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Energy in Asia

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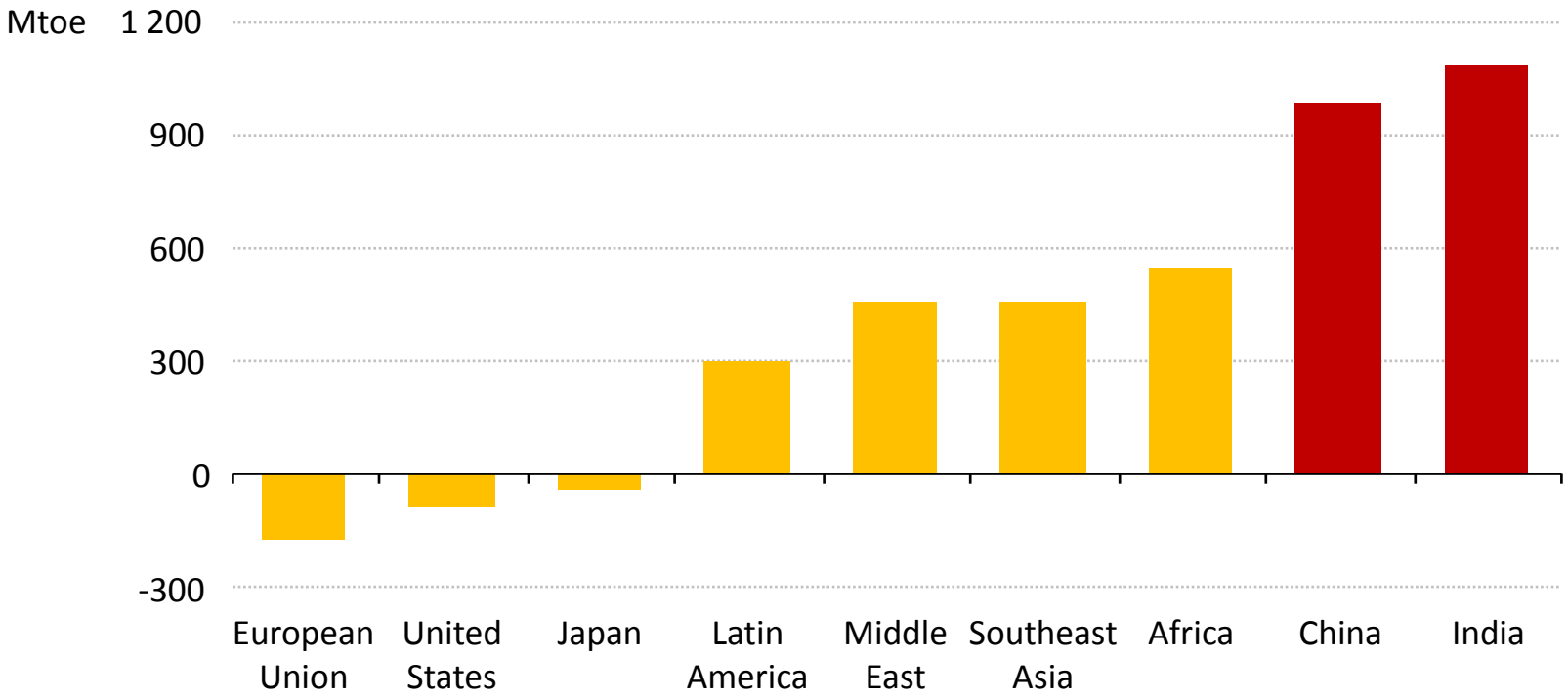
Demand growth in Asia – the sequel

World Energy Outlook 2015

Change in energy demand in selected regions, 2014-2040

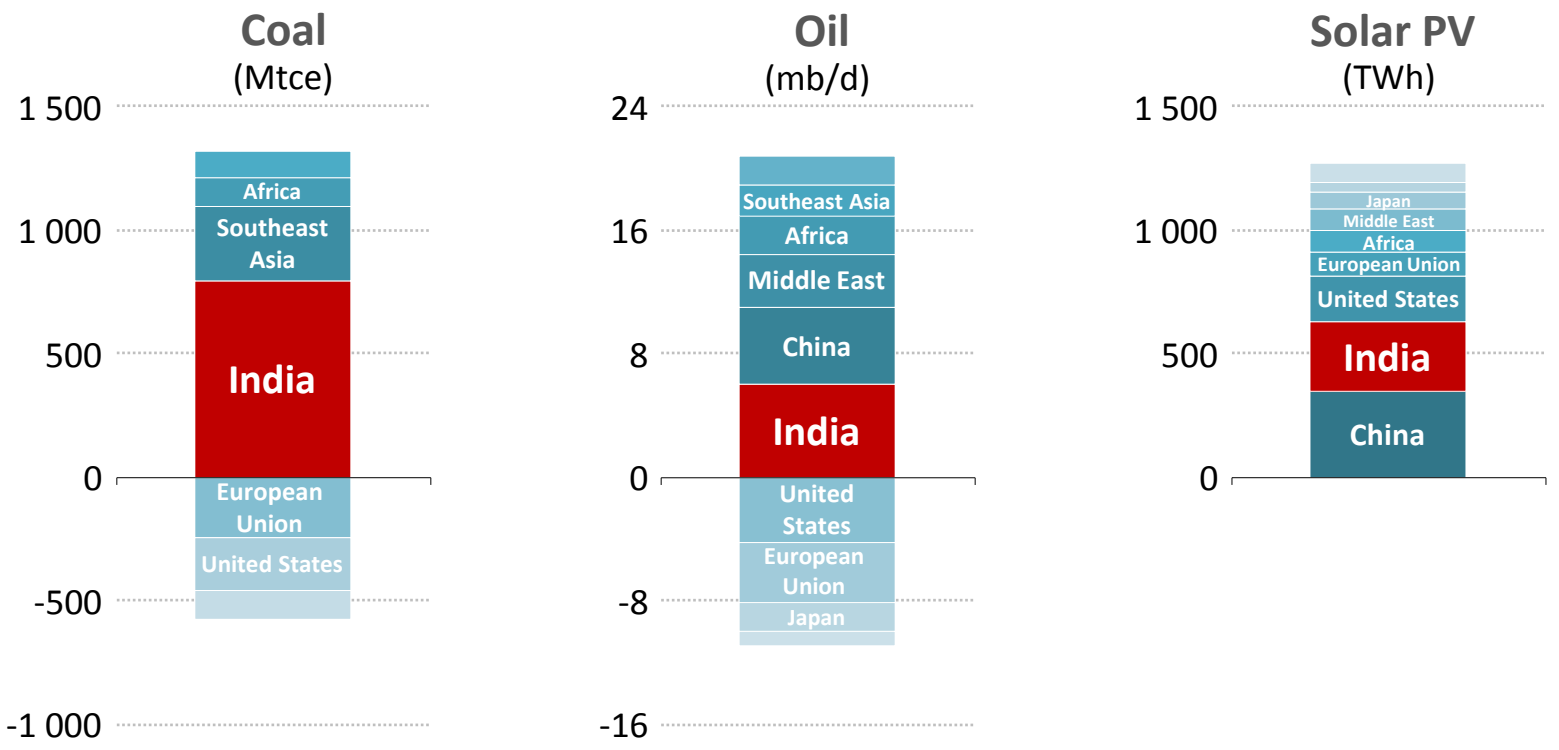


By 2040, India's energy demand closes in on that of the United States, even though demand per capita remains 40% below the world average

