

# Tracking the Energy Transition

**Takashi Hattori, Head of Environment and Climate Change Unit**

**Caroline Lee, Energy Policy Analyst**  
**International Energy Agency**



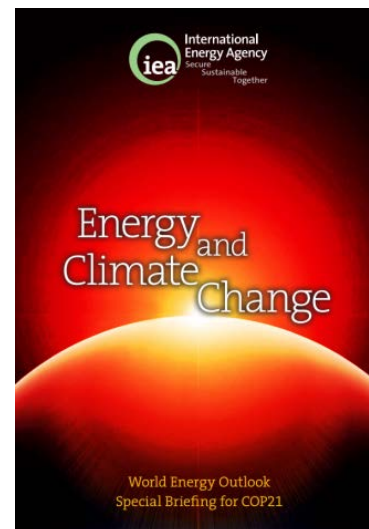
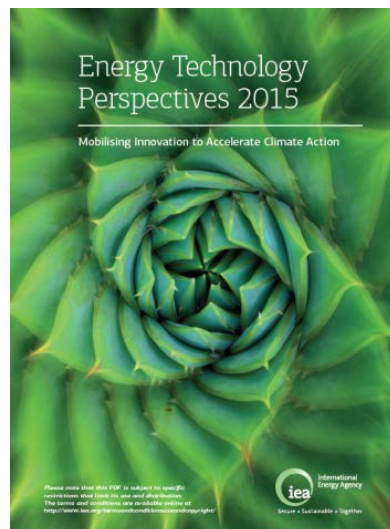
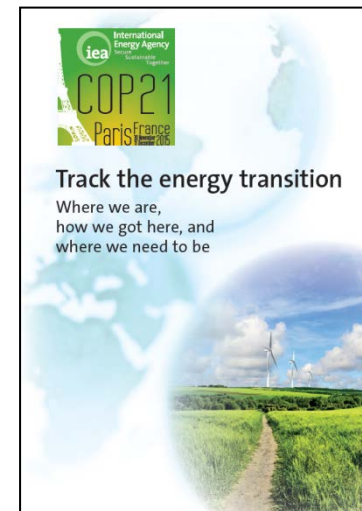
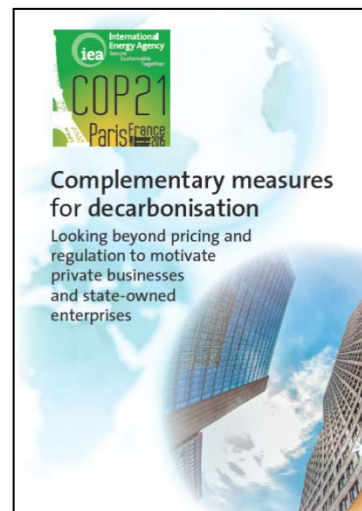
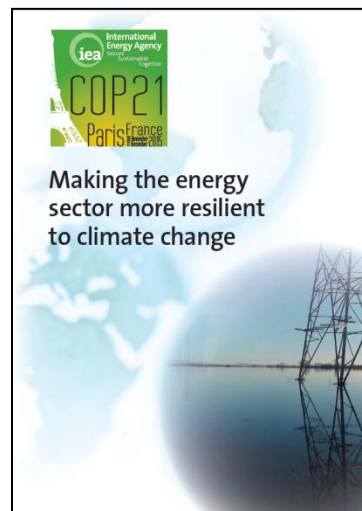
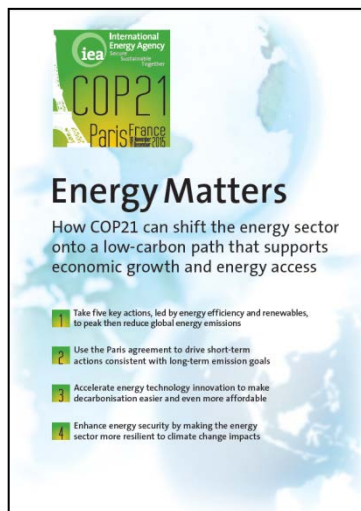
**Track the energy transition**

