



10th IEA-IEF-OPEC Outlook Symposium
Comparative Analysis Findings

Richard Newell, President and CEO, Resources for the Future

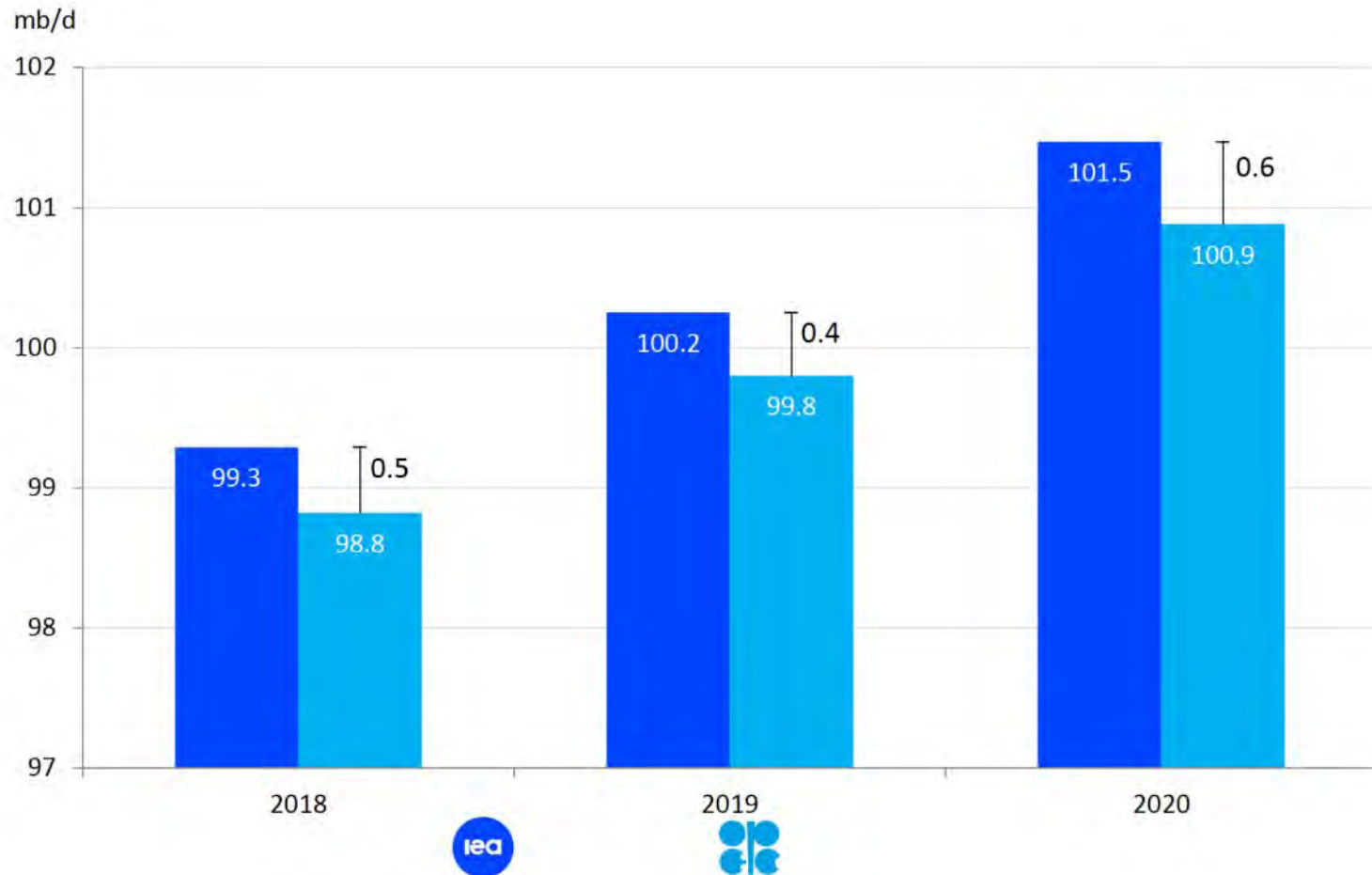
Flow

1. **IEA and OPEC outlooks for liquids**
2. IEA and OPEC outlook for transportation sector energy demand
3. RFF's Global Energy Outlook: IEA and OPEC in the context of other outlooks



Global oil demand grows by roughly 1 mb/d, with differences largely attributable to base years (note that recent revisions show the Coronavirus reducing 2020 demand)