India moving to the centre of the world energy stage

World Energy Outlook 2015

Change in demand for selected fuels, 2014-2040

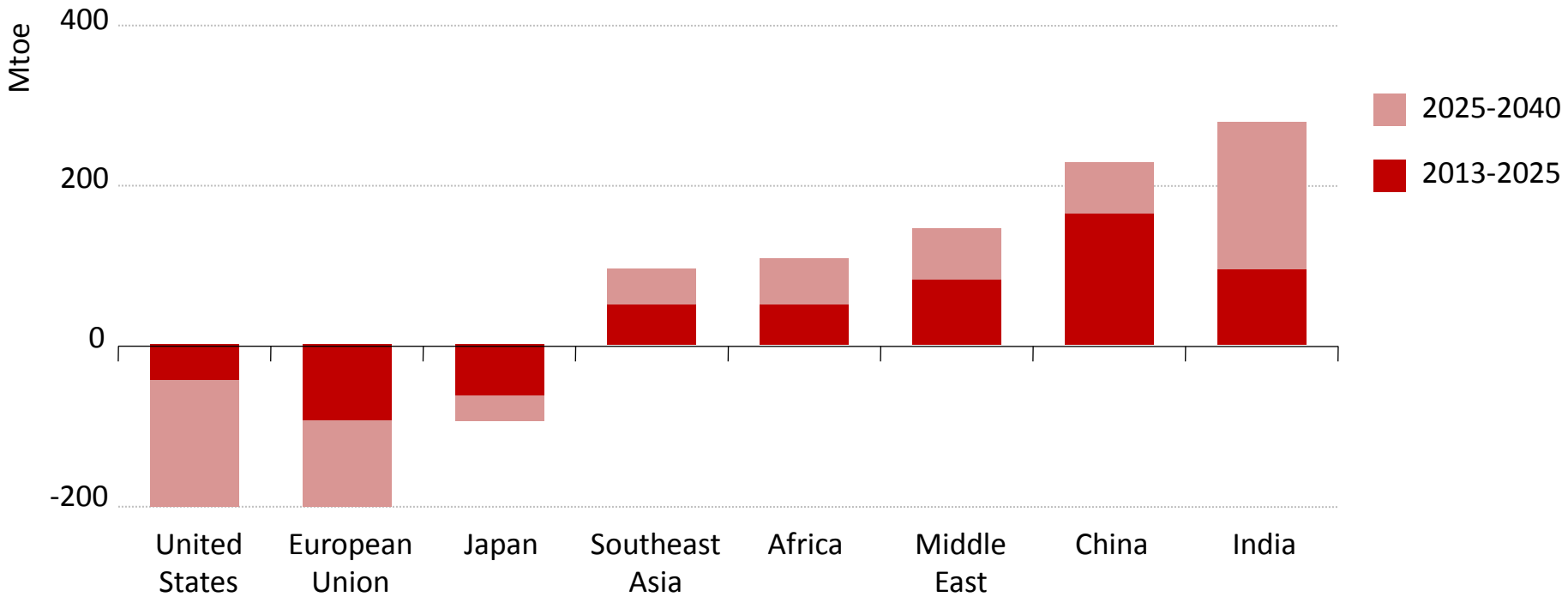


New infrastructure, an expanding middle class & 600 million new electricity consumers mean a large rise in the energy required to fuel India's development