Where we are,  
how we got here, and  
where we need to be



[www.iea.org](http://www.iea.org)

# IEA Analytical inputs to COP



# Six metrics: where we are, how we got here, where we need to be

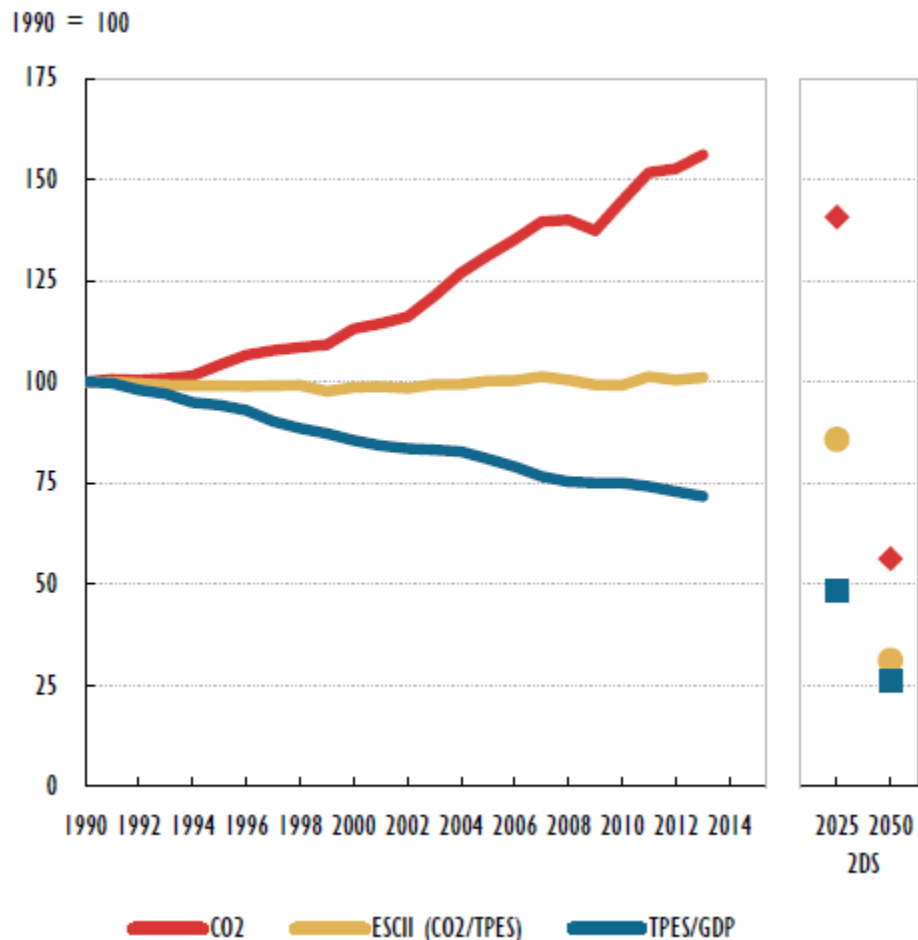
Indicator*		Unit**
Energy sector	CO <sub>2</sub> emissions	Mt
	Energy Sector Carbon Intensity Index (ESCI)	CO <sub>2</sub> (g)/TPES (MJ)
	Energy intensity	TPES (MJ)/GDP (2013 USD)
Power sub-sector	Carbon intensity of electricity generation	CO <sub>2</sub> (g)/kWh
	Net additions of low-carbon power capacity	MW
	Percent low-carbon generation	%

# Globally: Emissions at historic high in 2013, 2014



- Energy-related emissions reached an all-time high in 2013; estimated to have stalled in 2014 —
- Energy use continued to decouple from emissions growth —
- Carbon intensity of energy supply has not improved in the last 2+ decades —