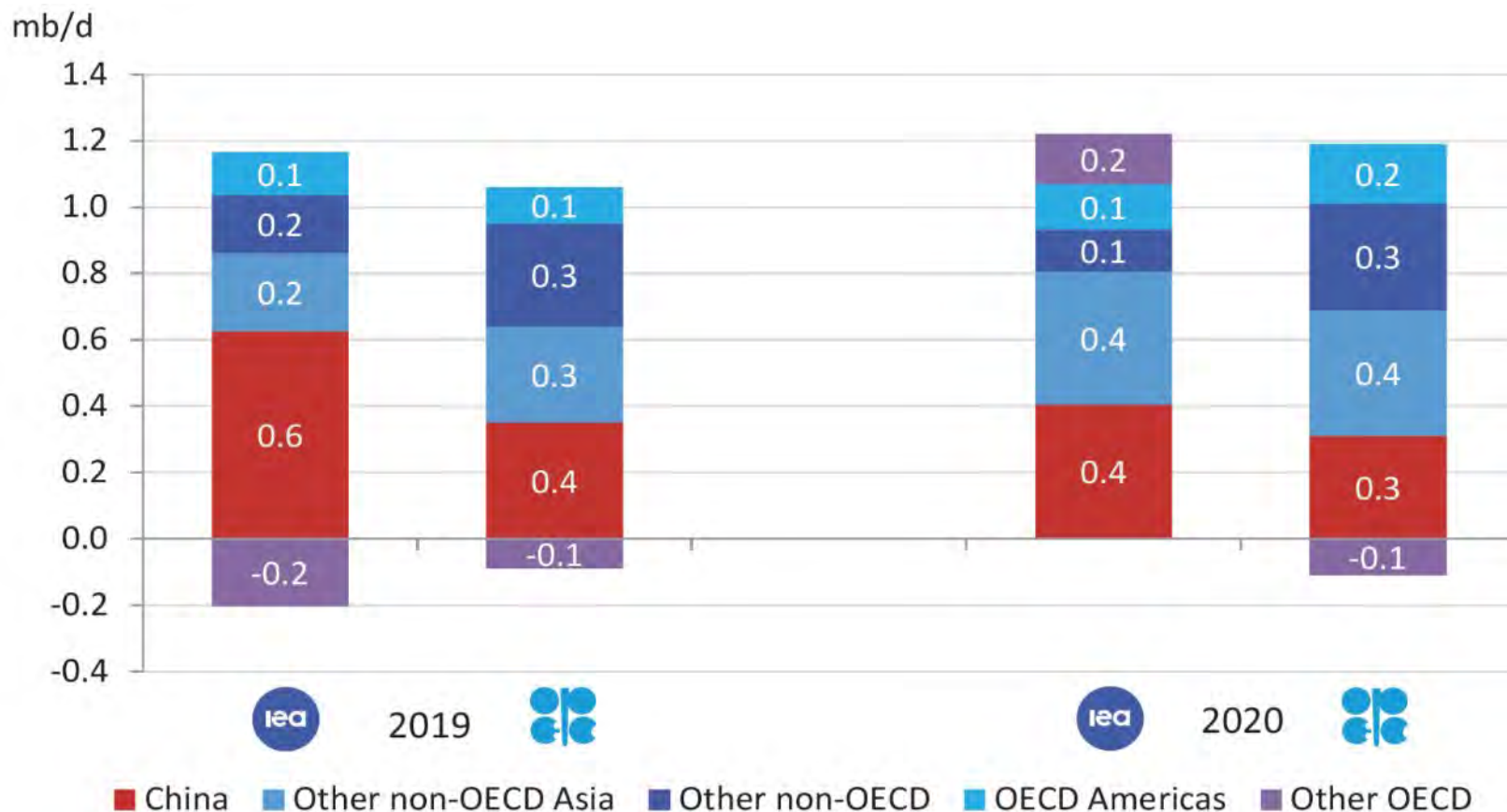
Short-term World Liquids Demand: 2018-2020



The IEA is more bullish on demand growth in China, while OPEC is more bullish for other regions

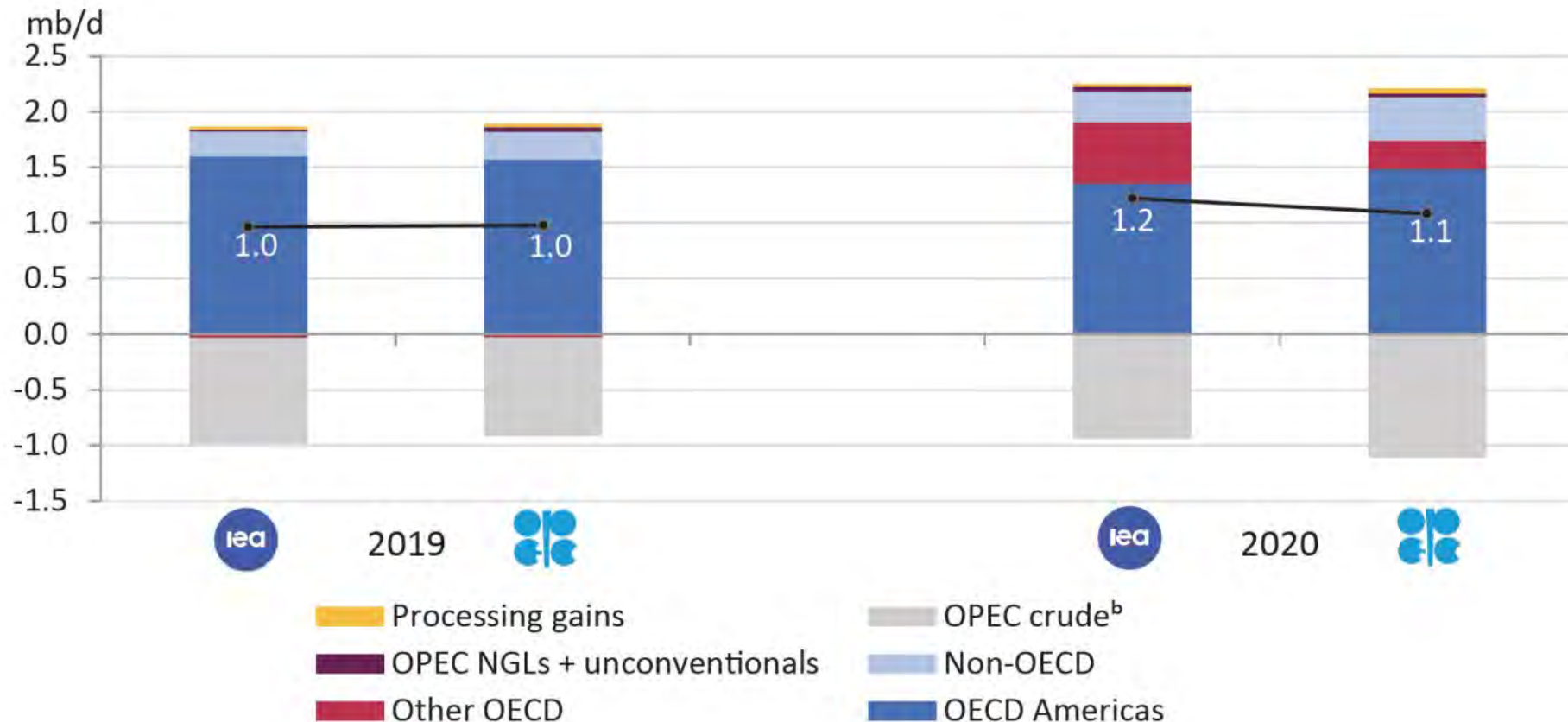
(Though recent revisions show slower growth in China due to Coronavirus)

