Interconnection and energy transitions

Caroline Lee, Energy Policy Analyst

6 December 2018 – COP24 – China Pavilion

IEA at COP24 – Key messages

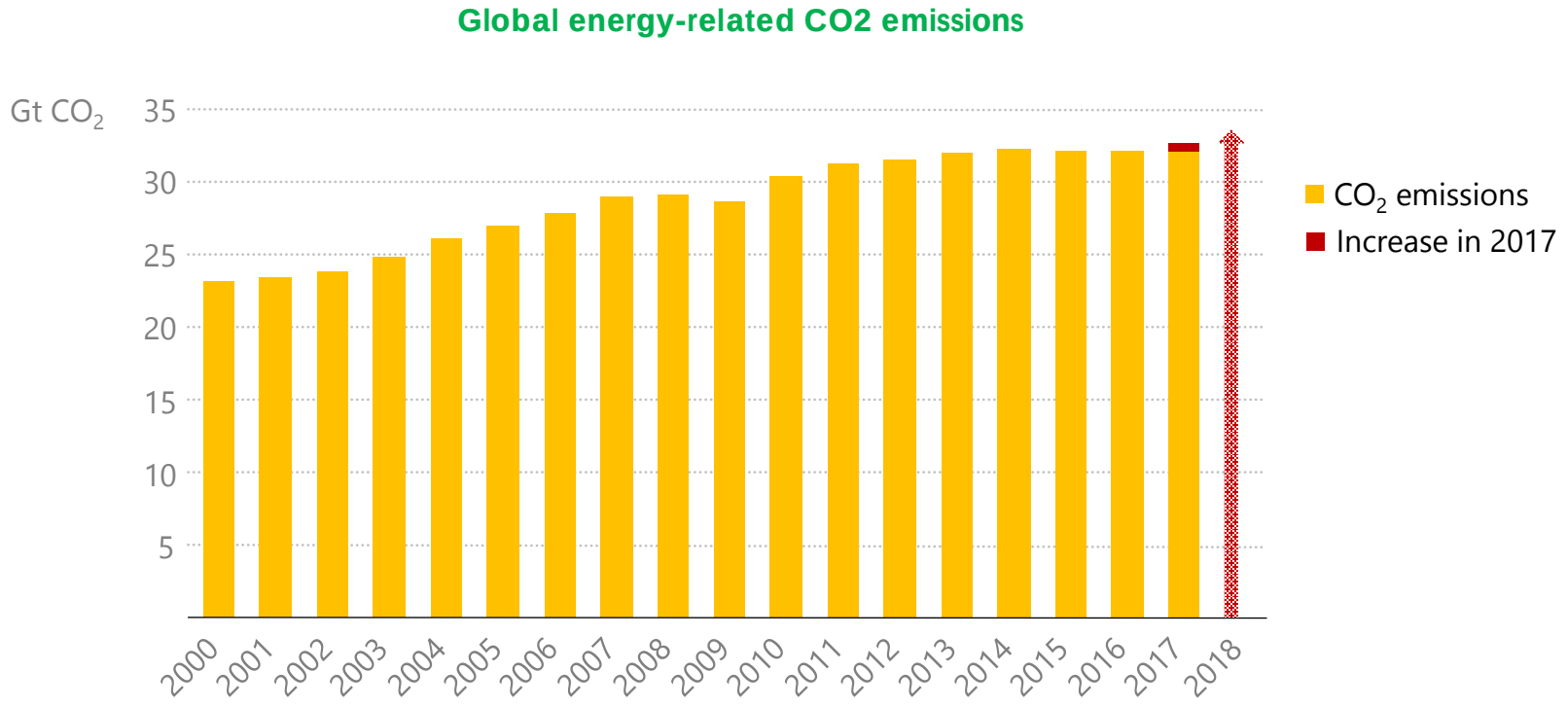
- **Paris Agreement goals are slipping out of reach**
  - *IEA estimates energy-related CO_2 emissions will reach an historic high in 2018*
  - *To meet Paris goals, CO_2 emissions need to peak around 2020 and enter a steep decline*

- **The IEA Family of countries now covers almost 75% of global energy demand, so is ideally placed to help countries meet their energy objectives**

- **The IEA offers data, analysis and solutions across "All Fuels and All Technologies"**

