

International Energy Outlook 2017



for

Eighth IEA-IEF-OPEC Symposium on Energy Outlooks

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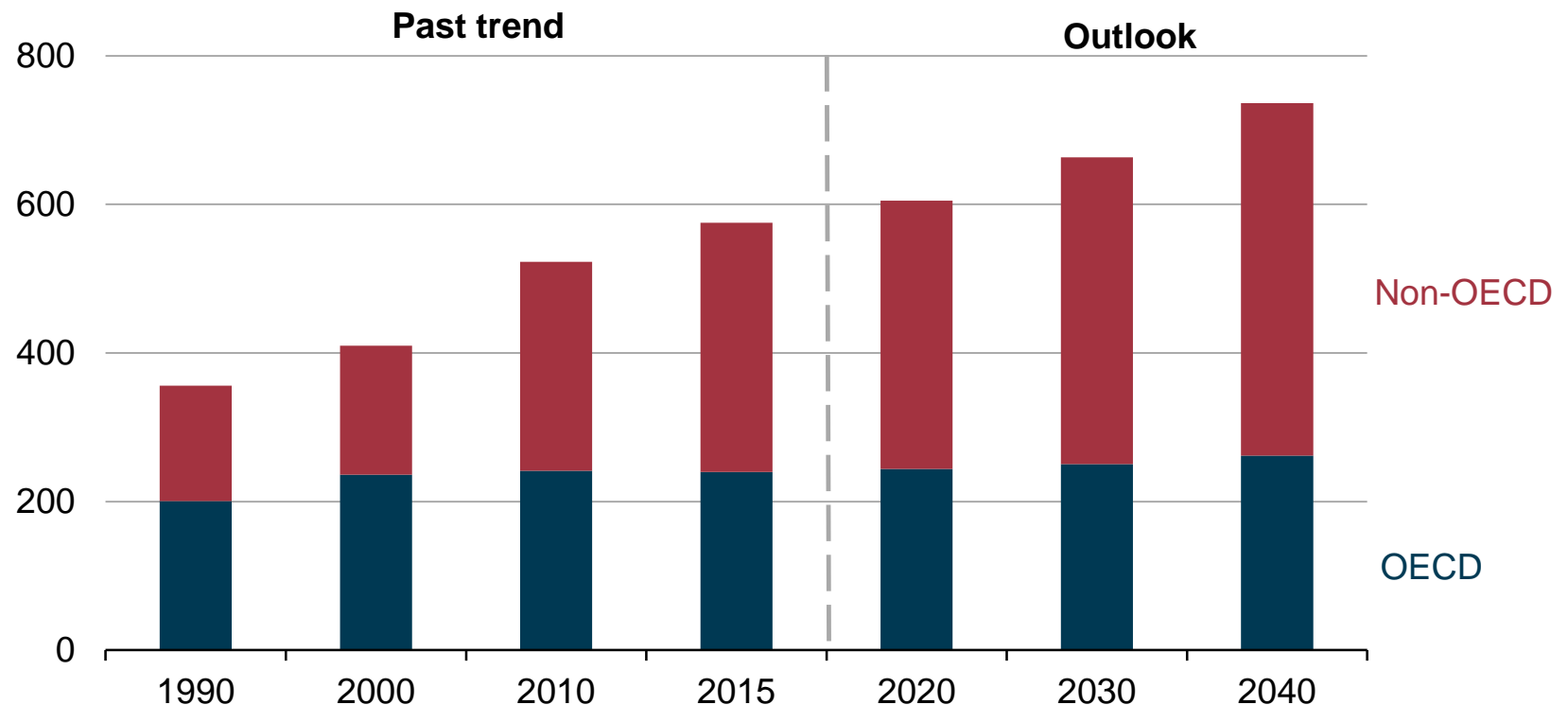
U.S. Energy Information Administration

IEO2017 Highlights (Reference case)

- World energy consumption increases from 575 quadrillion Btu in 2015 to 736 quadrillion Btu in 2040, a 28% increase
 - More than 60% of the increase in energy consumption comes from non-OECD Asia
 - Even though demand in the residential and transportation sectors grows more rapidly, the industrial sector still accounts for over 50% of delivered energy consumption in 2040
- Renewable energy is the world's fastest-growing energy source, increasing an average 2.8%/year between 2015 and 2040
- Fossil fuels remain dominant, supplying 77% of the world's energy consumption in 2040
 - Natural gas is the fastest growing fossil fuel with consumption increasing an average 1.4%/year between 2015 and 2040, and its use in electricity generation rises an average of 2.8%/year
 - The use of petroleum and other liquid fuels in the transportation sector continues to increase through 2040, but their share decreases from 95% to 88% as the use of alternative fuels increases

