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3-1. Progress Report on the APEC Outlook 7th Edition

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First chapter drafts have been completed

	Q1 2017	Q2 2017	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	2019
Economy review of assumptions	✓								
Model development	✓	✓	✓						
Demand model runs			✓						
Power & supply model runs				✓					
Economy reviews of model results				✓					
Model reruns to respond to comments					✓				
Outlines, drafting of chapters					✓	✓			
Economy & expert reviews of chapter drafts and updates in response to comments							✓	✓	
Editing, printing								✓	✓
Publication									April

Modelling changes for the 7th edition

- Extend projection to 2050
- Use OECD GDP forecasts
- Make buildings model activity driven
- Start to change industrial model from top-down to bottom up
- Add buses and light trucks to the transportation model
- Distribute renewables to demand and electricity models
- Add a refinery model and a supply model
- Add an integrating module
- Extend investment model to include demand-side investment and fuel savings

‘Business as Usual’ Scenario

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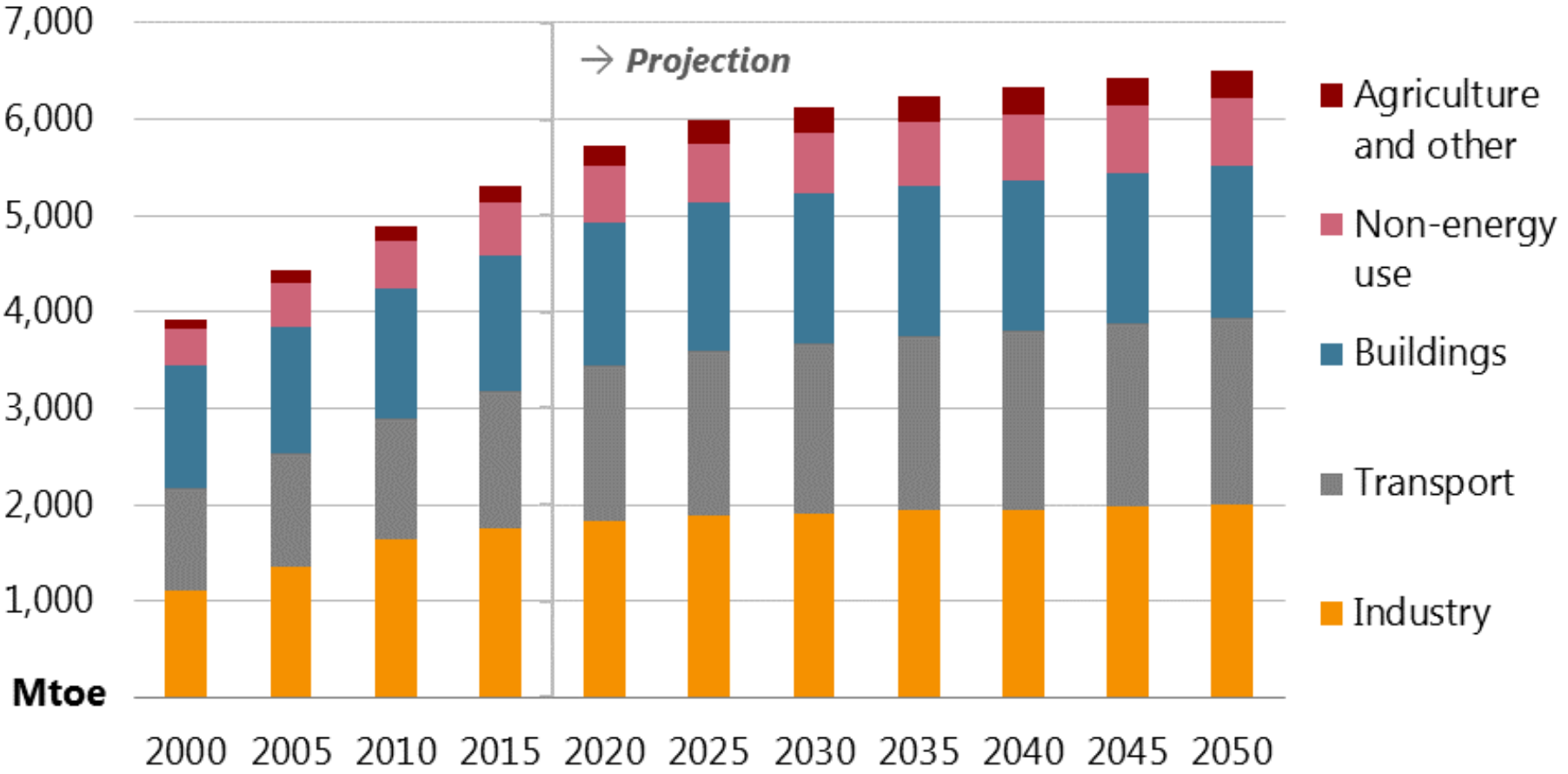
APEC energy demand growth slows to 2050