Oil use grows, but in a narrowing set of markets

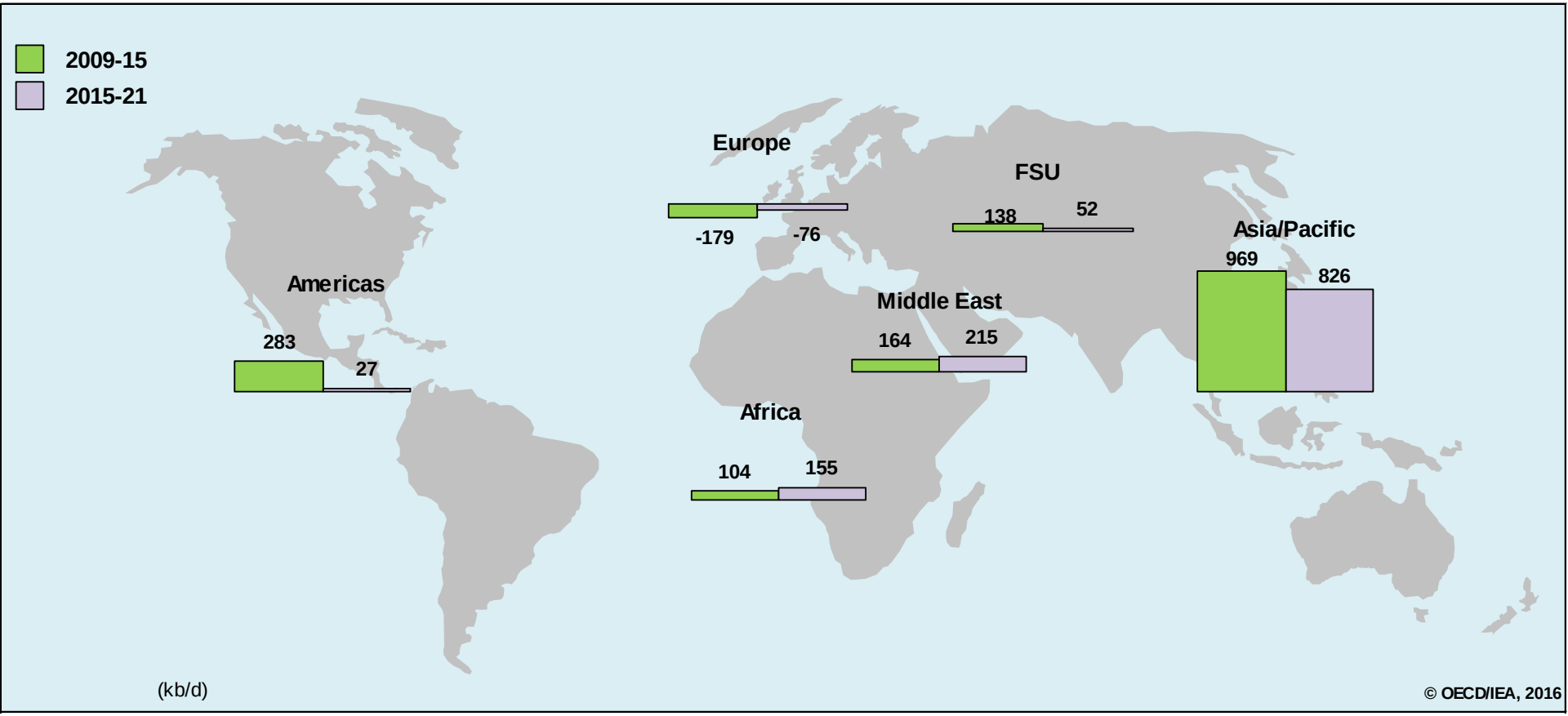
World Energy Outlook 2015

Oil demand growth by selected region



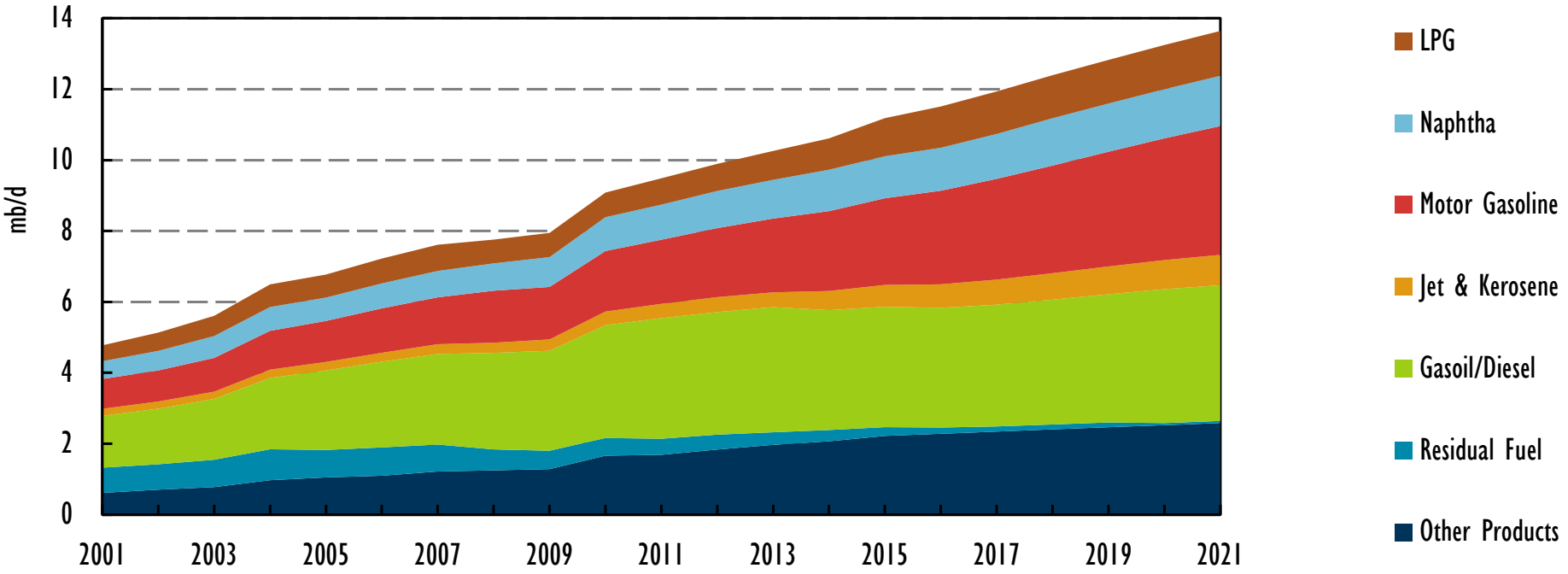
Oil demand picks up to 2020, but the subsequent rise to 103.5 mb/d is moderated by higher prices, subsidy phase-out, efficiency policies & fuel switching

World oil demand growth slows



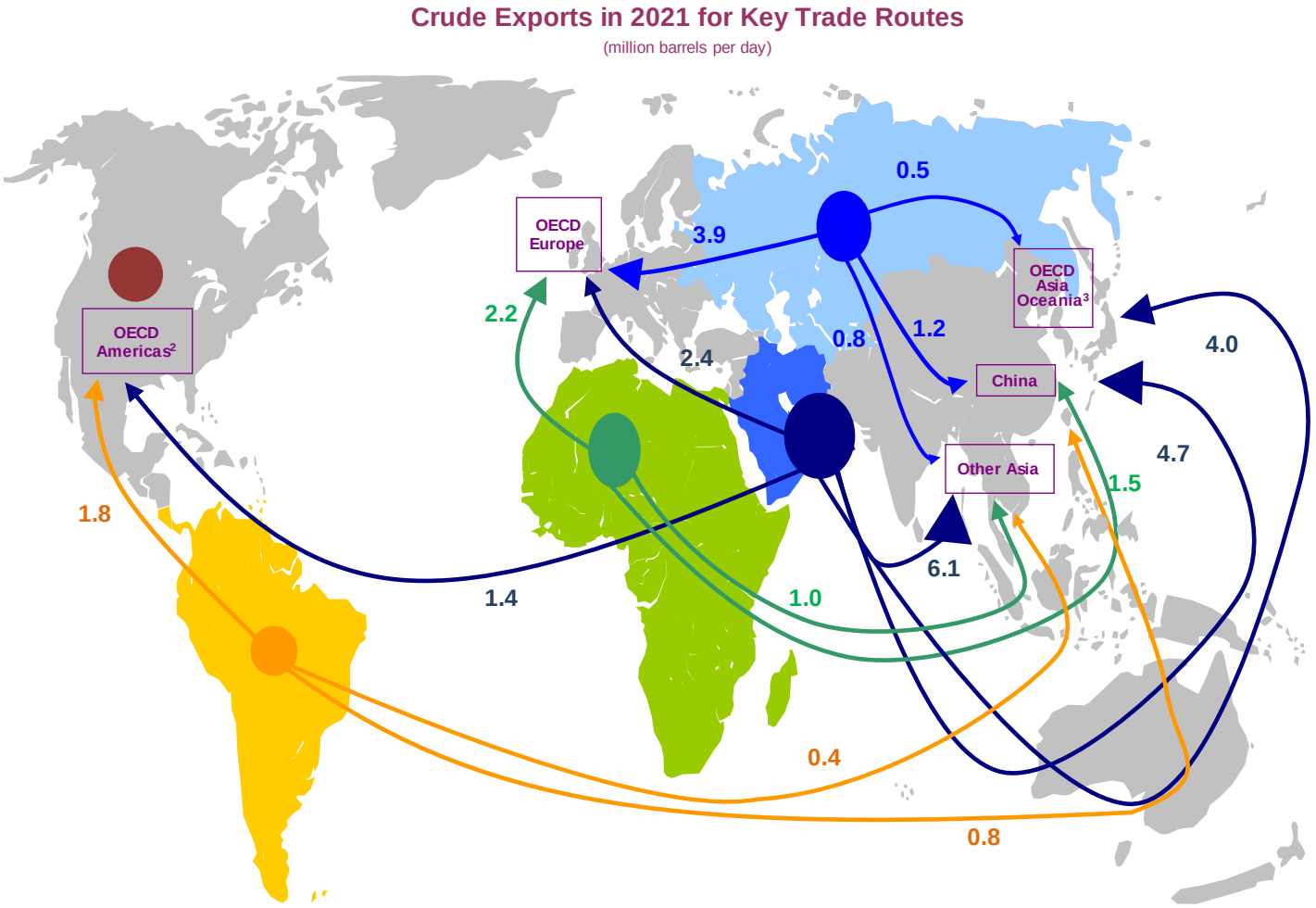
- ***Cools from 1.7%/yr in 2009-15 to 1.2%/yr in 2016-2021***