World energy consumption rises 28% between 2015 and 2040 in the Reference case with most of the increase occurring in non-OECD countries

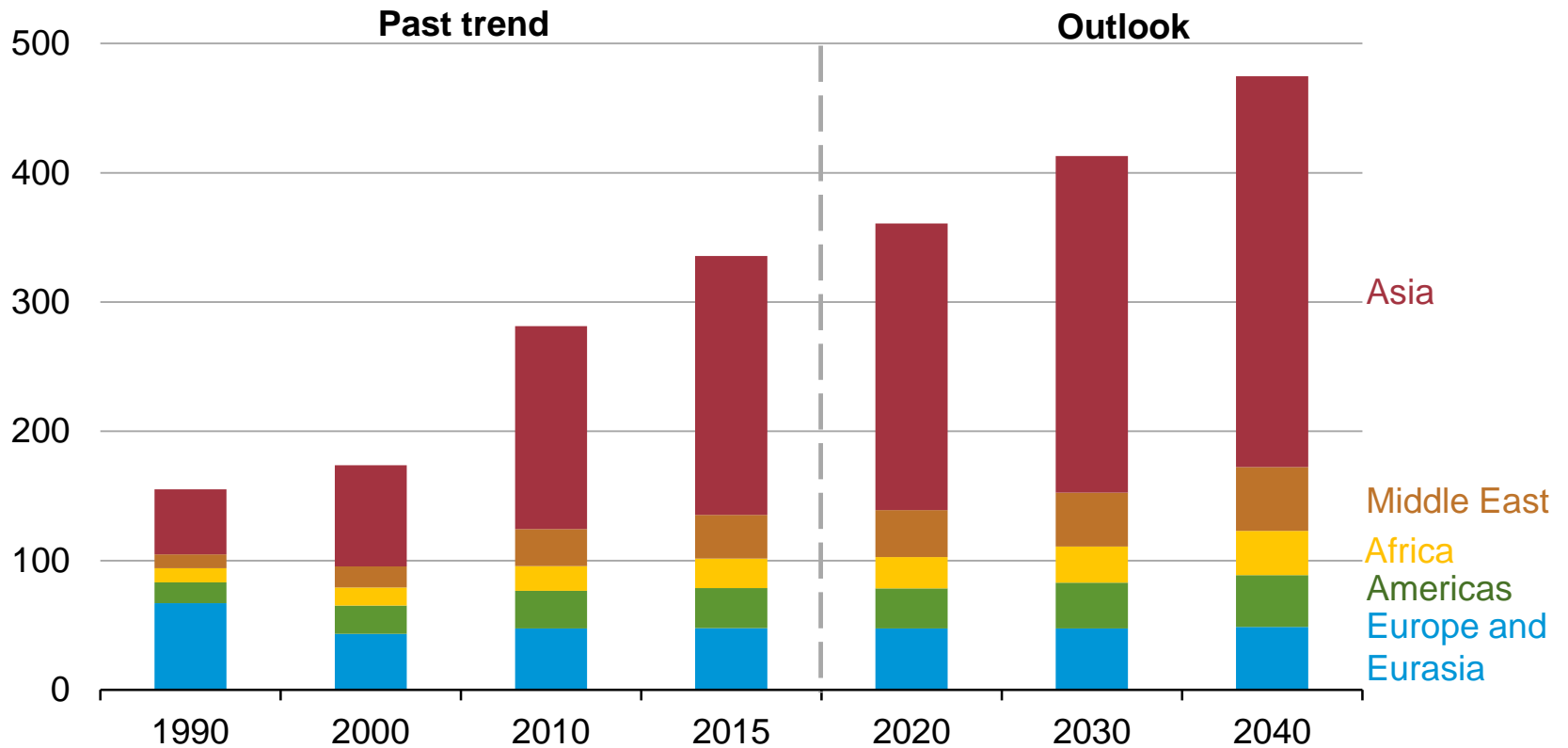
World energy consumption quadrillion Btu



Source: EIA, International Energy Outlook 2017

Asia accounts for most of the increase in energy use in non-OECD regions in the Reference case