Final energy demand by consuming sector, 2000-2050

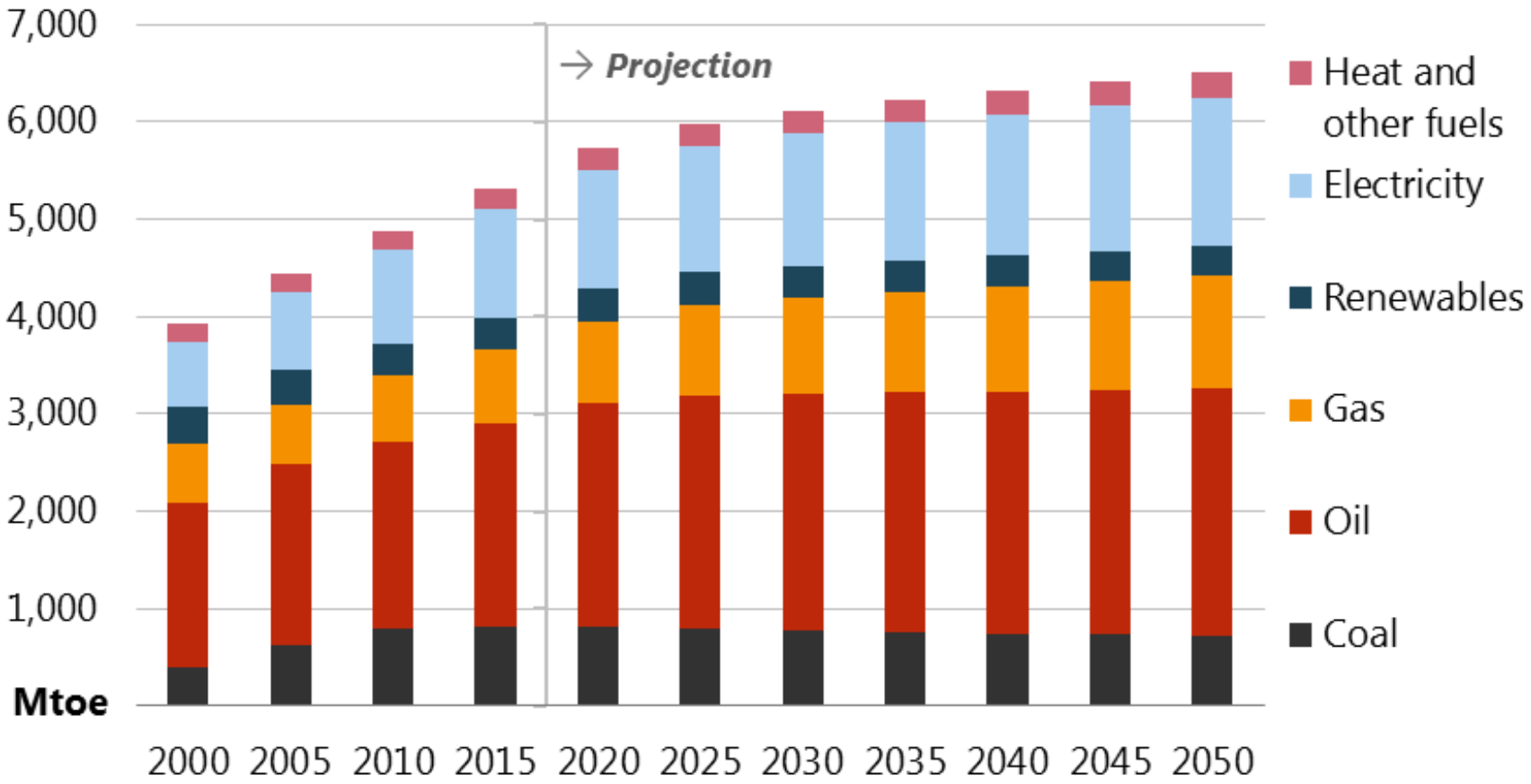


Source: IEA statistics 2017 and APERC analysis.

