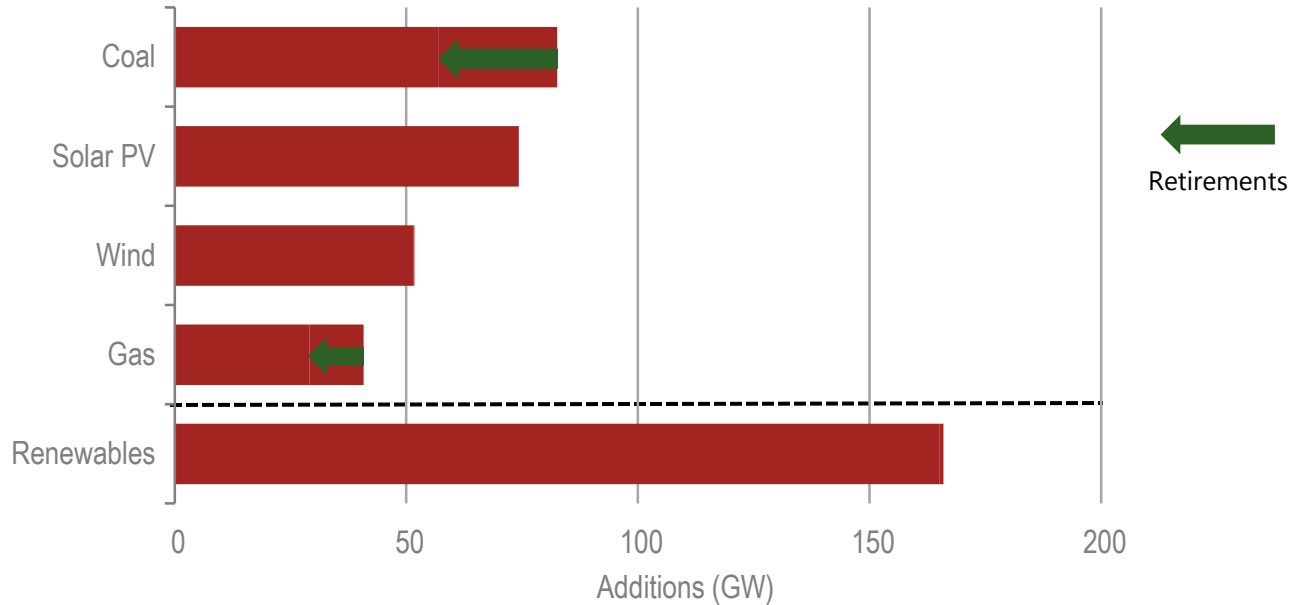
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Caroline Lee, Environment and Climate Change Unit

COP23 IETA Pavilion, 9 NOVEMBER 2017

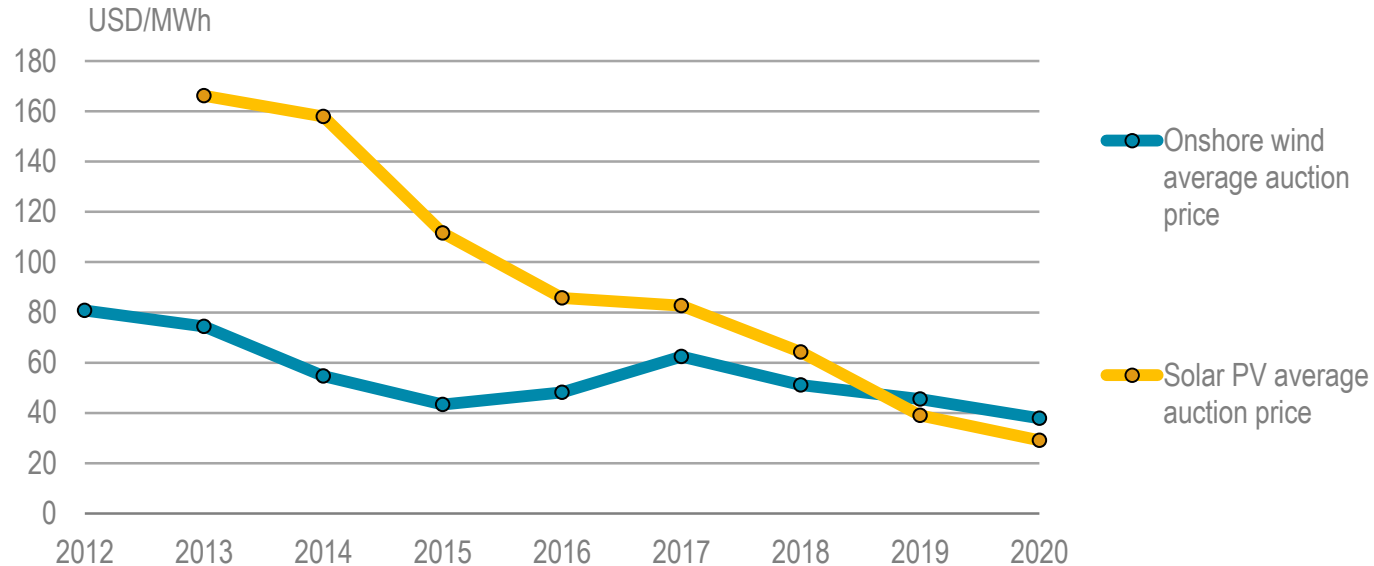
# 2016 – Renewables hitting new records driven by solar PV