Chinese demand growth slips a gear



- ***Economy slows and shifts from industry to services***

Middle East dominates oil exports

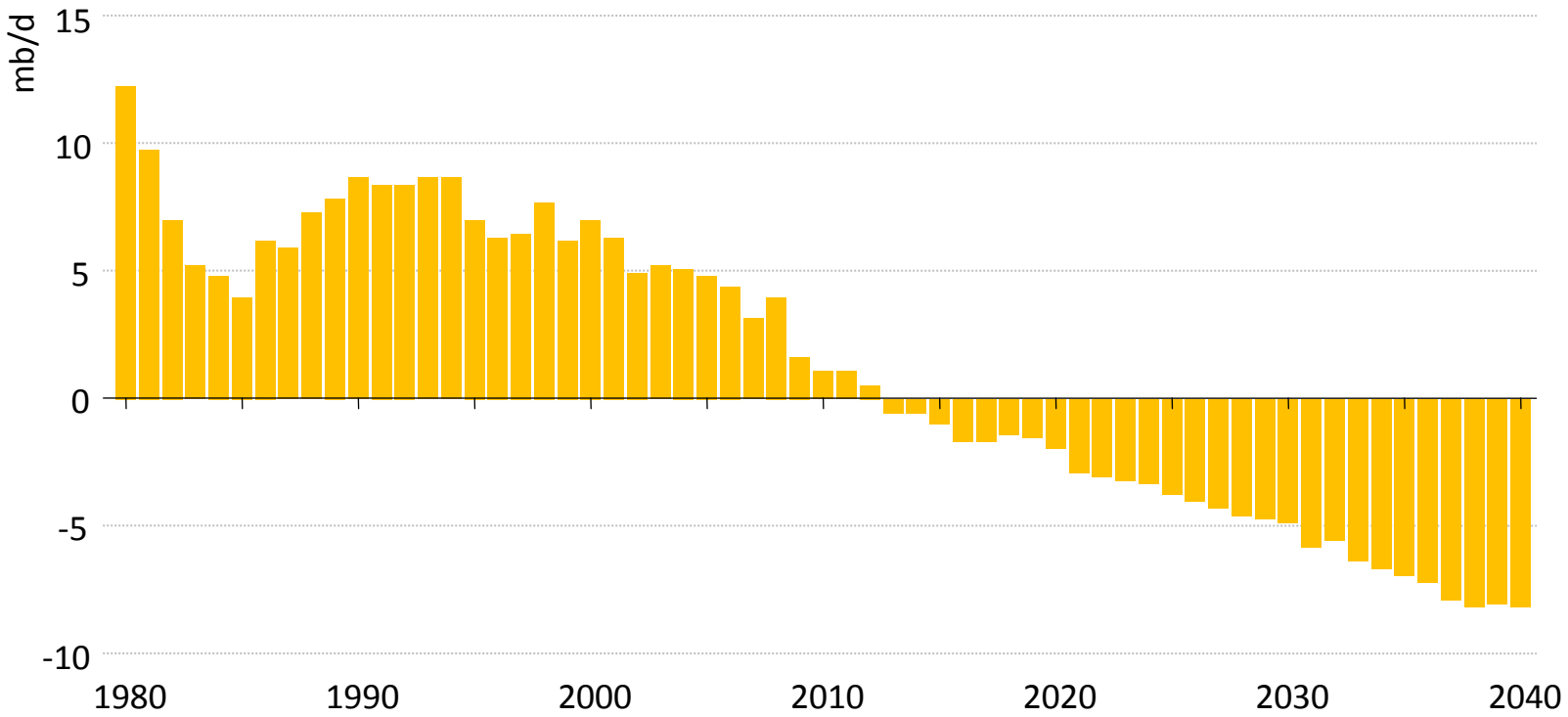


- ***Producers target non-OECD Asia***

Asia's demand tips the trade balance

World Energy Outlook 2015

Crude oil balance in the East of Suez region in the New Policies Scenario

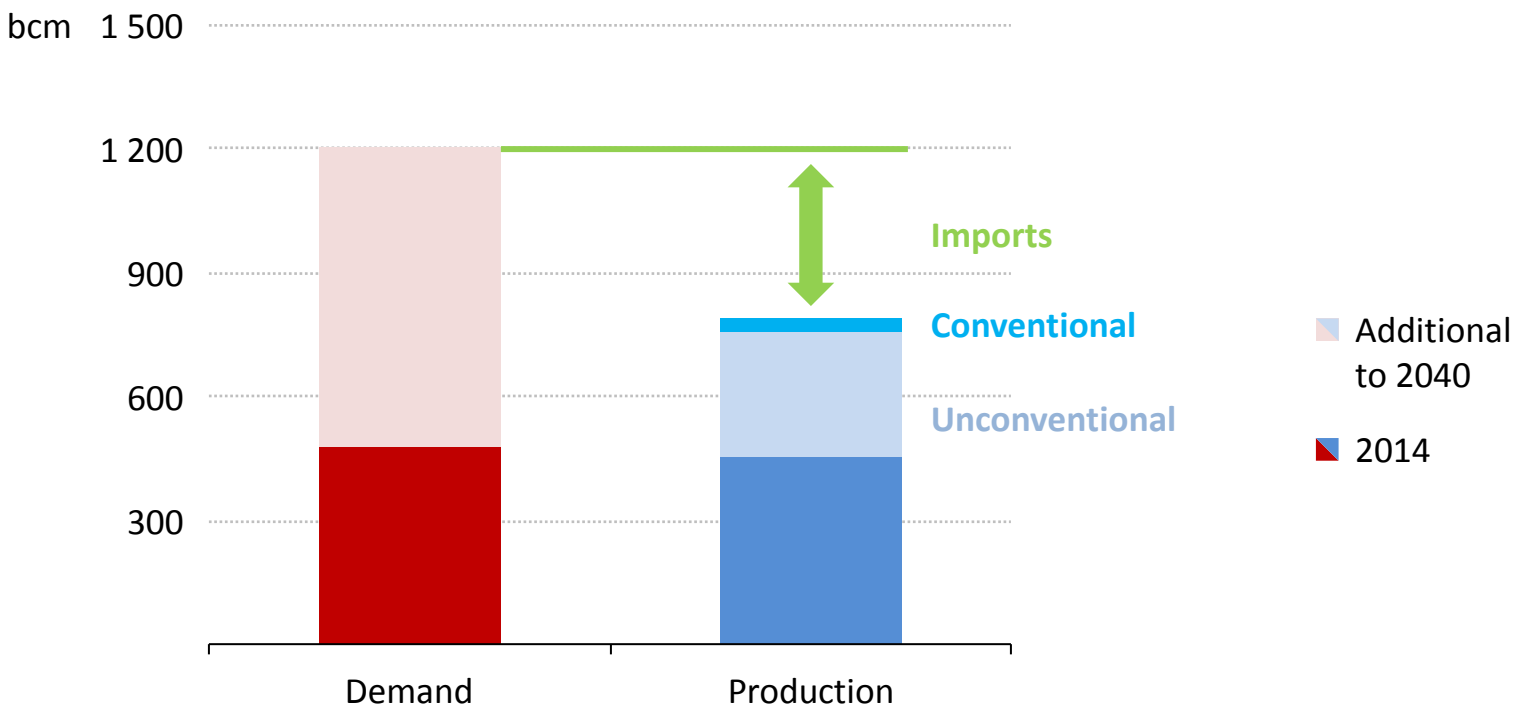


Even growing Middle East exports cannot keep pace with Asian refiners' needs; the East of Suez region draws in increasing inflows of crude from further afield