Non-OECD energy consumption by region
quadrillion Btu

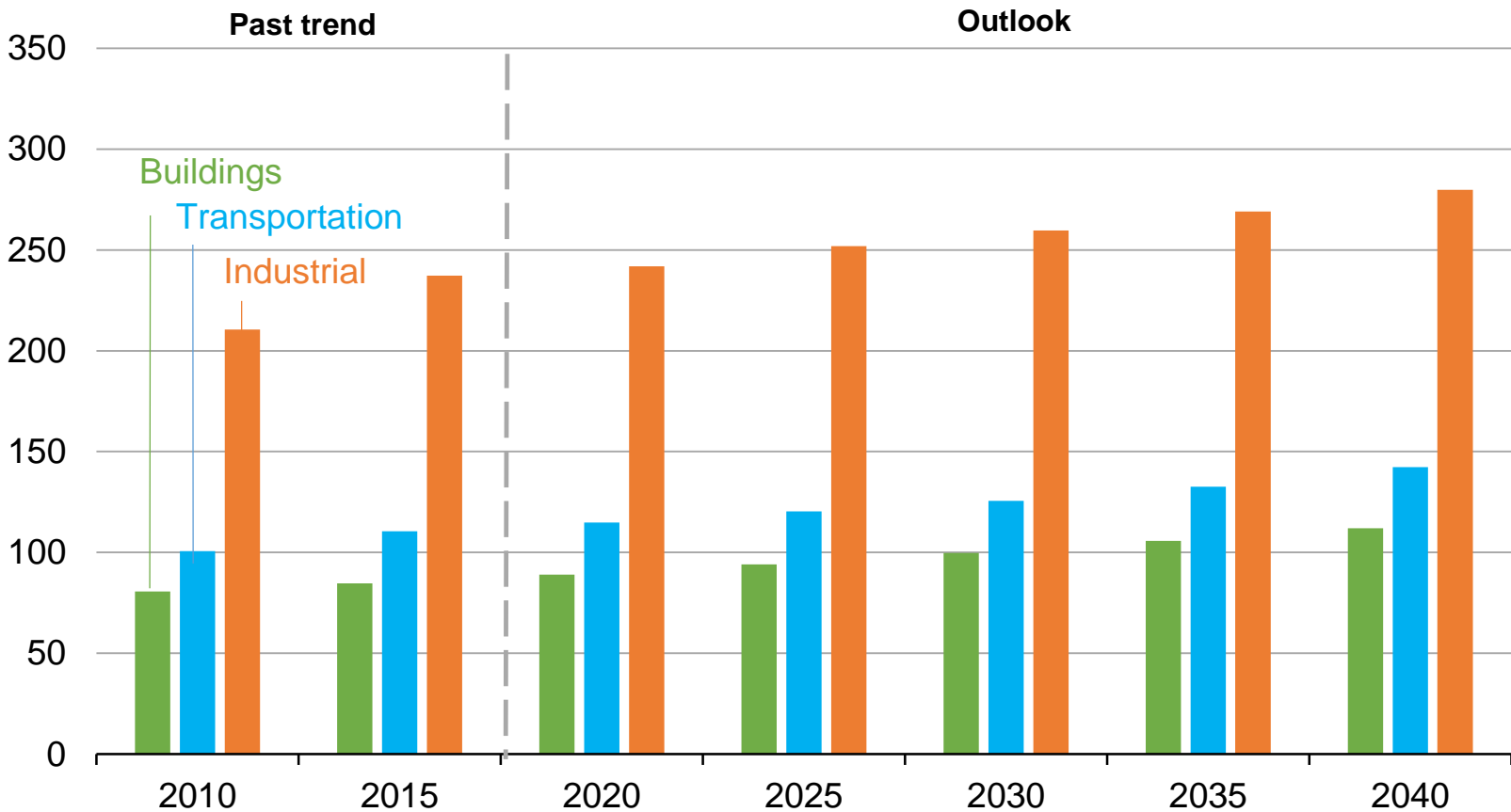


Source: EIA, International Energy Outlook 2017

The industrial sector continues to account for the largest share of energy consumption through 2040 in the Reference case