Short-term World Liquids Demand Annual Growth 2019-2020

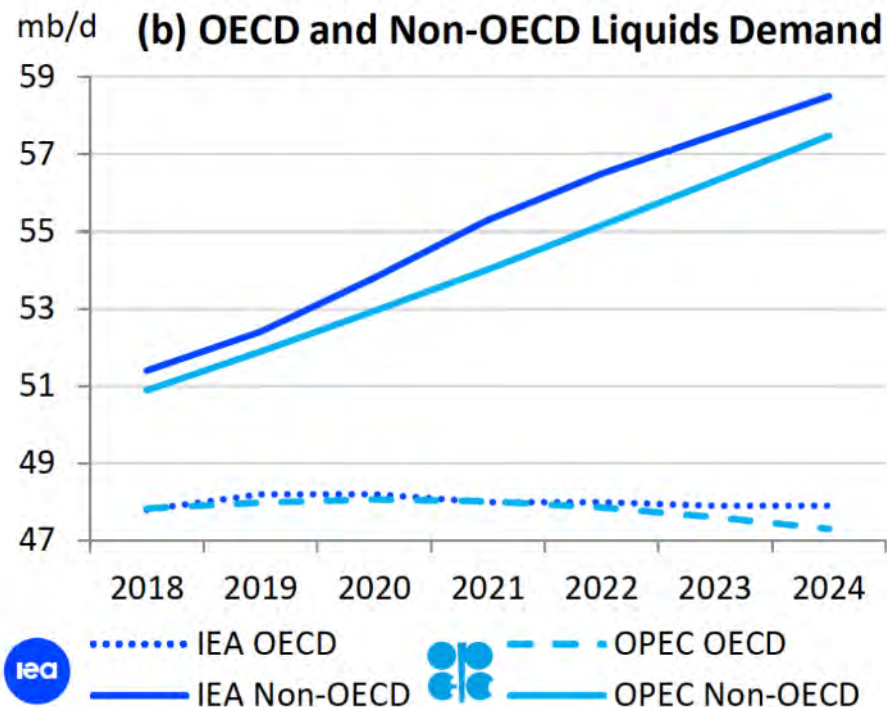
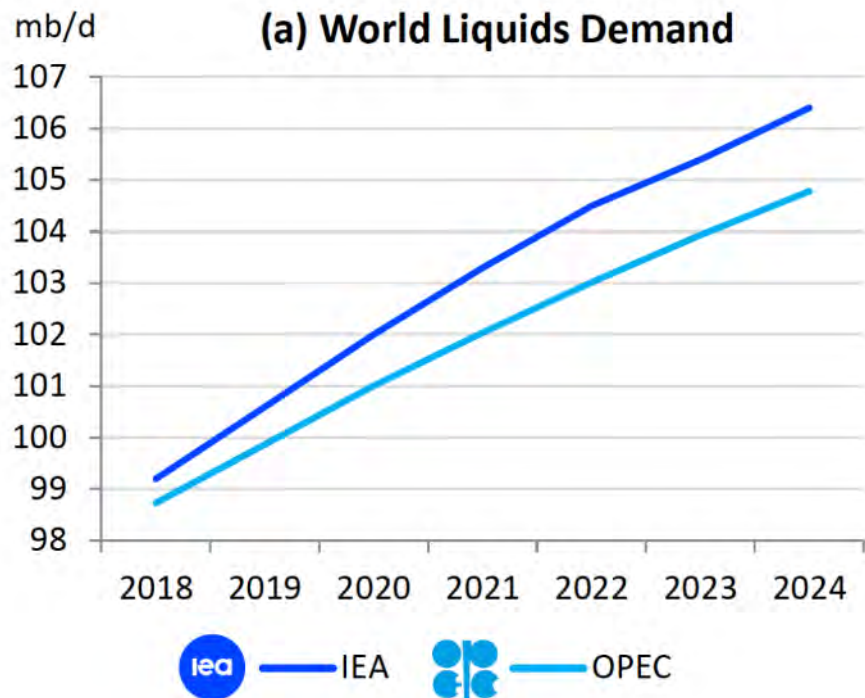