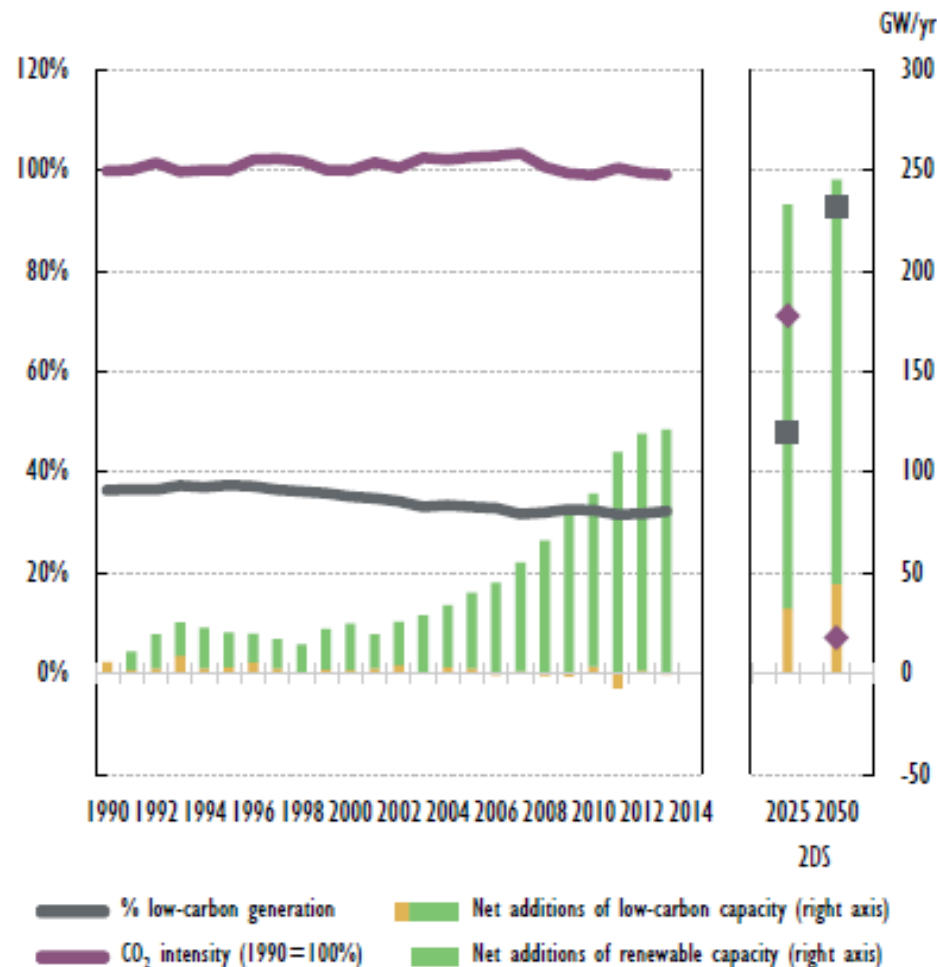
Energy sector-wide metrics



# Globally: Power sector decarbonisation is slow

- Carbon intensity of electricity generation at a historic low
- In 2014, net additions of renewable capacity reached a historical high