Final energy demand rises by 23% from 2015 to 2050. Transportation grows rapidly, almost overtaking industry as the largest consuming sector.

Oil remains the dominant end-use fuel in APEC

Final energy demand by fuel, 2000-2050

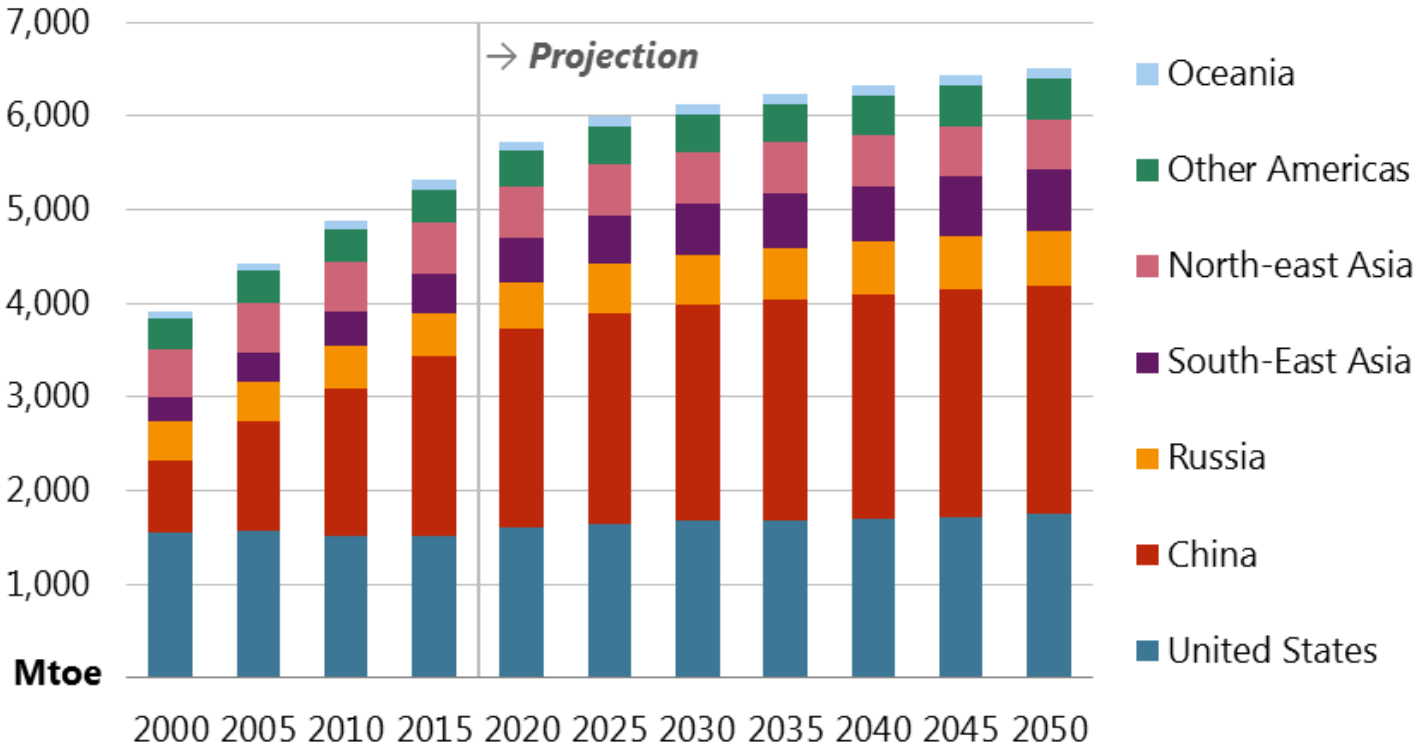


Source: IEA statistics 2017 and APERC analysis.