The big opportunities & uncertainties for natural gas are in Asia

World Energy Outlook 2015

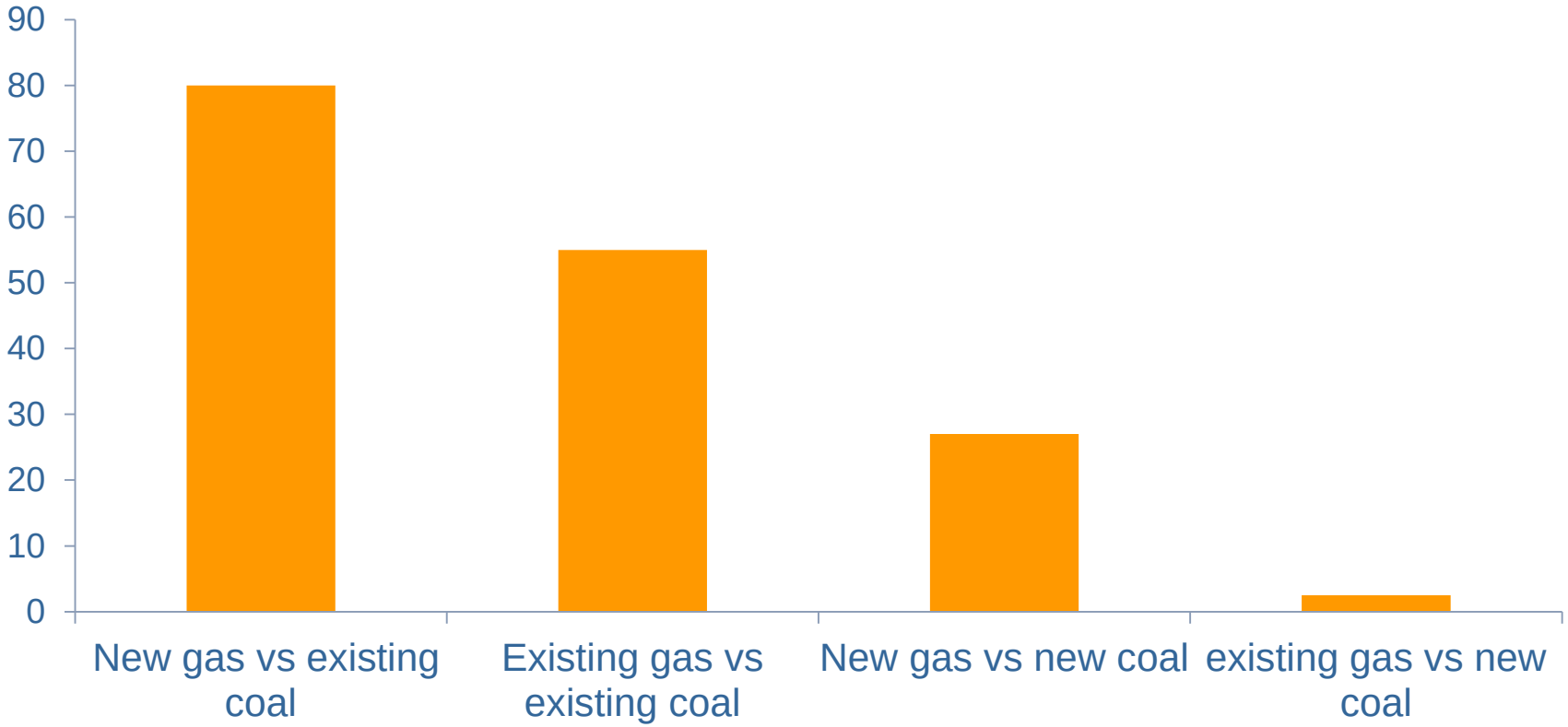
Natural gas demand and supply in developing Asia, 2040



Developing Asia accounts for almost half of the rise in global gas demand & 75% of the increase in imports, but gas faces strong competition from renewables & coal

Despite lower gas prices, coal remains much more competitive than gas

CO2 ($/tonne) price that breaks even coal and gas-fired generation

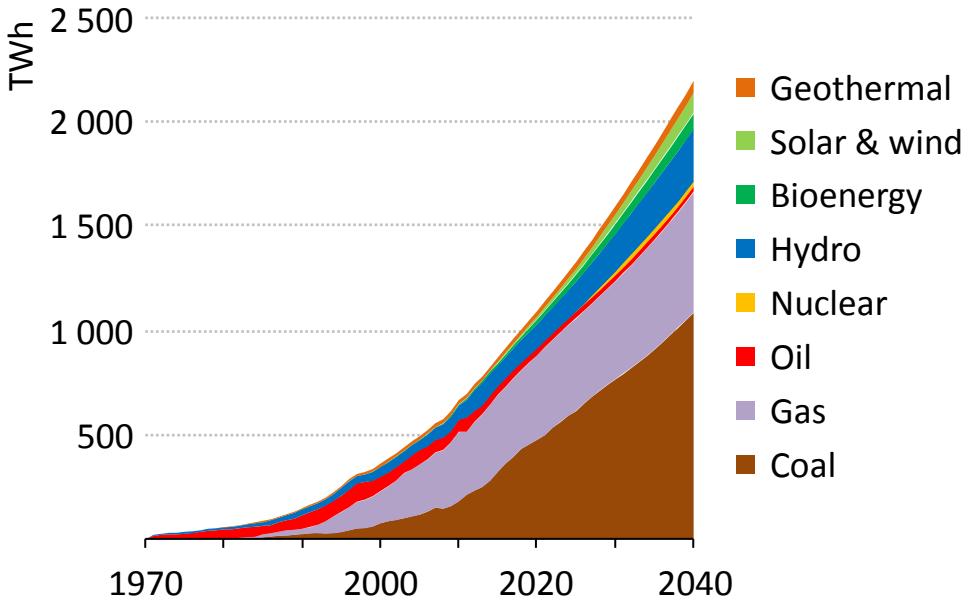


Note: calculations based on $60/tonne coal price, $8/Mbtu gas price and a 7% discount rate

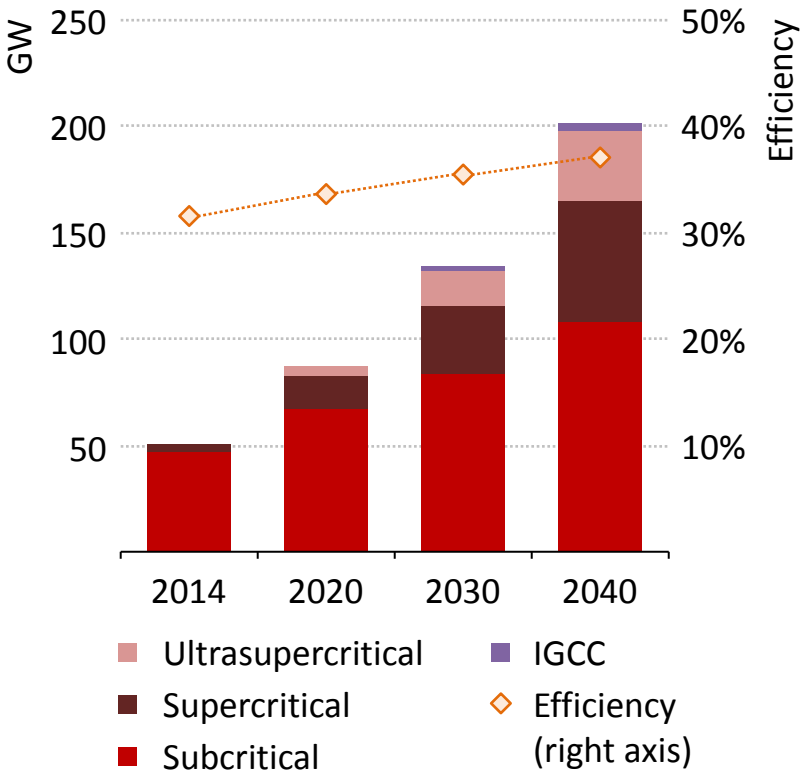
Electricity demand triples, with shift towards coal set to continue