Power capacity additions by fuel 2016



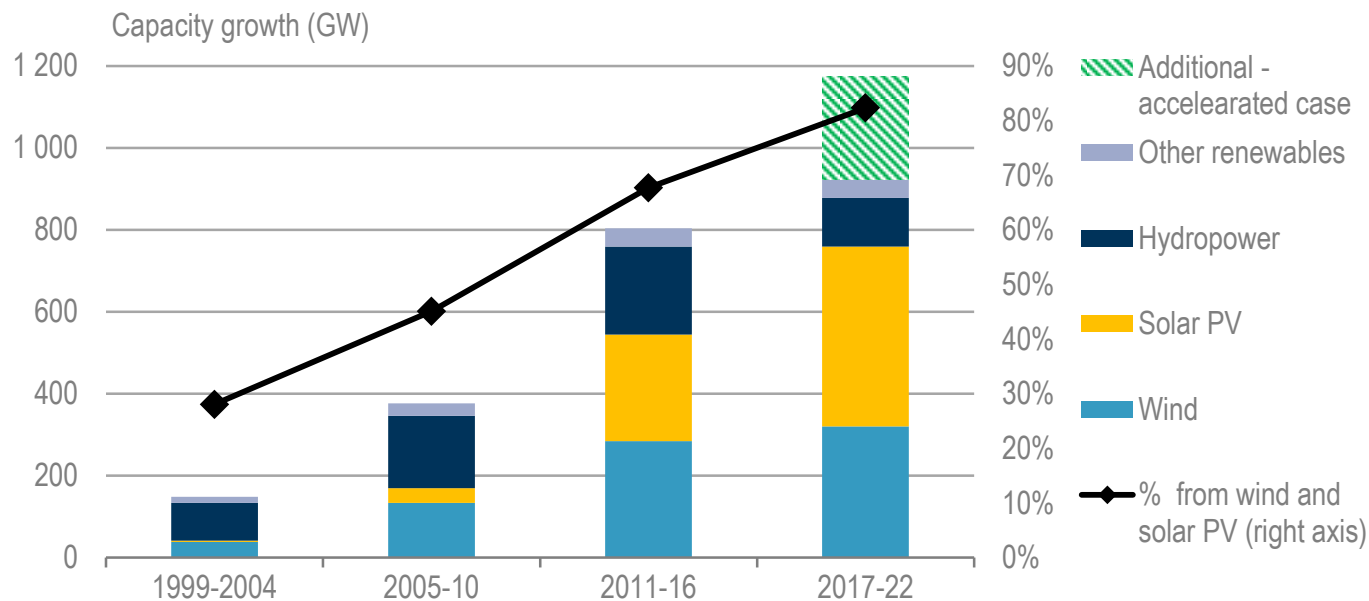
**Renewables breaking an all-time record accounting for two thirds of global net capacity additions;  
For the first time solar PV becoming the global leader in net capacity growth**