Demand for natural gas, electricity, and heat are all projected to grow faster than oil.

China and the US dominate APEC demand

Final energy demand by region, 2000-2050



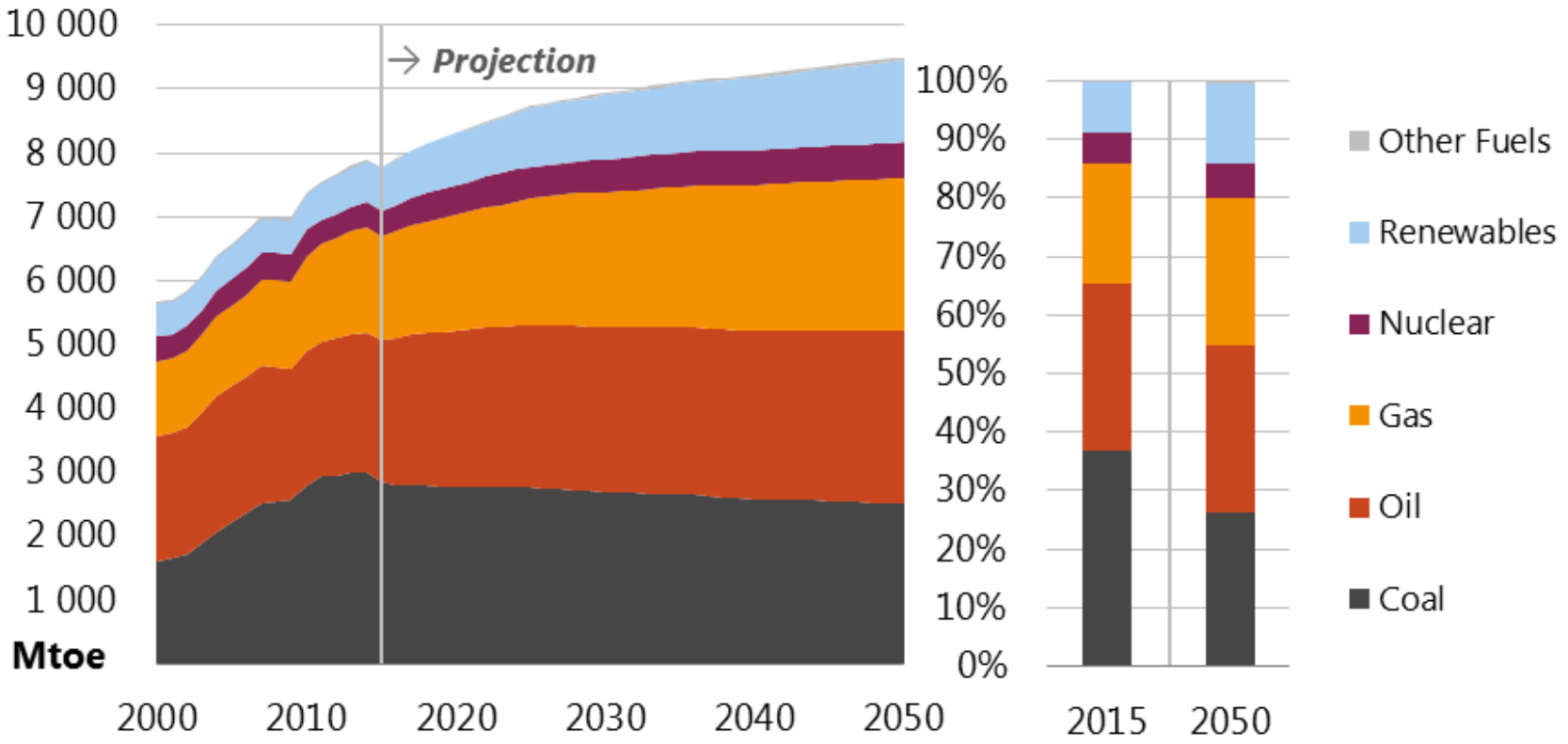
Source: IEA statistics 2017 and APERC analysis.

Energy demand for South East Asia is projected to increase 57%. Demand in China, Russia, and other Americas increases more than 25%.