Liquids supply growth is driven by OECD Americas, while OPEC supplies decrease to help balance the market

Short-term Liquids Supply Net Annual Growth Forecasts

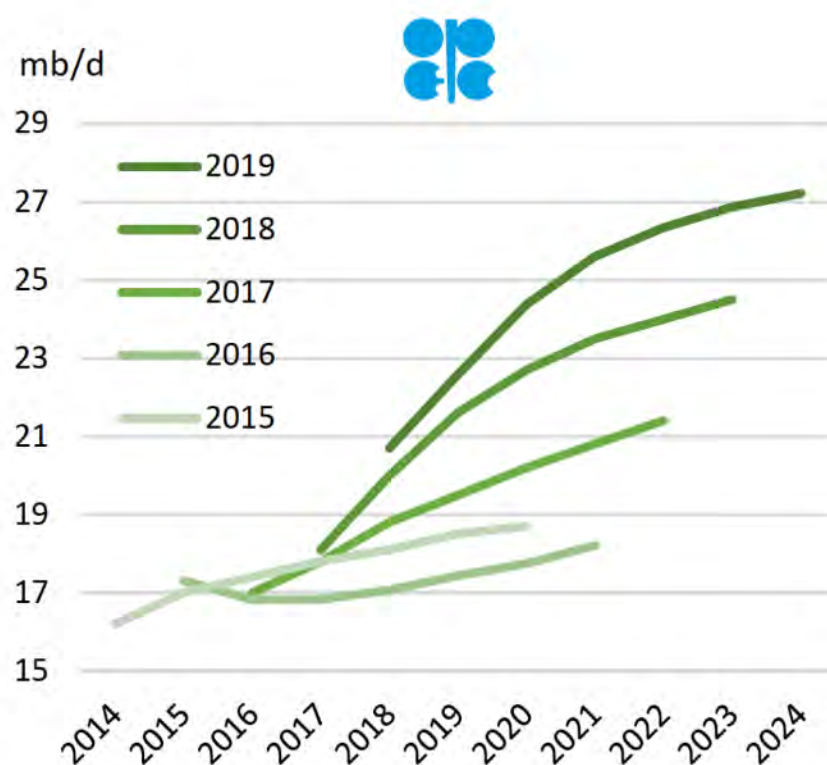
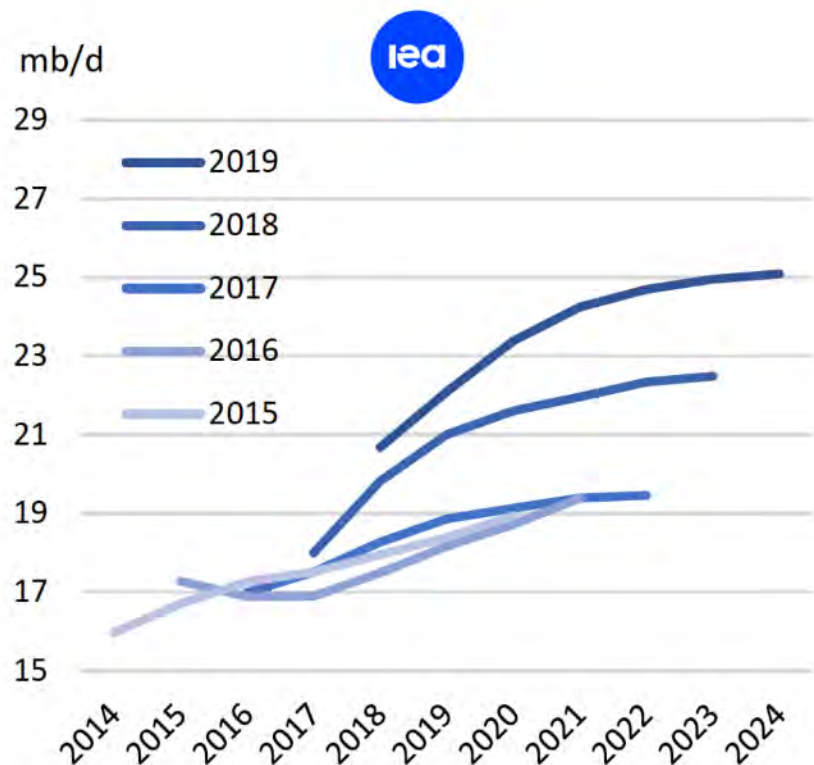


In the medium term, global liquids demand growth of about 1 mb/d annually is driven entirely by the non-OECD, led by developing Asia