World energy consumption by end-use sector

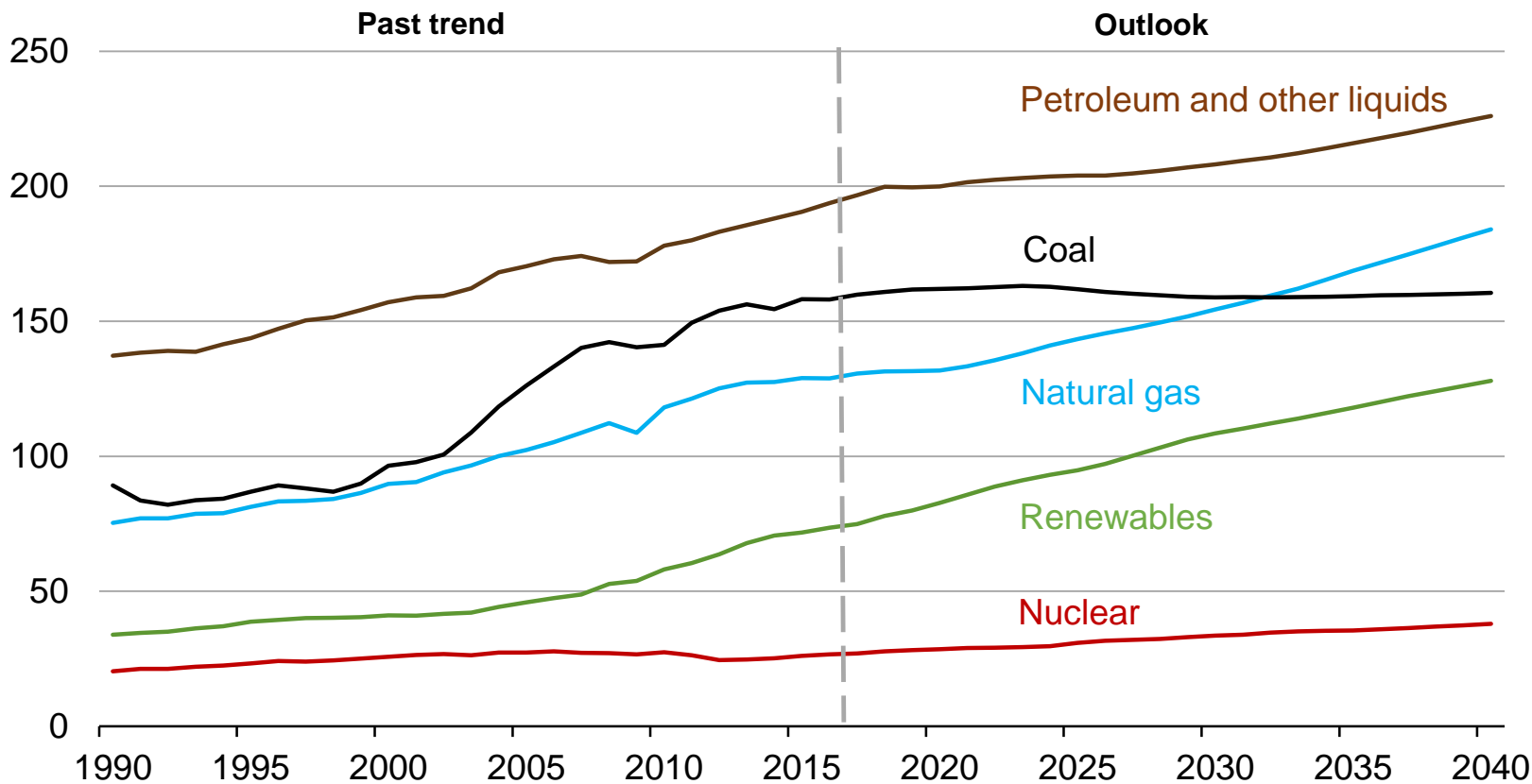
quadrillion Btu



Source: EIA, International Energy Outlook 2017

Energy consumption increases over the projection for all fuels other than coal in the Reference case with renewables being the fastest-growing energy source