Announced wind and solar PV average auction prices by commissioning date



**Price discovery through competitive auctions effectively reduces costs along the entire value chain**

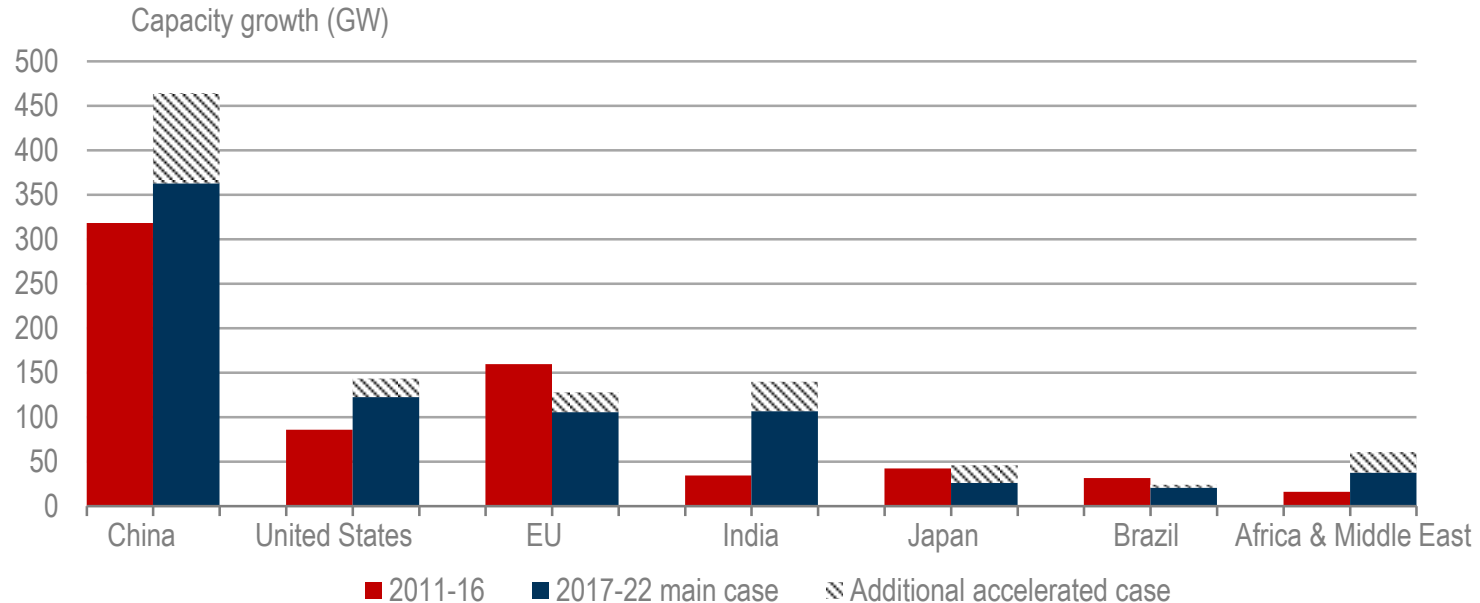
## Renewable electricity capacity growth by technology



**Solar PV enters a new era, becoming the undisputed leader in renewable power capacity growth; PV also accounts for 60% of the upside potential in the accelerated case**