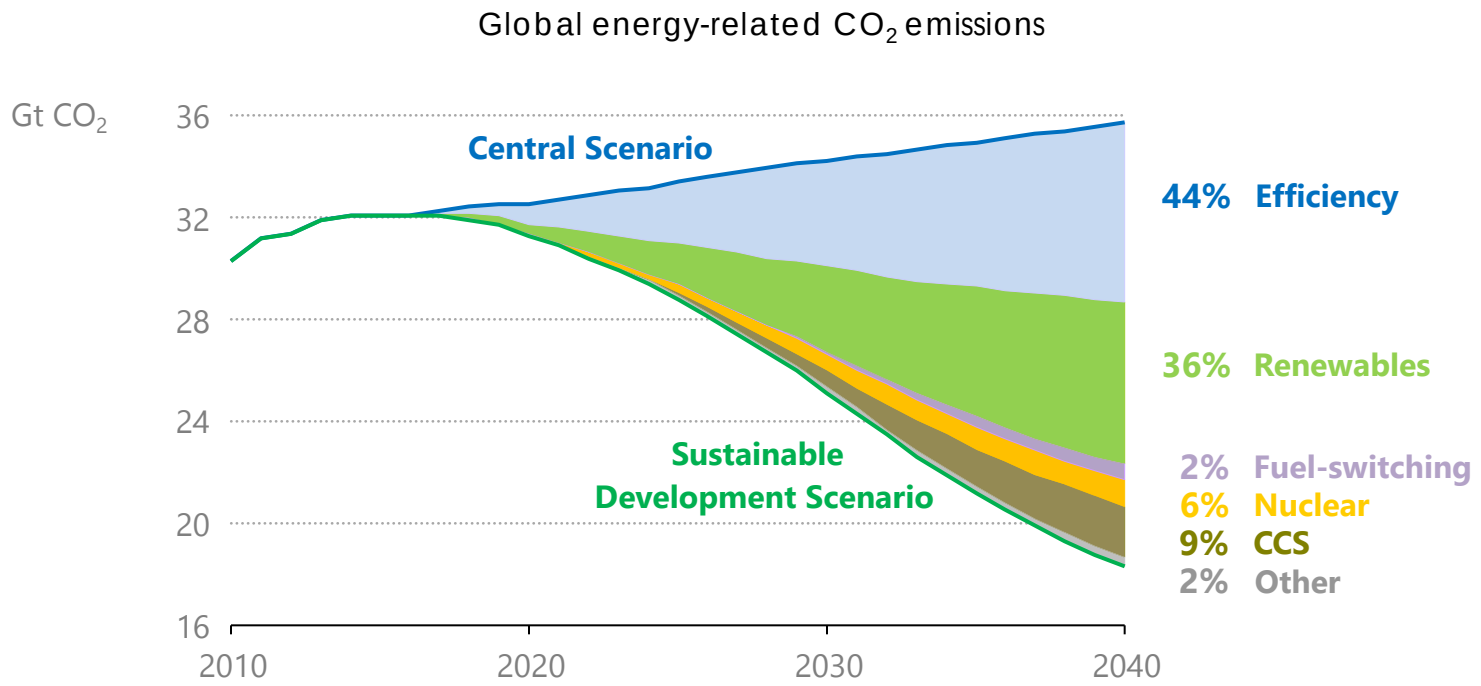
- **IEA analysis is key to tracking progress of global energy transitions**
  - *Assessing progress on energy transitions, under the Talanoa Dialogue and beyond*
  - *Helping to drive further NDC ambition*