Note: **Oceania** (Australia, New Zealand and PNG), **Other Americas** (Canada, Chile, Mexico and Peru), **Other Northeast Asia** (Hong Kong, Japan, Korea and Chinese Taipei), **Southeast Asia** (Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam)

Fossil fuels continue to dominate APEC energy supply

Total primary energy supply by fuel, 2000-2050

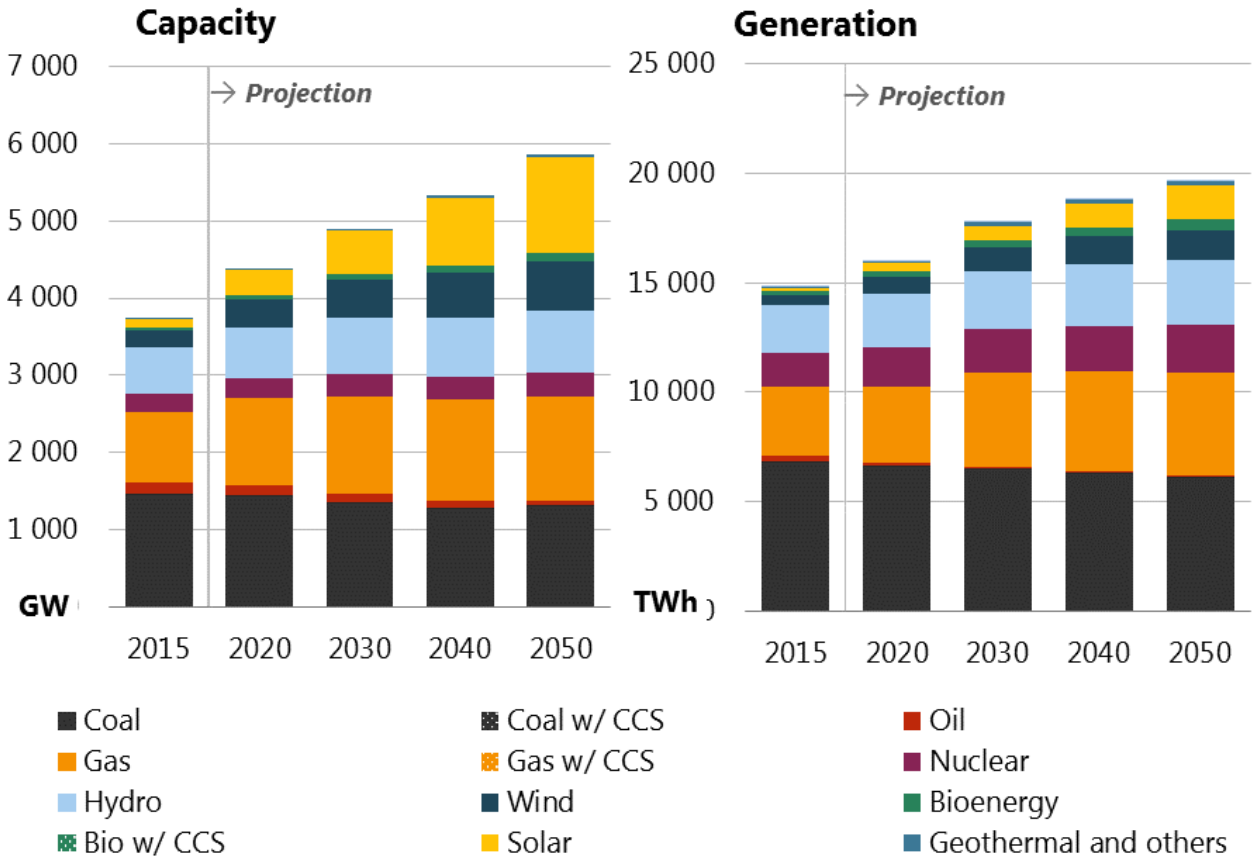


Source: IEA statistics 2017 and APERC analysis.

Coal supply declines by 12.4% from 2015 to 2050, while all other fuels grow. Renewables grow faster than any other fuel.

Electricity capacity growth is strong for gas and renewables

Electricity capacity and generation, 2000-2050



Source: IEA statistics 2017 and APERC analysis.

Coal capacity shrinks by 10% over the projection period, while renewables capacity grows by 188%.