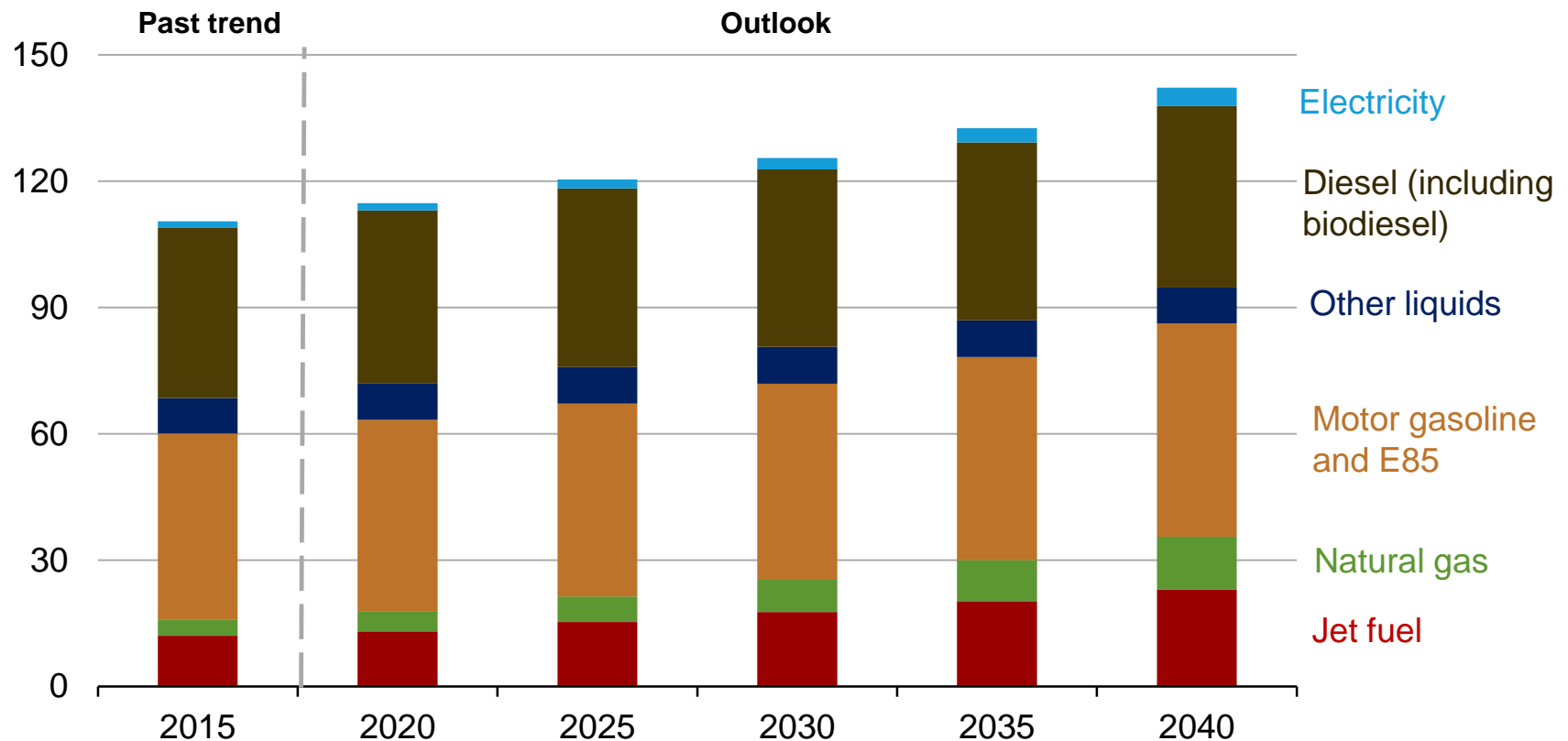
World energy consumption by energy source
quadrillion Btu



Source: EIA, International Energy Outlook 2017

Motor gasoline and diesel continue to dominate the transportation fuel mix, but jet fuel, natural gas, and electricity grow fastest in the Reference case

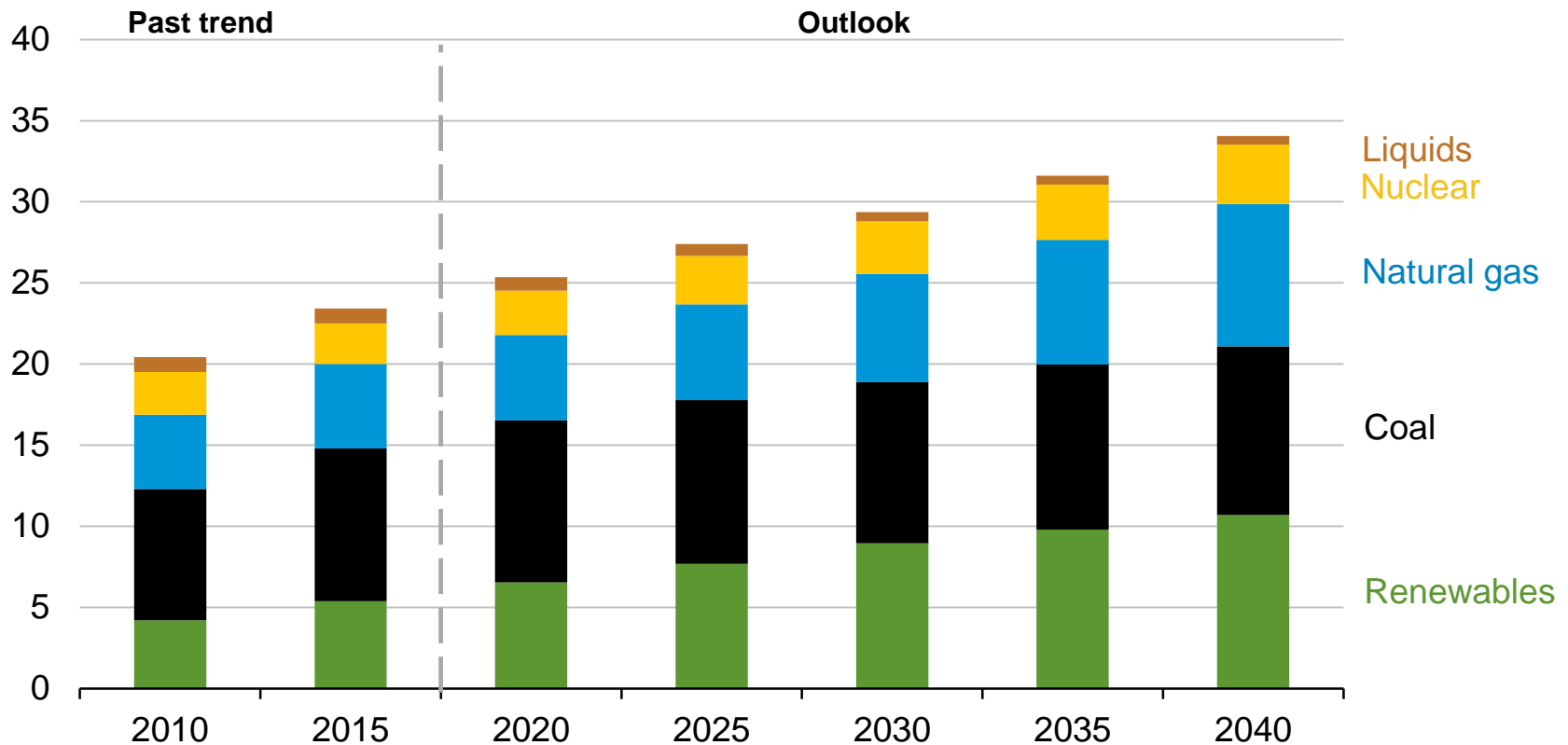
Transportation sector delivered energy consumption by source
quadrillion Btu