Tracking Clean Energy Progress 2018 (TCEP): Historical data basis



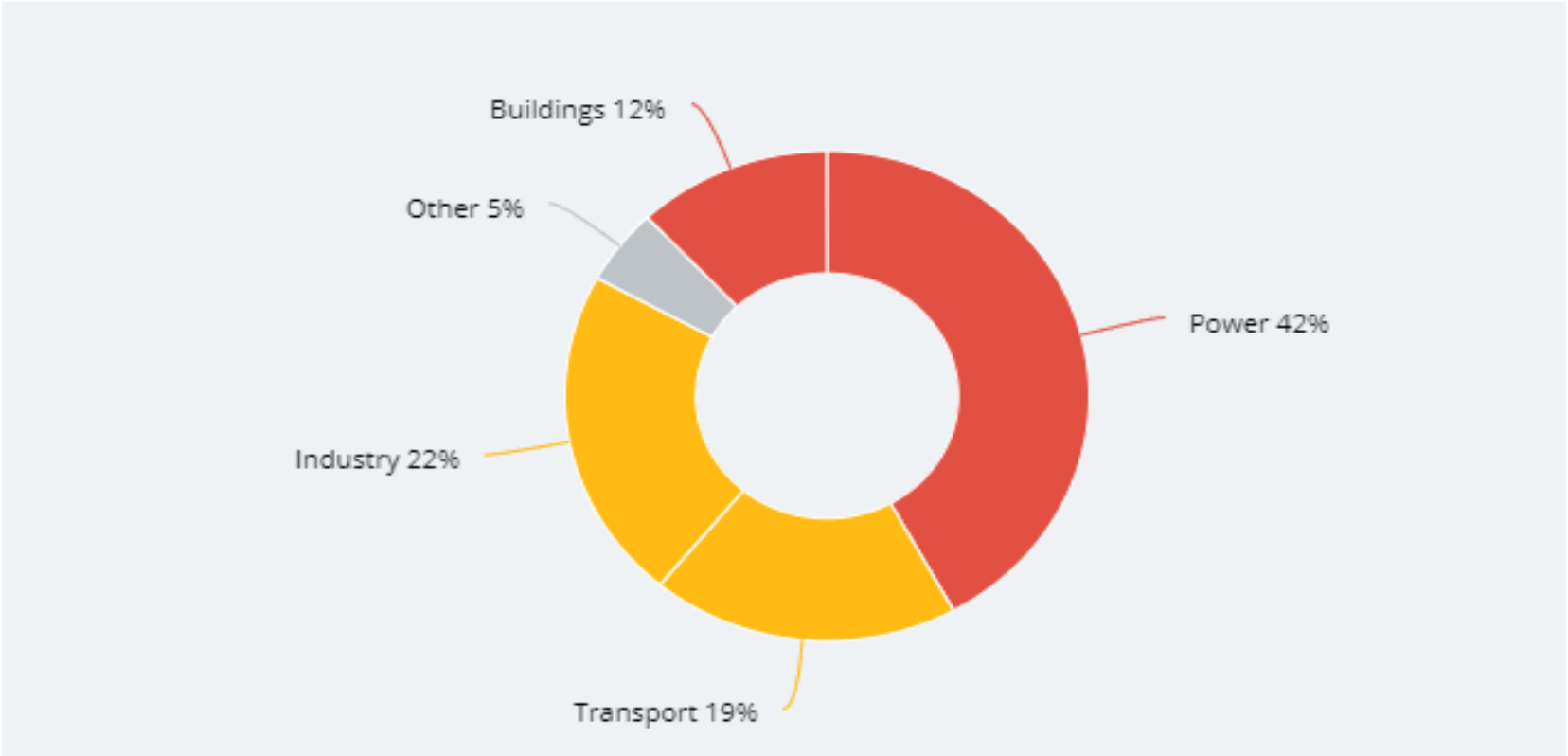
Global emissions are set to increase in 2018 - again
The world is not moving towards the Paris goals, but rather away from them