Electricity sub-sector metrics

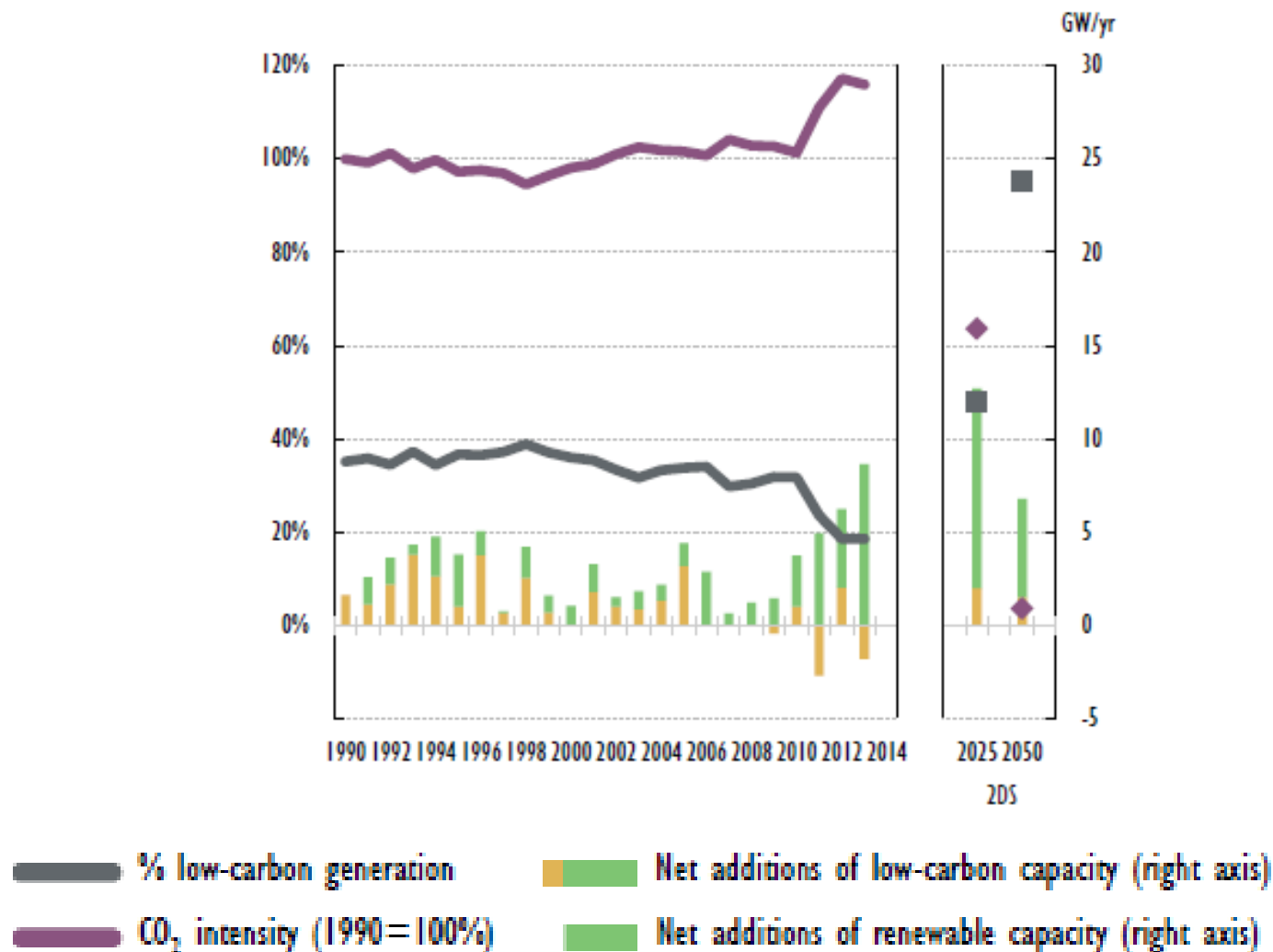




# OECD Asia Oceania



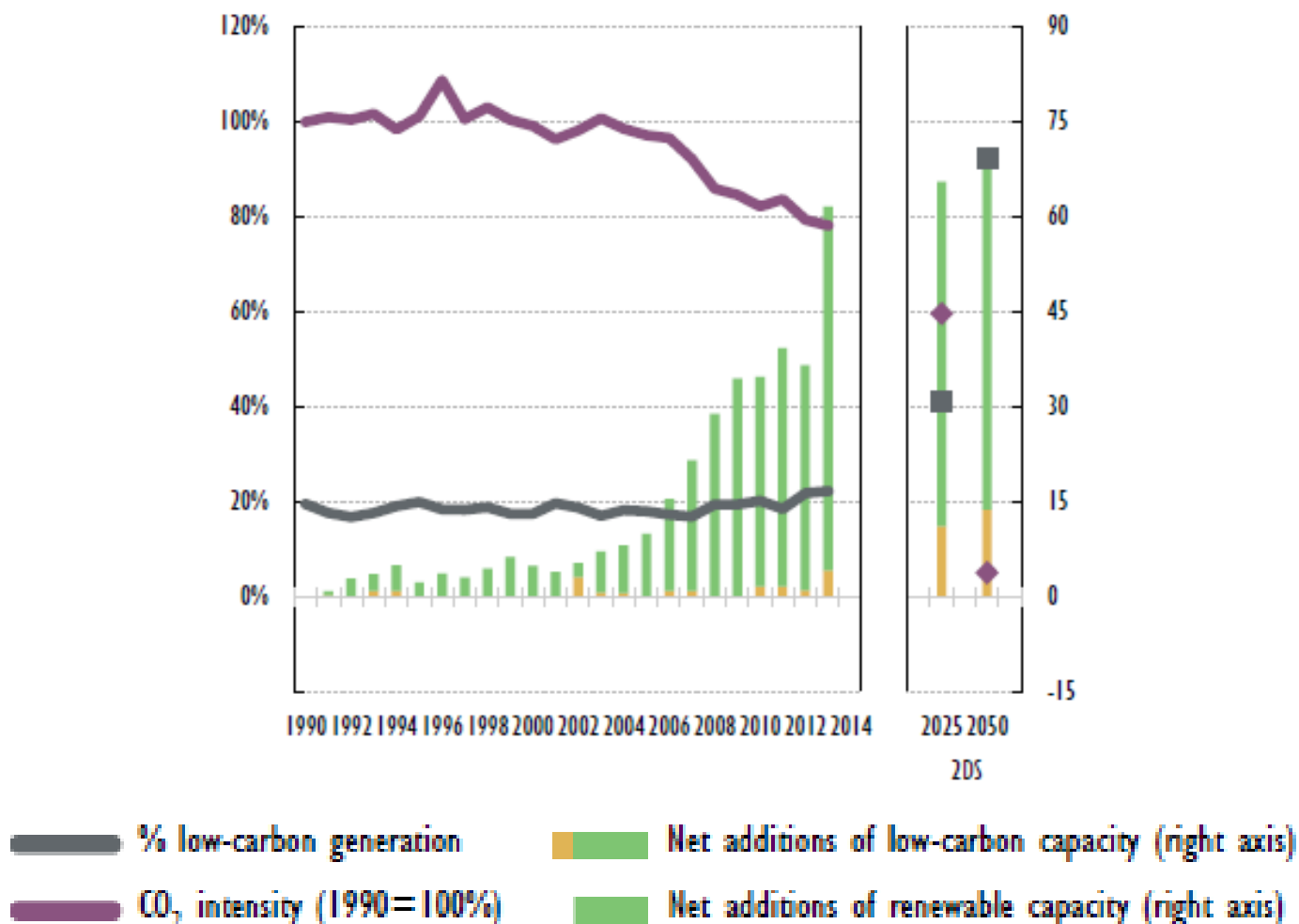
## Electricity sub-sector metrics



# China

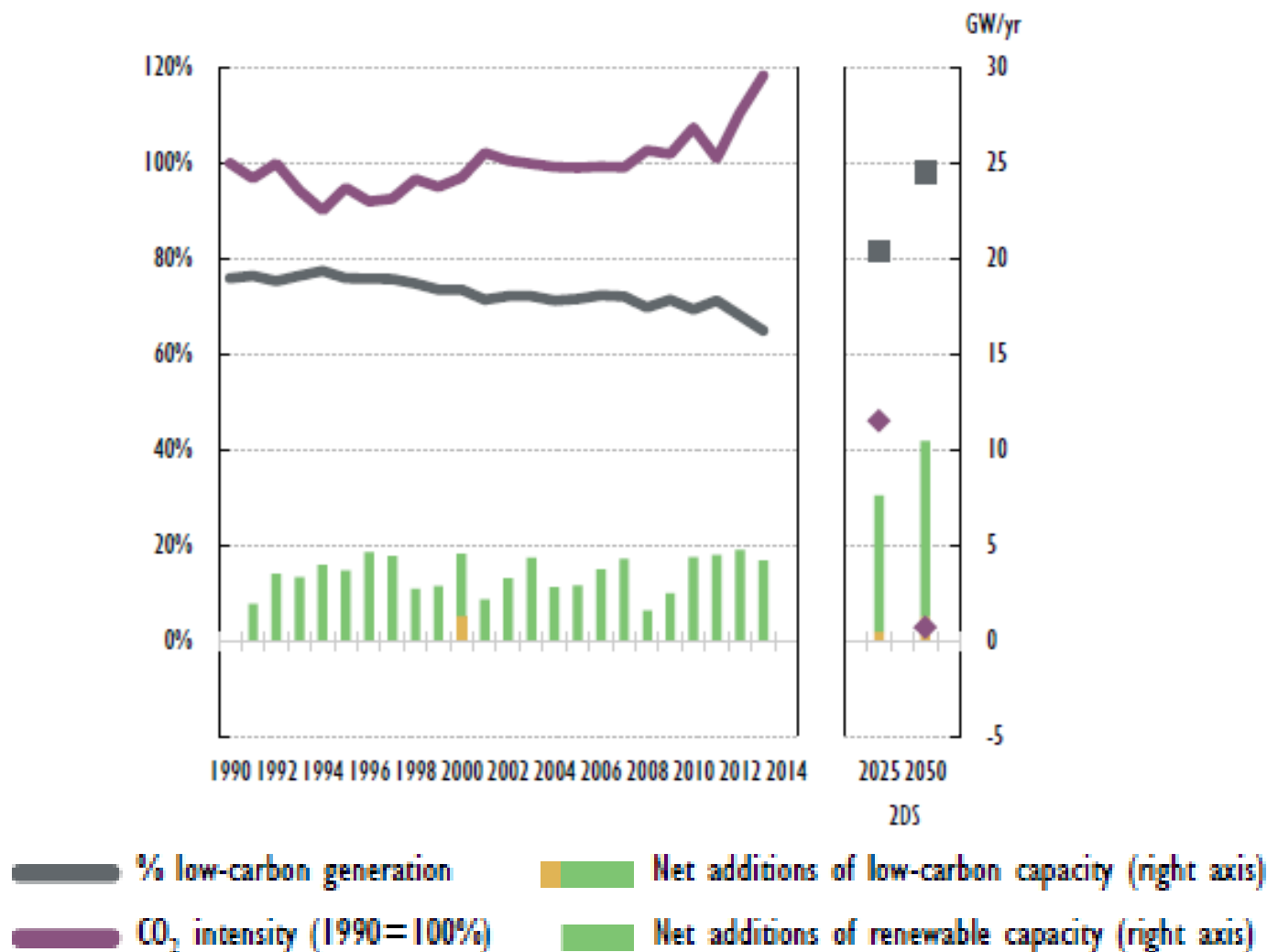


Electricity sub-sector metrics



# Non OECD Americas

## Electricity sub-sector metrics





# What more needs to be done?

- **Track a broader set of energy metrics to track underlying changes in the energy sector transition**
  - Renewable and low-carbon energy deployment
  - Energy efficiency improvements
  - Renewable and low-carbon investment
  
- **The IEA aims to contribute to the development and implementation of such metrics moving forward**