Source: EIA, International Energy Outlook 2017

In the Reference case, renewables and natural gas provide much of the growth in electricity generation with their combined share of the total rising to 57% in 2040

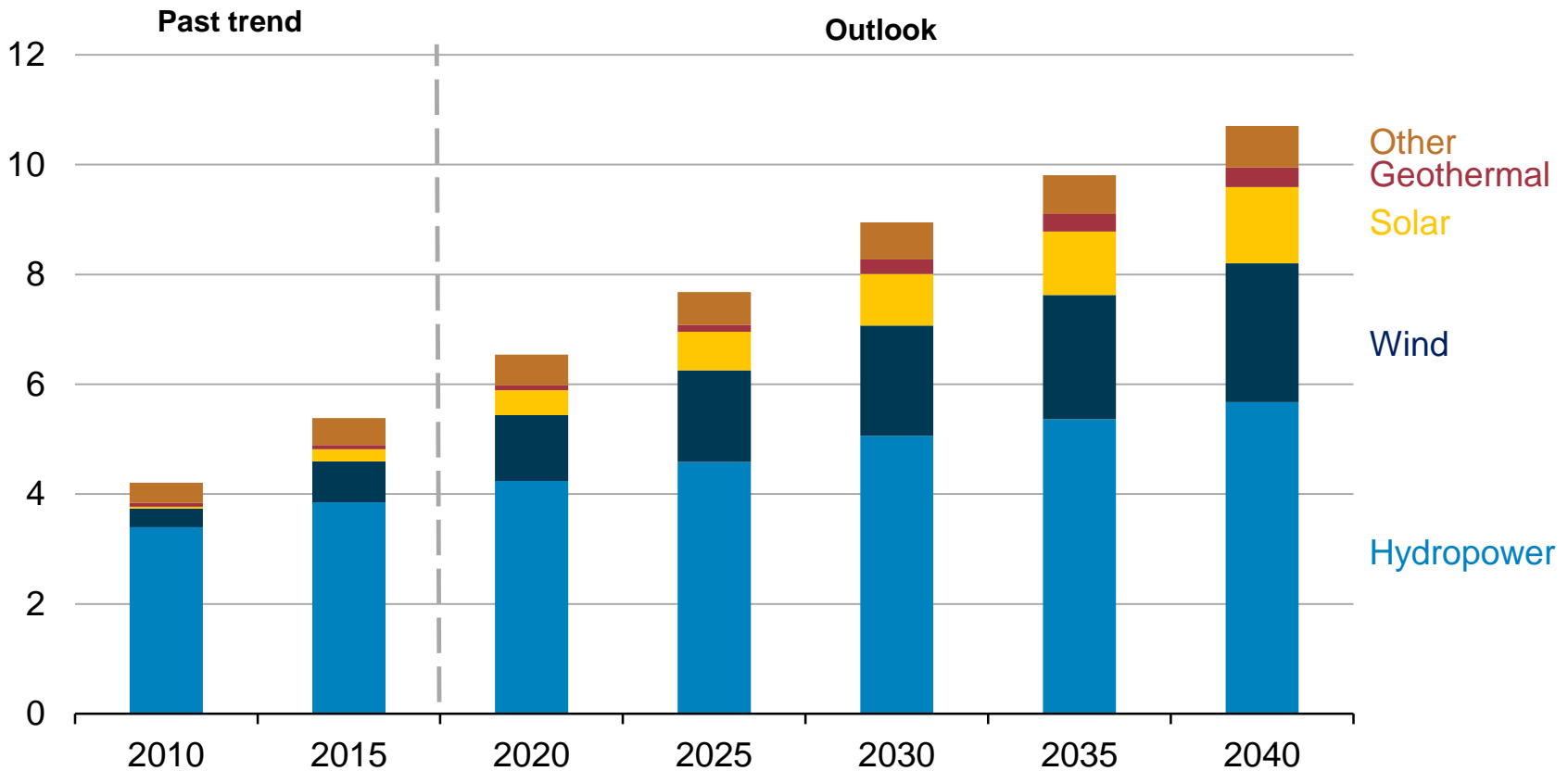
World electricity generation by fuel
trillion kilowatthours