SDS as a benchmark on where do we want to go



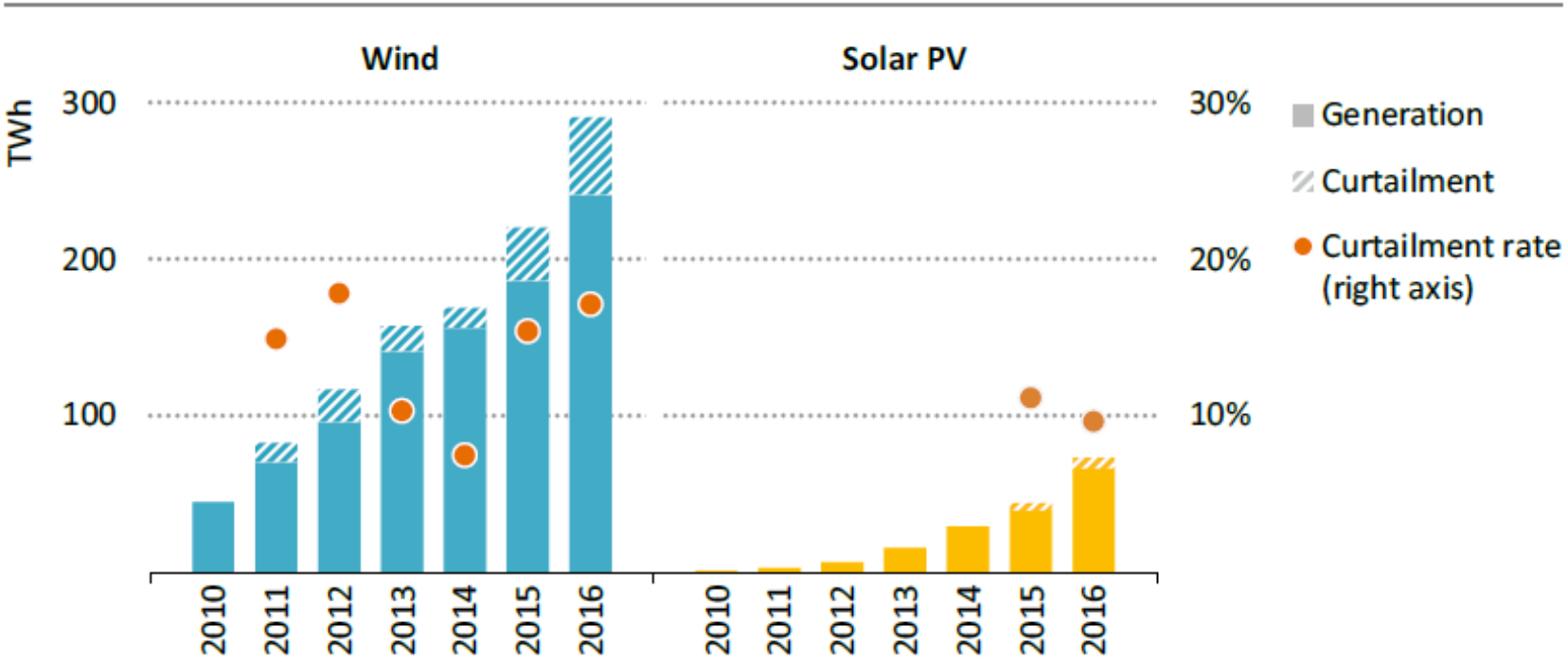
A wide variety of technologies are necessary to meet goals, with energy efficiency and renewables playing lead roles

TCEP 2018: How energy sectors can contribute to the decarbonisation effort



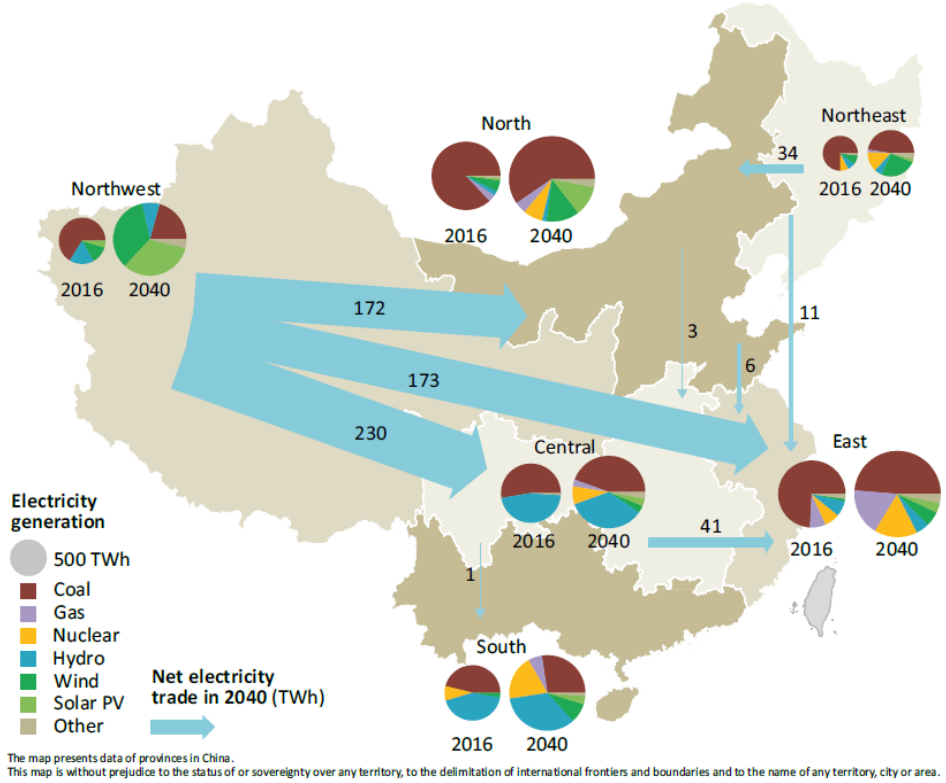
Cumulative emissions reductions between 2017 and 2040 for each sector in the SDS compared to the NPS, including indirect emissions.