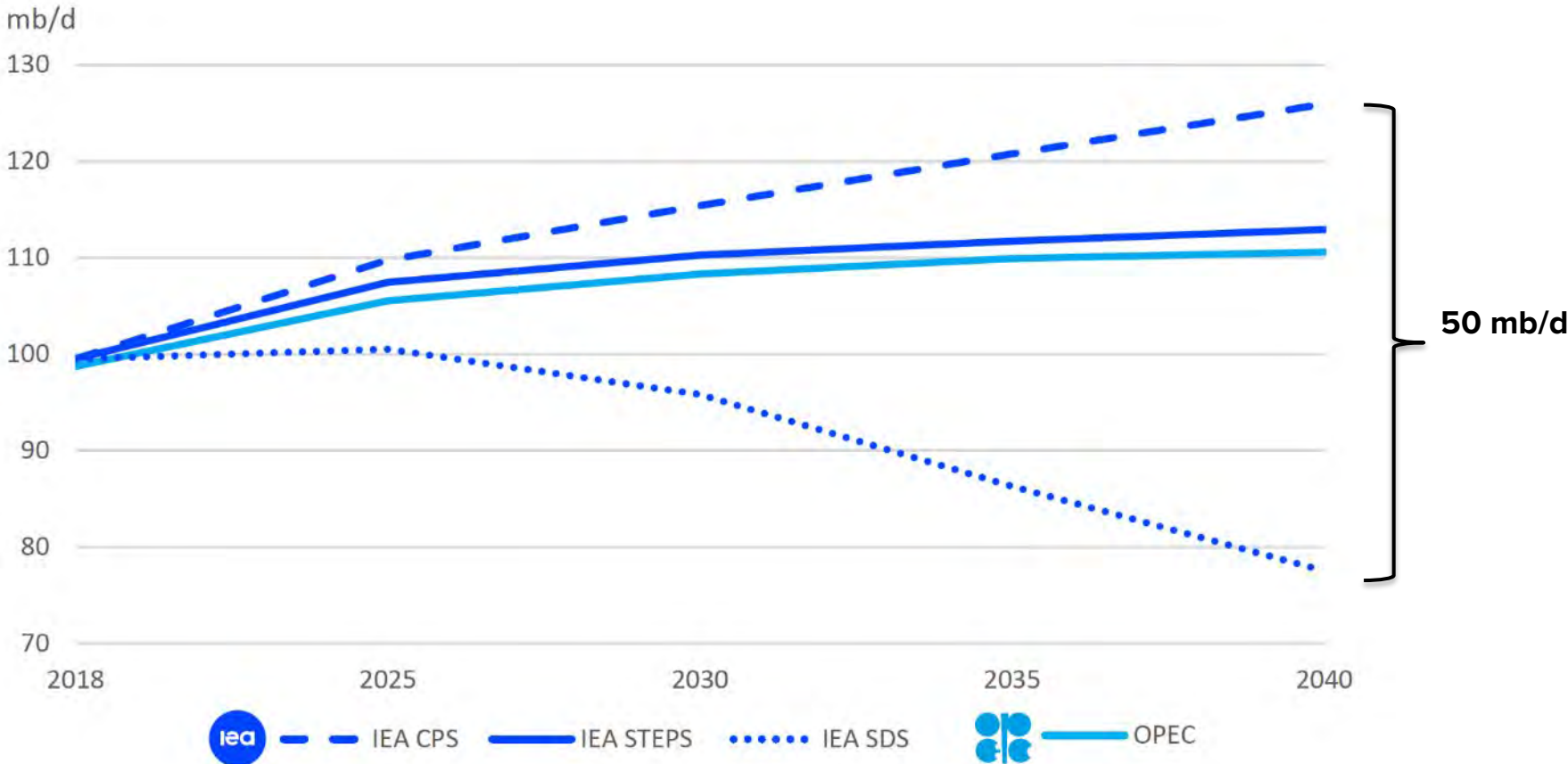
Oil supply from the US and Canada continues to outpace expectations, with OPEC projecting faster growth through 2024

Medium-term US and Canadian Oil Supply (excluding biofuels)



Long-term liquids demand projections vary by 50 mb/d, representing a widening gap between “business-as-usual” and ambitious climate goals