Source: EIA, International Energy Outlook 2017

Wind and solar dominate growth in renewables and represent two-thirds of related capacity additions by 2040

World net electricity generation from renewable power
trillion kilowatthours

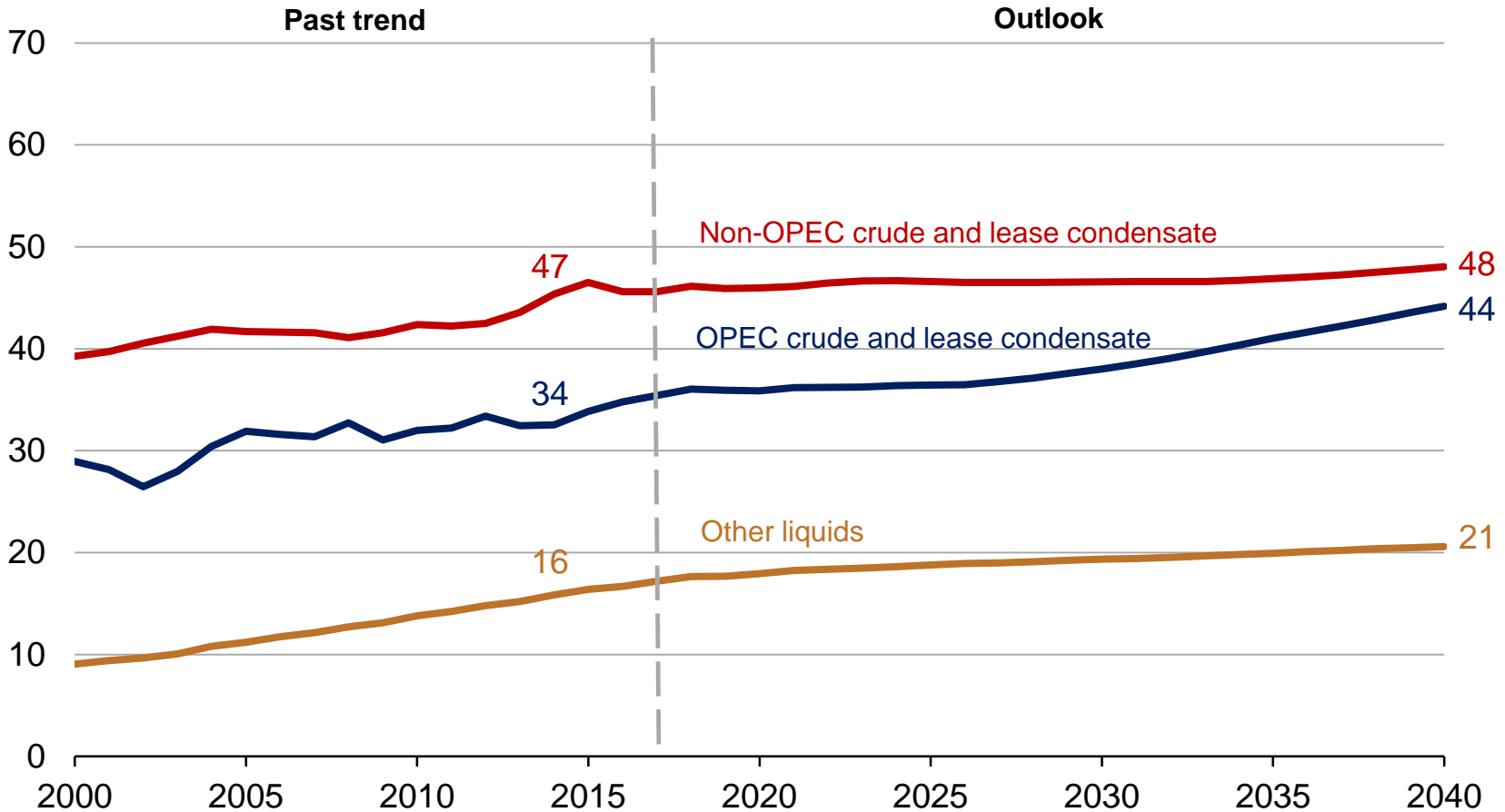


Source: EIA, International Energy Outlook 2017

Liquid fuel supplies increase from 2015 to 2040 with most of the growth occurring in OPEC crude oil and lease condensate