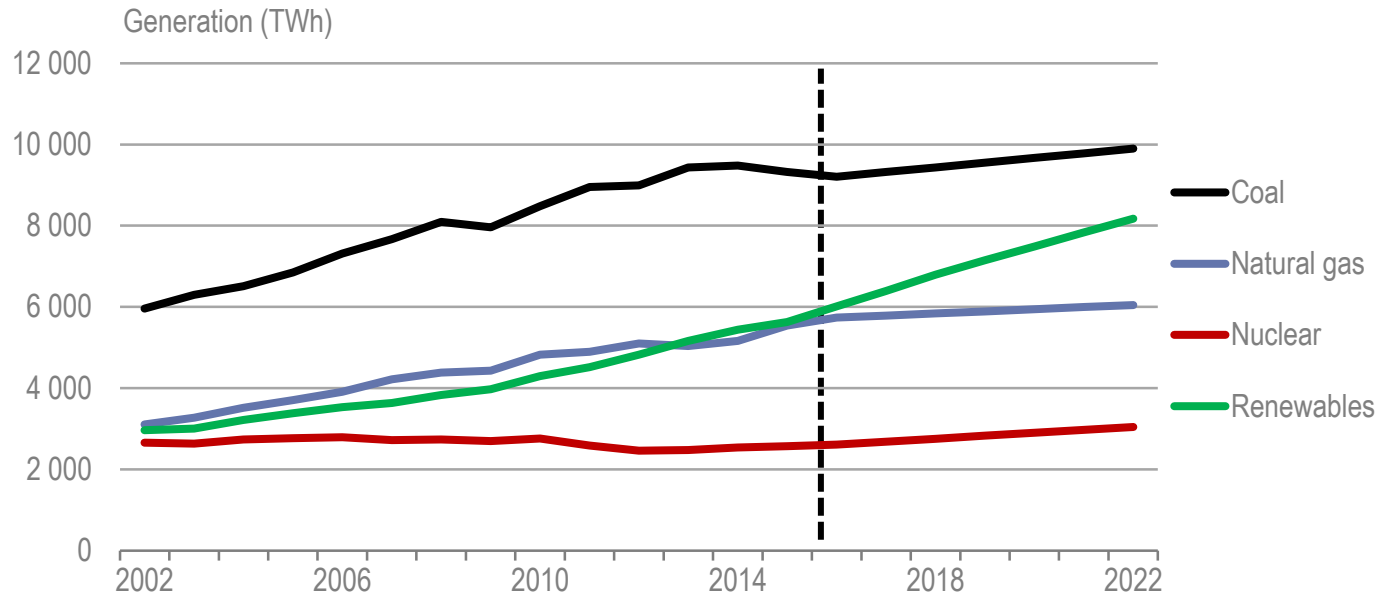
# China continues to lead growth while India overtakes the EU

## Renewable capacity growth by country/region



**The forecast is 12% more optimistic vs. last year mainly due to solar PV revisions in China and India; Growth could be 27% higher with enhanced policies addressing regulatory uncertainties and grid integration**