World Liquids Demand in Various Scenarios



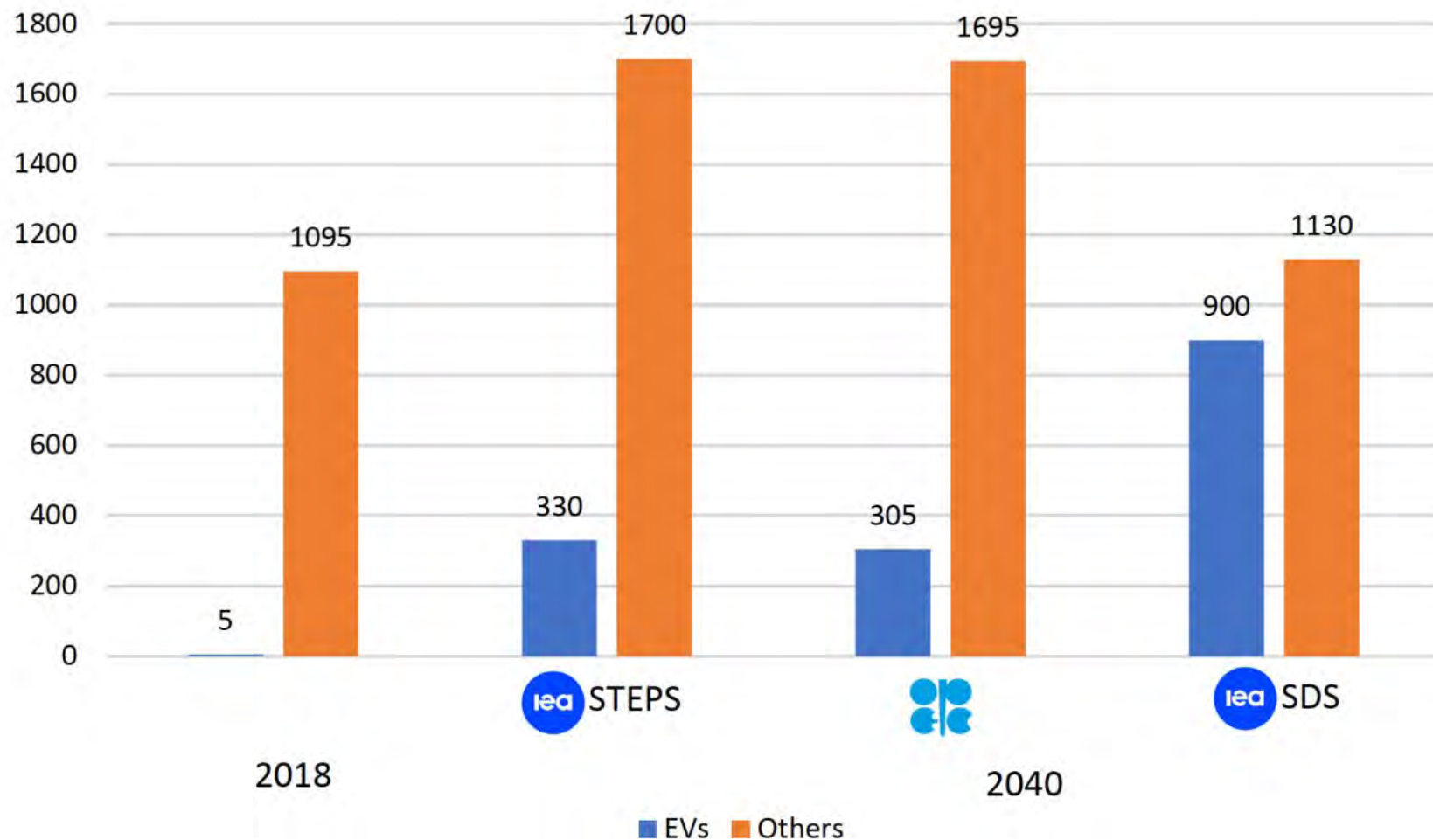
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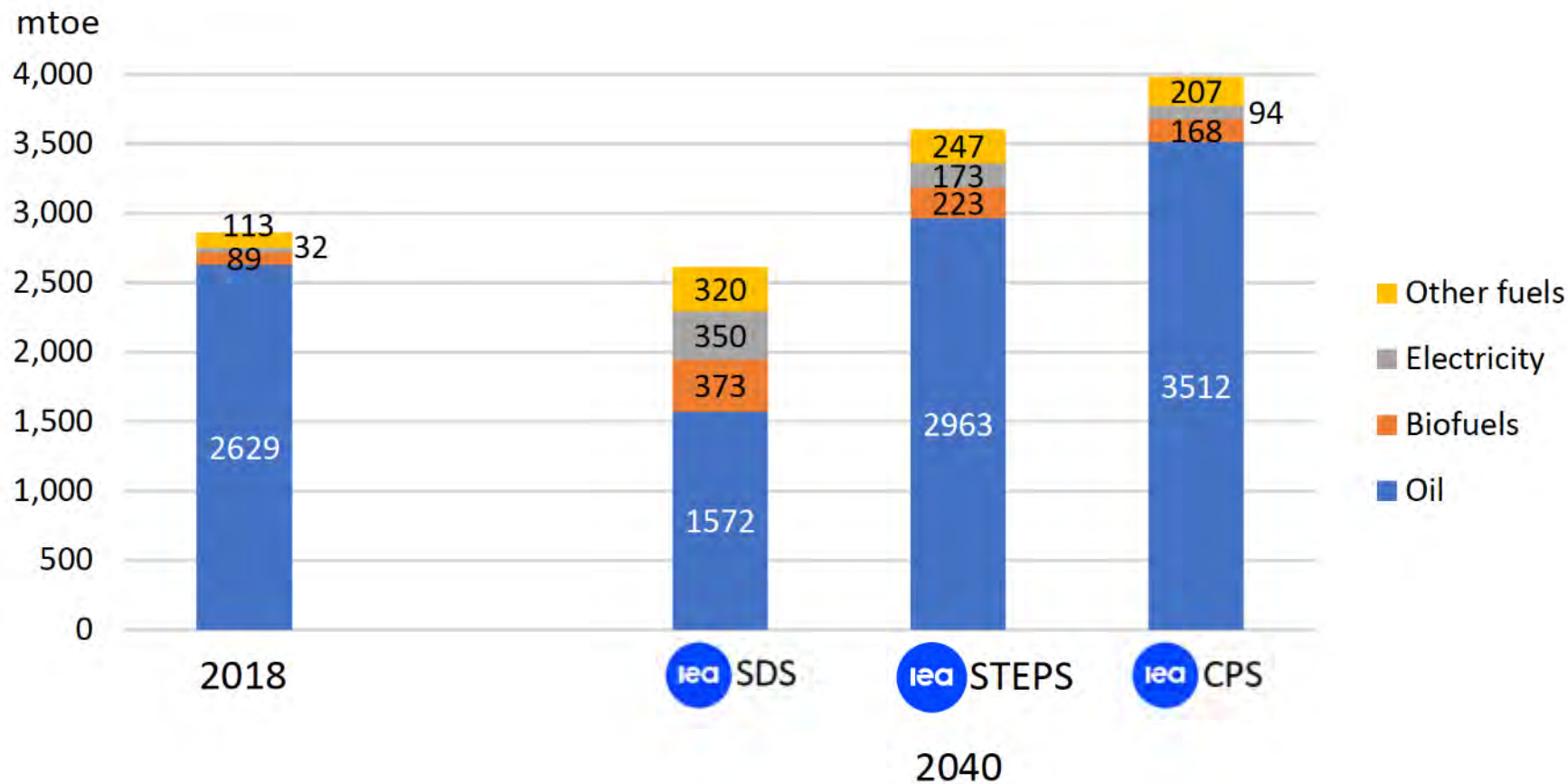
Central scenarios show substantial penetration of EVs, while more rapid growth occurs under the IEA SDS