WEO Special Report on Southeast Asia Energy Outlook 2015

Electricity generation by fuel



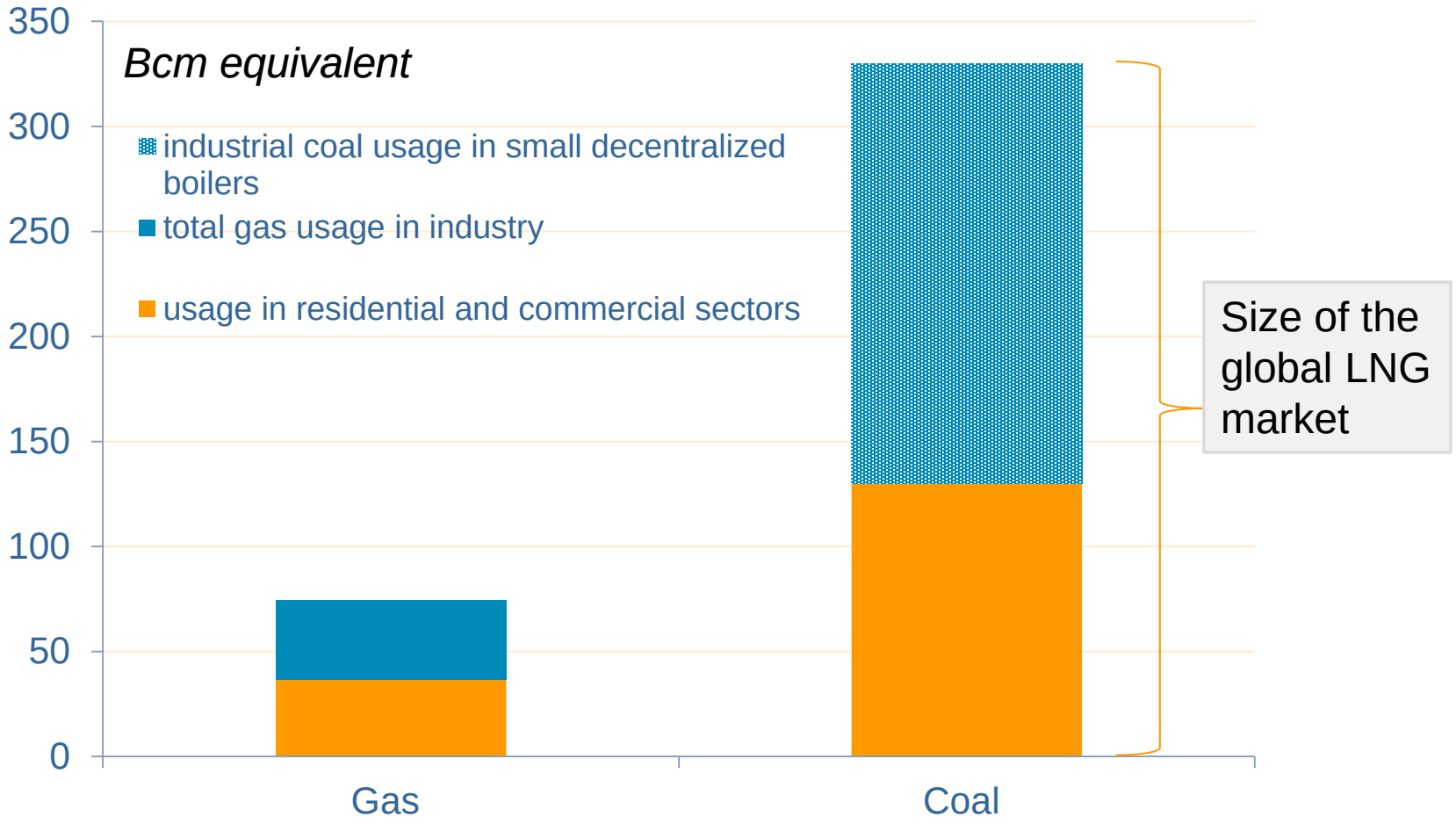
Installed coal-fired capacity & efficiency



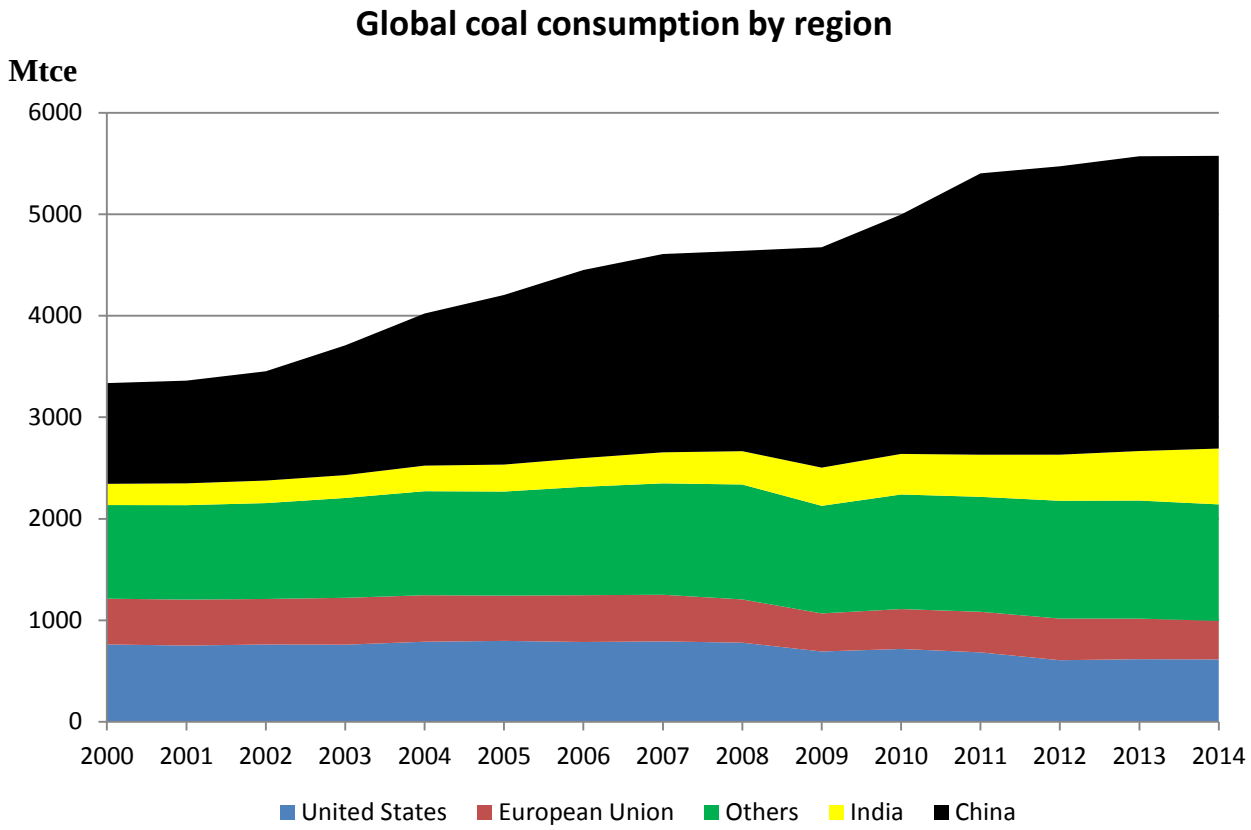
Power capacity expands by 400 GW, equal to current size of Japan and Korea power systems, with increasingly deployment of more efficient coal-fired plants