Total generation and curtailment of wind and solar PV in China



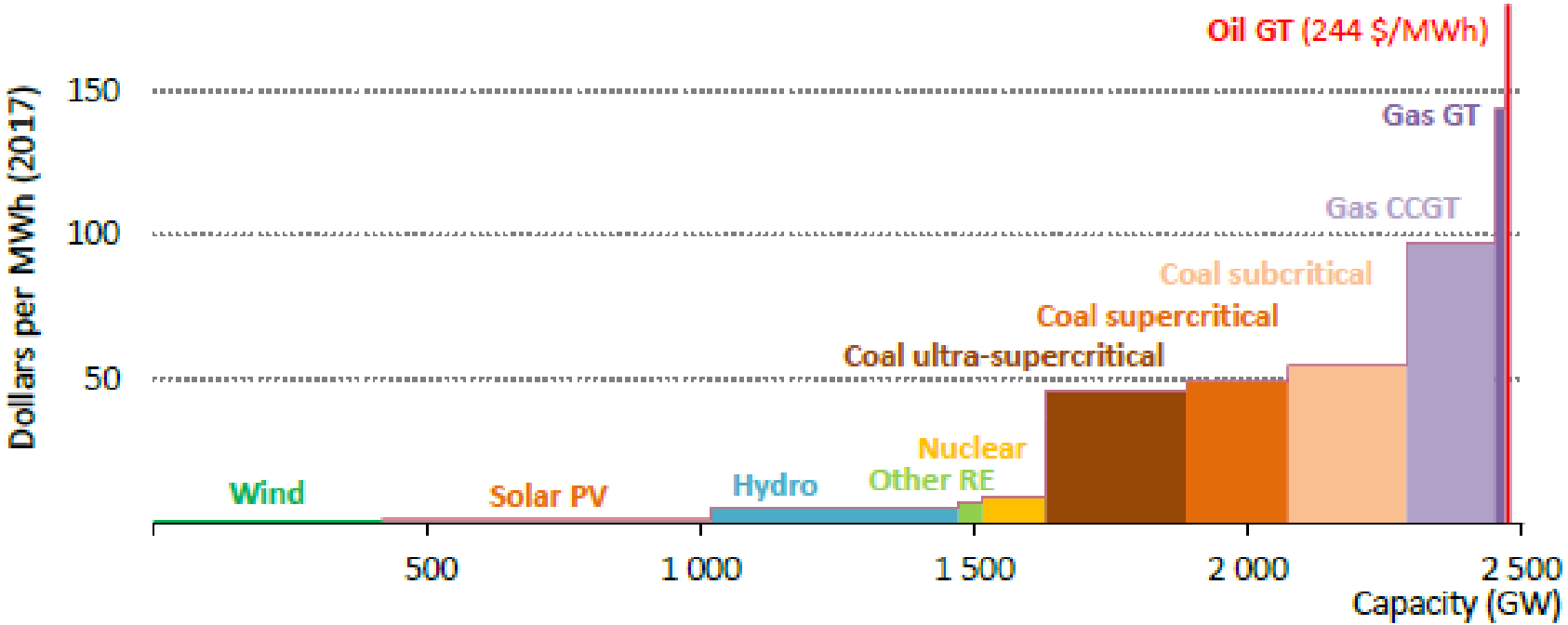
The curtailment of wind and solar PV has been increasing in recent years, as infrastructure and market reforms have struggled to keep pace with wind and solar PV's rapid expansion

Power generation mix by region and net electricity trade flows



The Northwest and Northeast regions become the major exporters of electricity, supplying a mix of renewables-based and fossil-fuelled generation to the East and Central regions

Merit order curve based on power plant operating costs, 2030



Competitive spot markets can bring efficiency gains to the operation of systems, favouring the most efficient sources

The IEA works around the world to support accelerated clean energy transitions that are

enabled by real-world SOLUTIONS

supported by ANALYSIS

and built on DATA

www.iea.org/COP24

www.iea.org

IEA