Number of passenger vehicles by type, 2018 and 2040 (millions)



Liquids continue to dominate transport sector energy demand, though alternatives are projected to gain market share

Transportation sector fuel mix



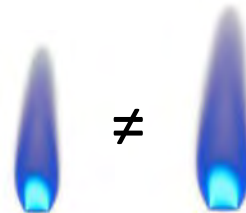
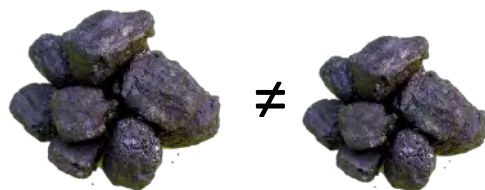
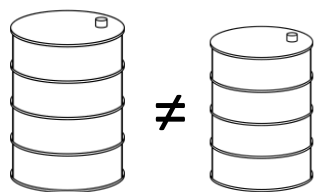
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About the Global Energy Outlook

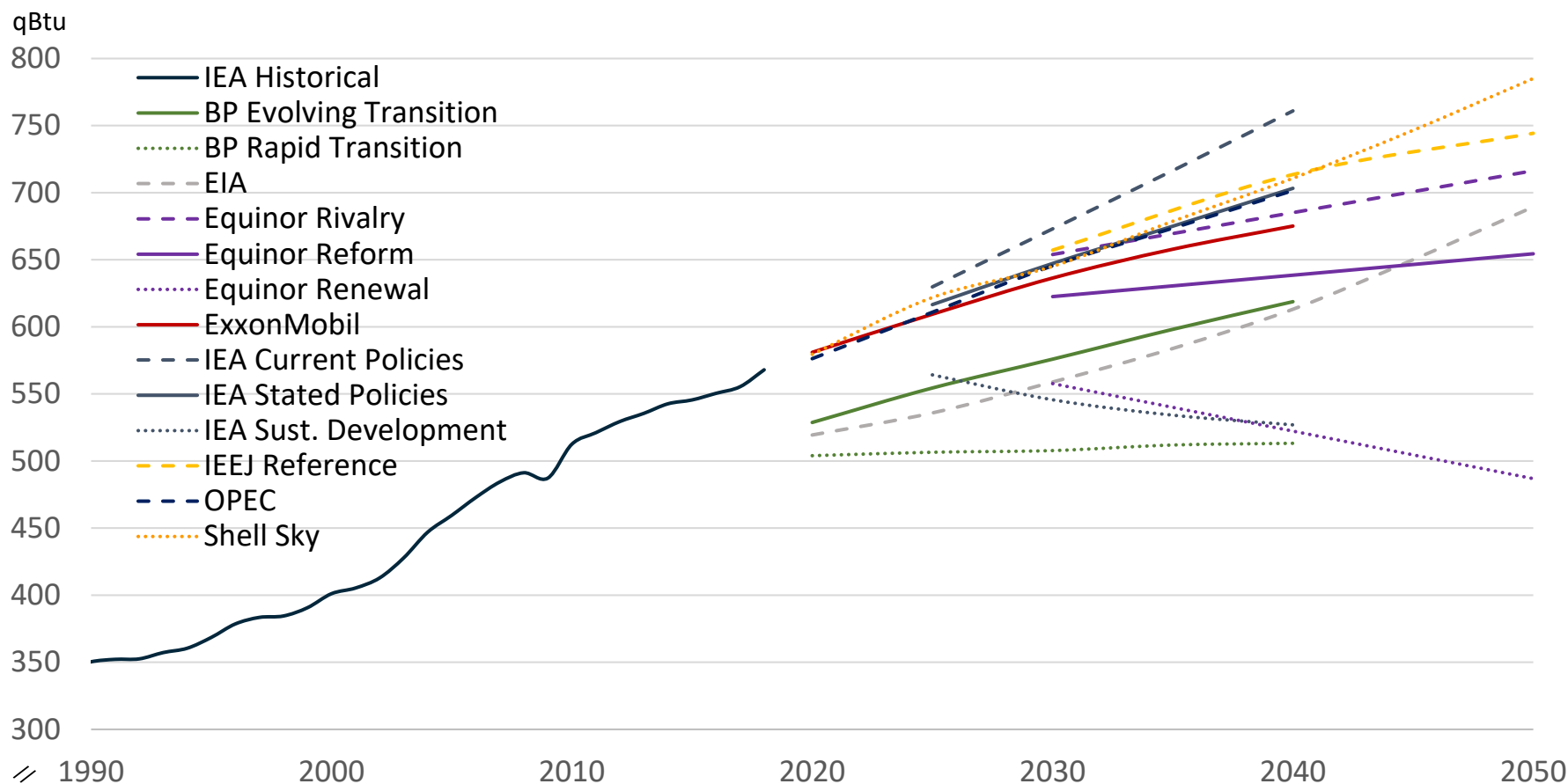
- Numerous organizations produce long-term energy outlooks
- But they are difficult, if not impossible to compare directly
 - Primary energy reporting units: TOE, qBtu, Joules, mboed
 - Primary energy content:



– And much more

- These differences prevent decision-makers from understanding the full range of potential energy futures
- Details and interactive data tool: www.rff.org/geo

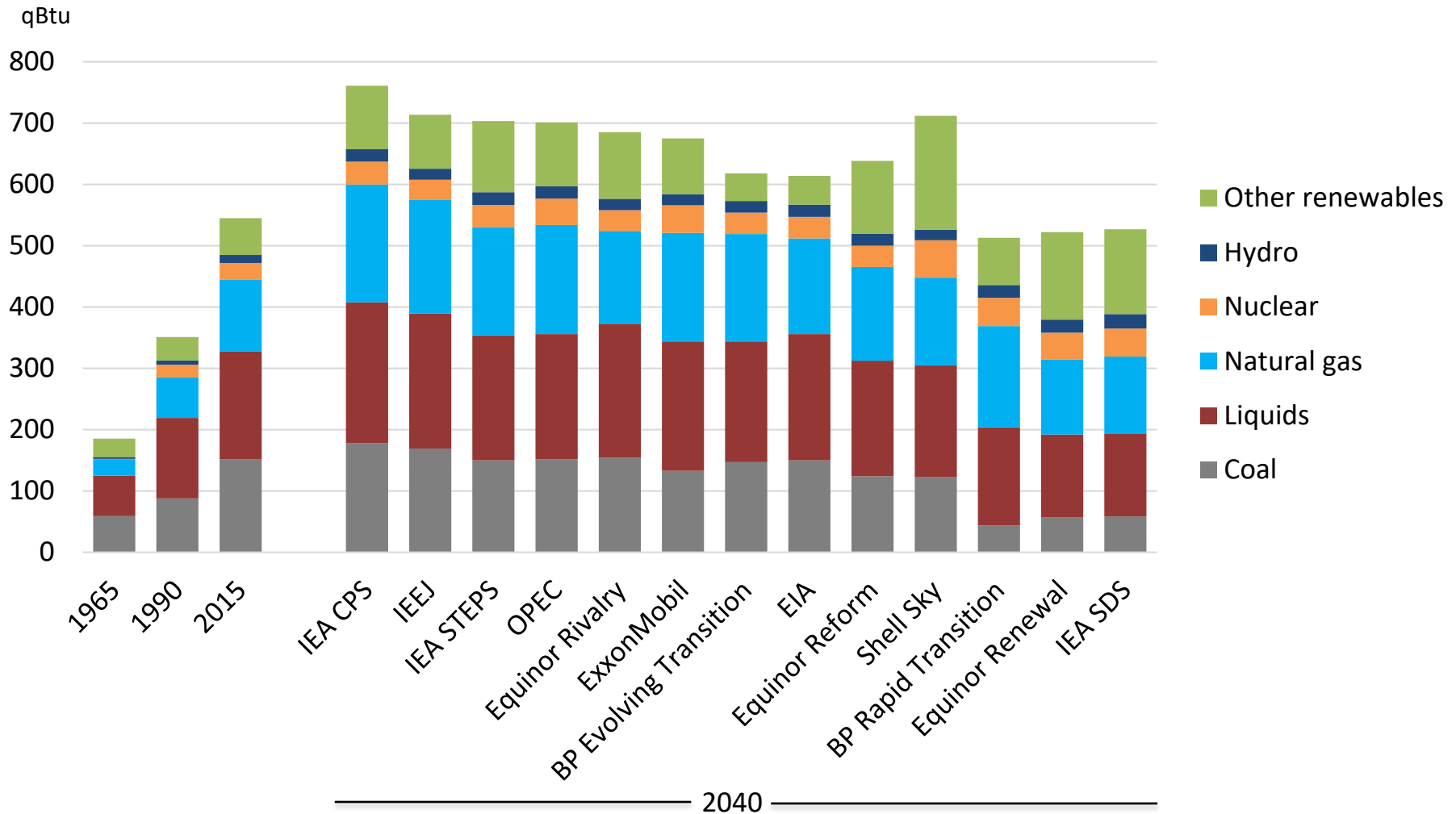
Global energy demand grows, except under some Ambitious Climate scenarios



Note: BP and EIA exclude non-marketed biomass energy.



The composition of the global energy mix varies widely across scenarios



Note: BP and EIA exclude non-marketed biomass energy, while other outlooks include this in "other renewables".



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