Great potential growth for gas demand

Large coal to gas switching potential exists in China

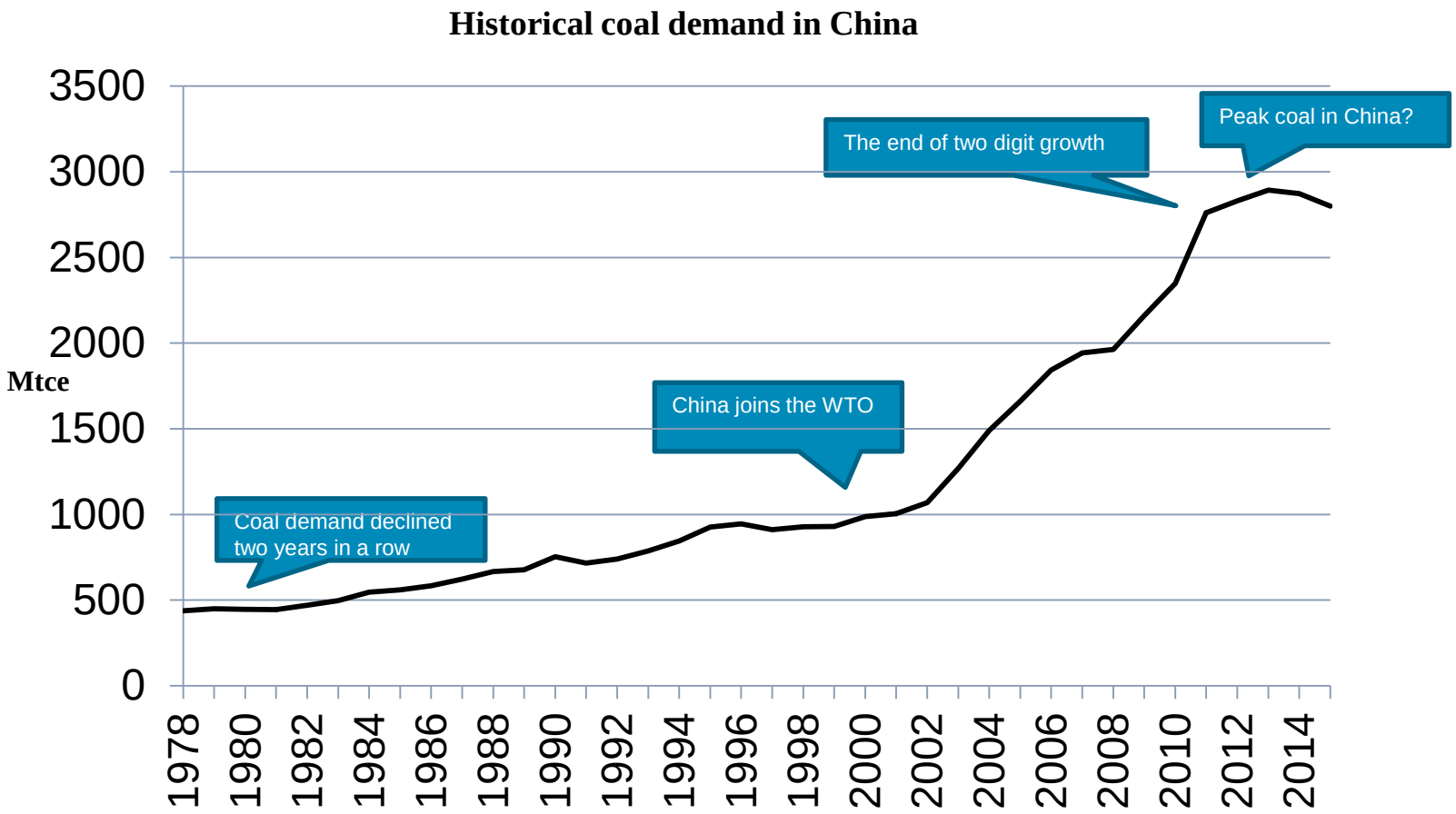


China has been the engine of coal growth



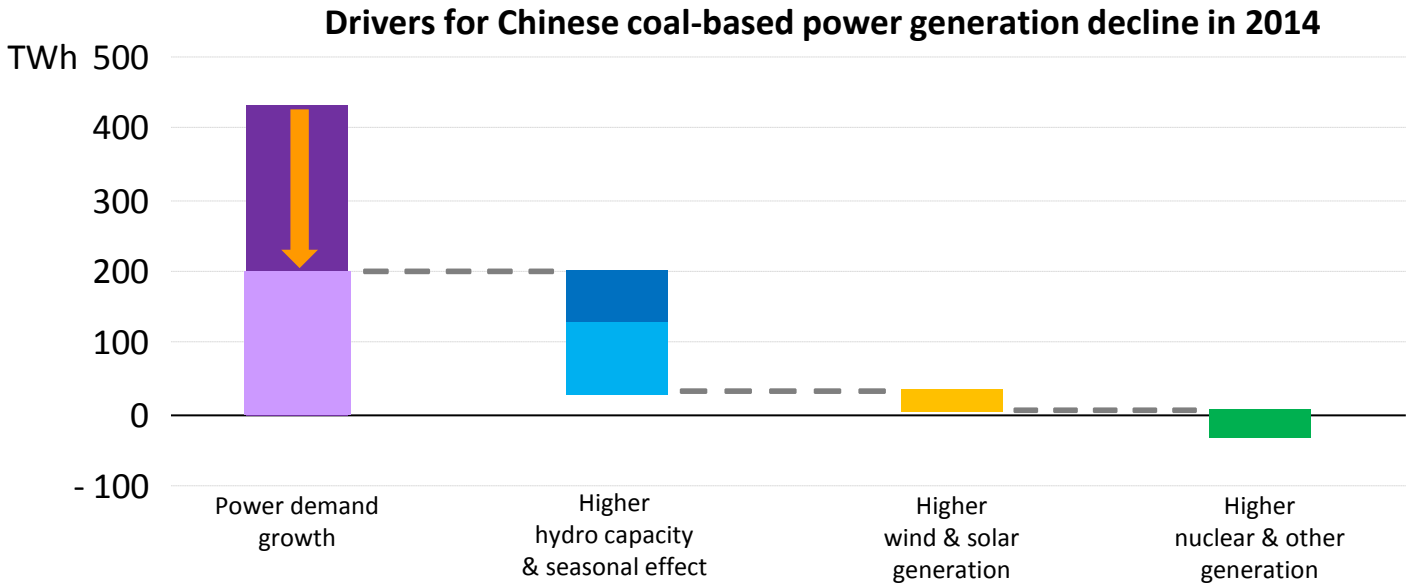
China led the coal growth since 2000 (85% of global growth, with India 15%). Currently, half of the global coal is burned in China

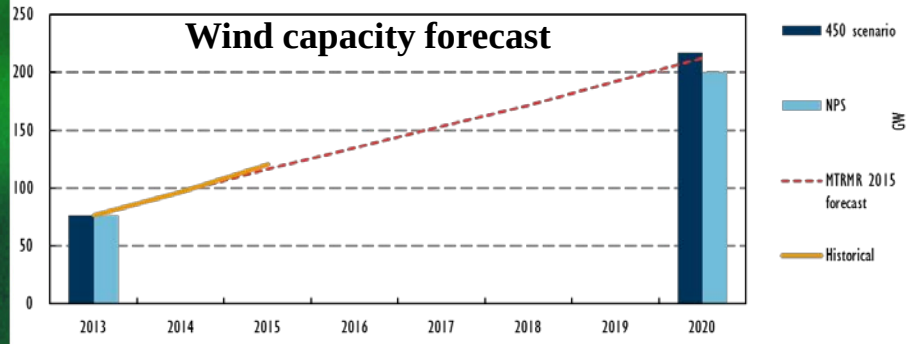
Saturation of growth in Chinese coal

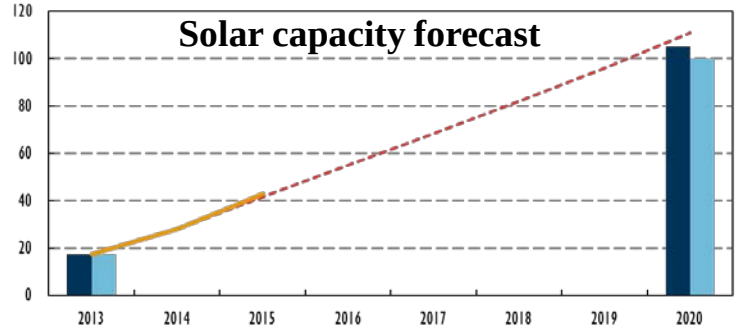


After the take off in 2001 and a golden decade of average annual growth around 10%, a new era for coal in China has started