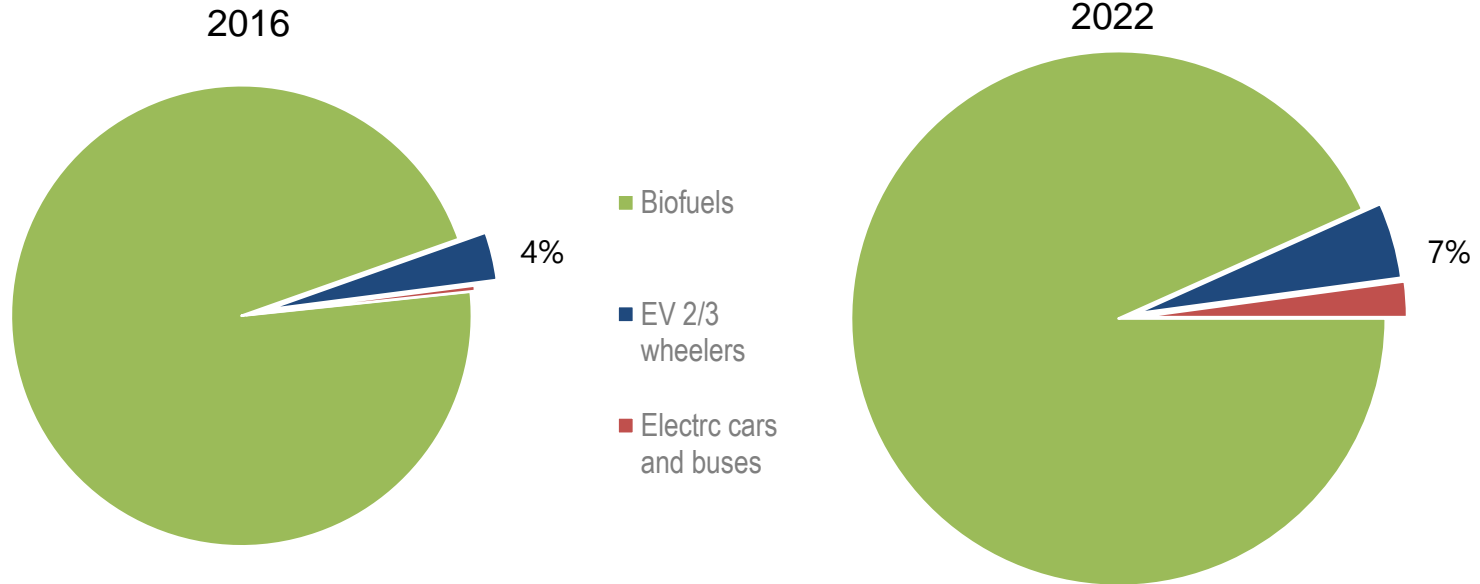
## Electricity generation by fuel



**Renewable generation to expand by over a third with its share increasing from 24% in 2016 to 30% in 2022, rapidly closing the gap with coal**

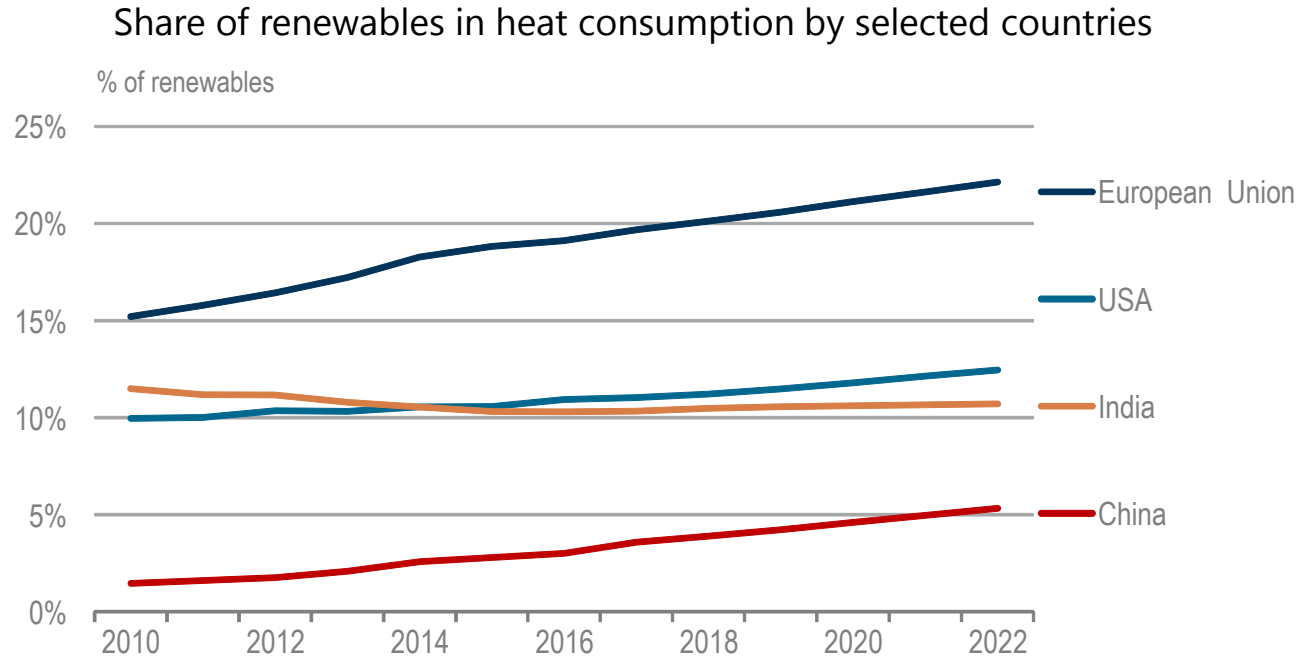
# Surging EVs to complement biofuels in renewable transport

Biofuels and electric vehicles contribution to renewable energy consumption in road transport



Share of renewables in road transport increases from 4% in 2016 to almost 5% in 2022, with biofuels representing 80% of the growth led by Asia & Brazil; EV electricity consumption doubles by 2022, with renewables providing 30% of demand