World petroleum and other liquids production

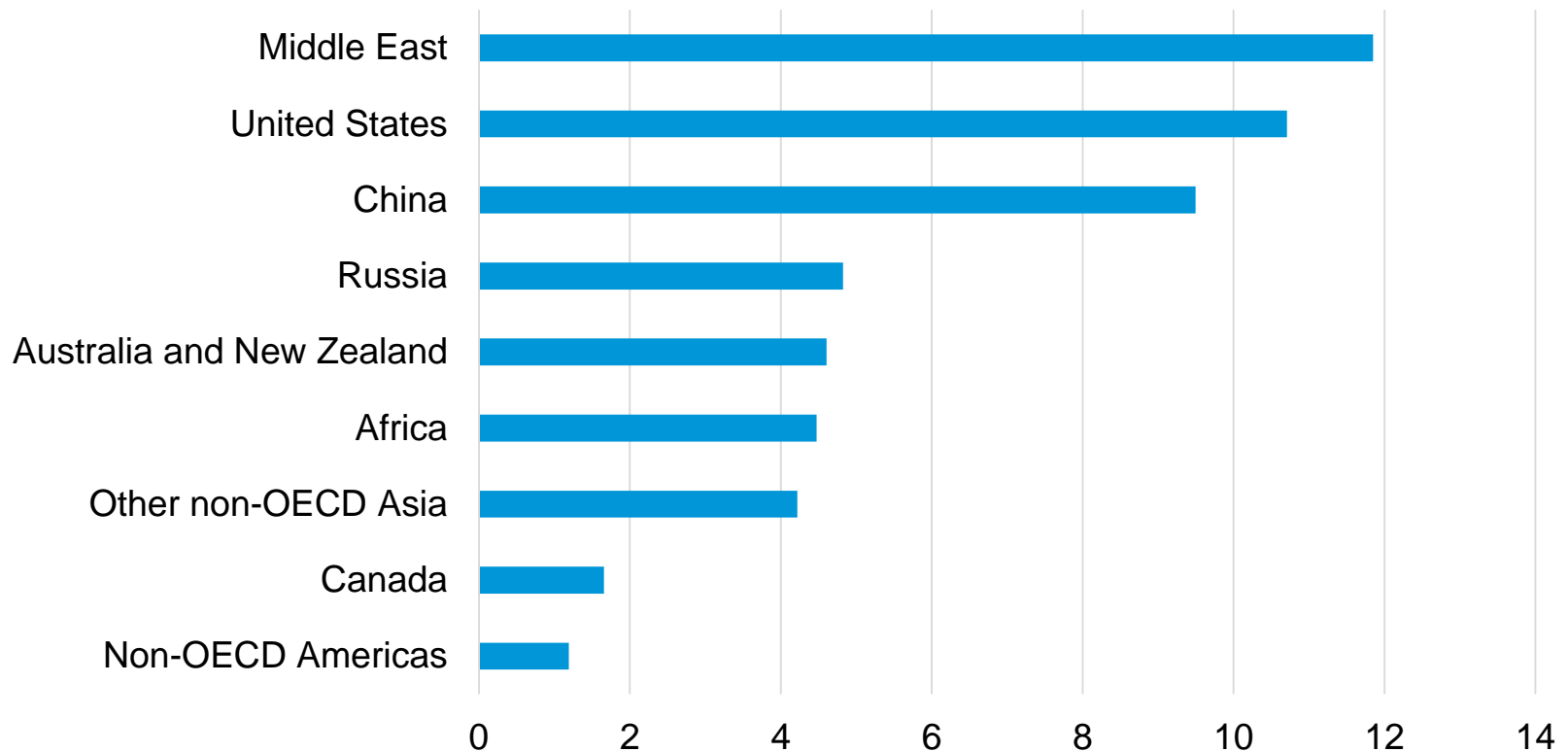
million barrels per day



Source: EIA, International Energy Outlook 2017

Middle East, the United States, and China account for more than 60% of the world increase in natural gas production

Increase in natural gas production, 2015-40
trillion cubic feet



Source: EIA, *International Energy Outlook 2017*

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