Power generation, the big driver





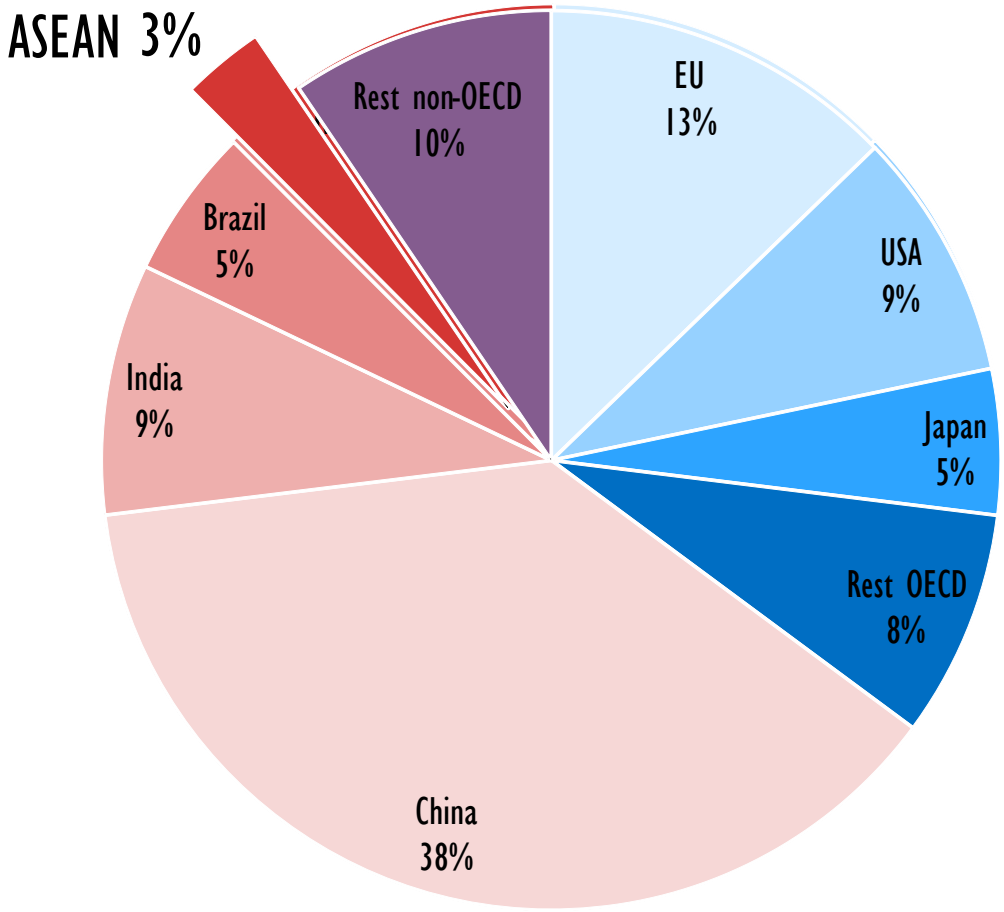


REN and low-carbon sources of power play a role curtailing coal demand, but economic slowdown and rebalancing is a major driver

Growth shifting to emerging markets and developing countries

RENEWABLE ENERGY
Medium-Term Market Report 2015

Shares of net additional renewable capacity, 2014-20

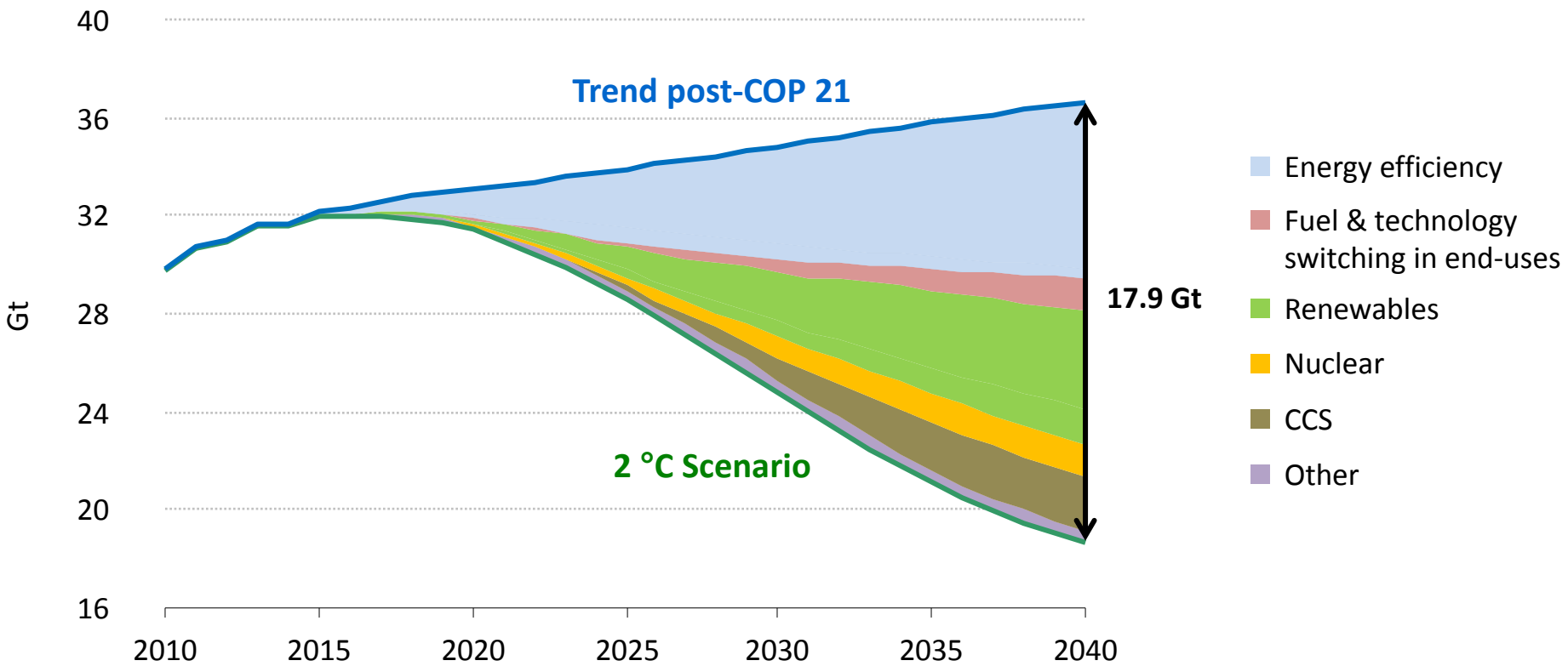


As the OECD slows, non-OECD countries account for two-thirds of renewable growth, driven by fast-growing power demand, diversification needs and local pollution concerns

Greater efforts are still needed to reach a 2 °C pathway

World Energy Outlook 2015

CO_2 emissions in a post COP 21 world



Energy efficiency & renewables account for the bulk of the additional emission reductions required for a 2 °C pathway, but all forms of clean energy are needed

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Thank you