# Progress in renewable heat depends on strong policies



**Renewables share in heat consumption rises from 9% in 2016 to 11% in 2022. China leads absolute growth with new targets; EU remains the largest renewable heat consumer while total heat demand outpaces renewables growth in India**



- Renewables rise by 1,000 GW to 2022, equal to half of current total coal capacity
- Renewables generation exceeds 8,000 TWh by 2022, equal to total electricity consumption of China, India & Germany combined
- Solar PV enters a new era leading the growth in renewables, driven by a rapid expansion in deployment & manufacturing capacity in China
- Despite rapid growth in EVs, decarbonisation of transport is a long way off
  - *Only 30% of electricity used by EVs is sourced from renewables*
  - *Advanced biofuels require specific incentives to bolster deployment*
- Policymakers have to turn their focus to system integration & expanding the use of renewables for heating & cooling

## **Renewables 2017 Team**

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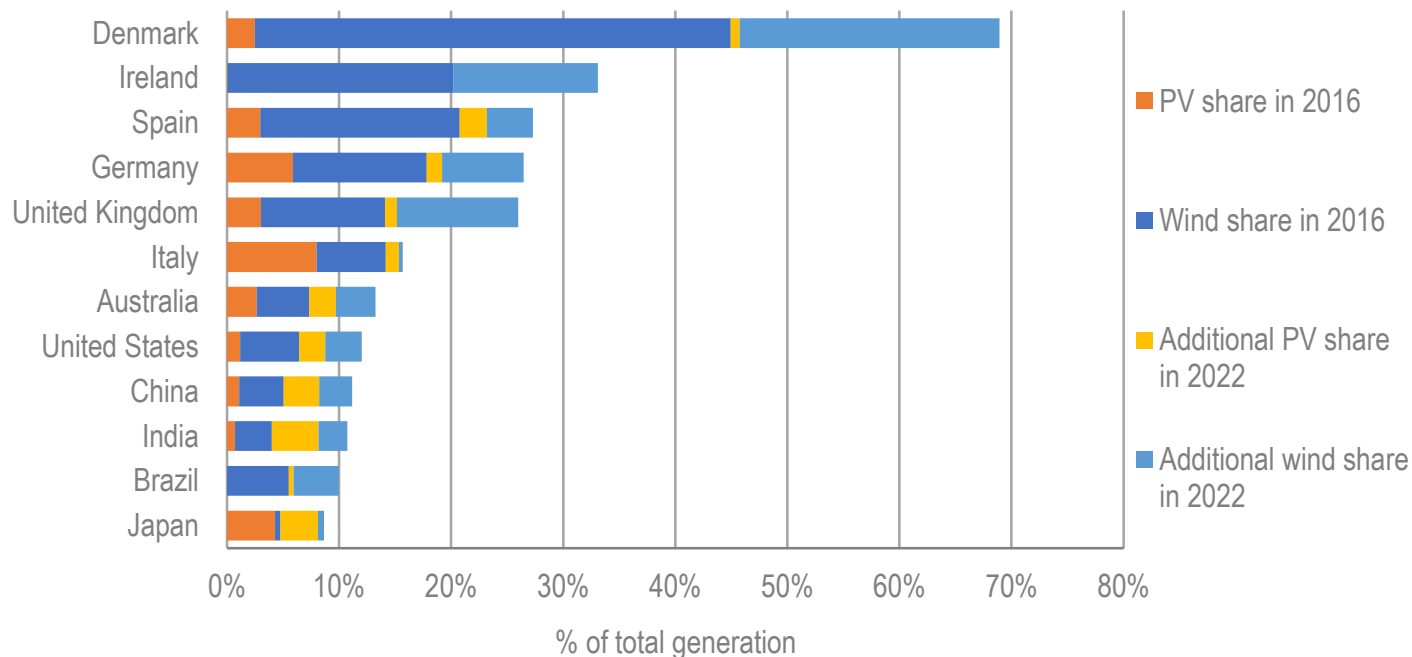
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## VRE share in annual electricity generation 2016-22



**More flexible power systems, adapted market design and policies will have to play a key role in integrating larger shares of wind and solar in a secure and cost-effective way**