Note: **Oceania** (Australia, New Zealand and PNG), **Other Americas** (Canada, Chile, Mexico and Peru), **Other Northeast Asia** (Hong Kong, Japan, Korea and Chinese Taipei), **Southeast Asia** (Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand and Viet Nam)

Implications

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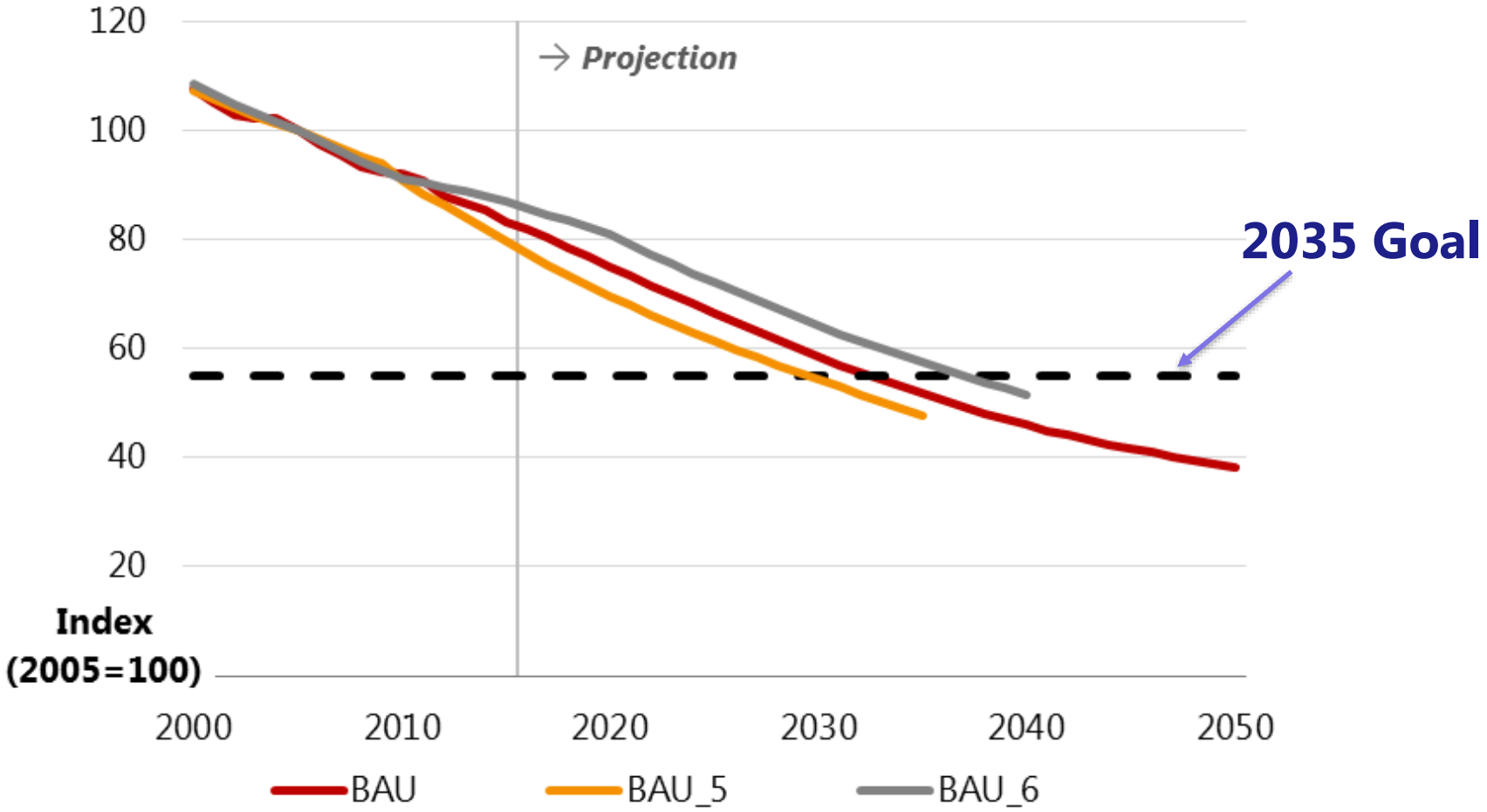
Energy intensity compared with the 5th and 6th ed.

APEC energy intensity, 2000-2050

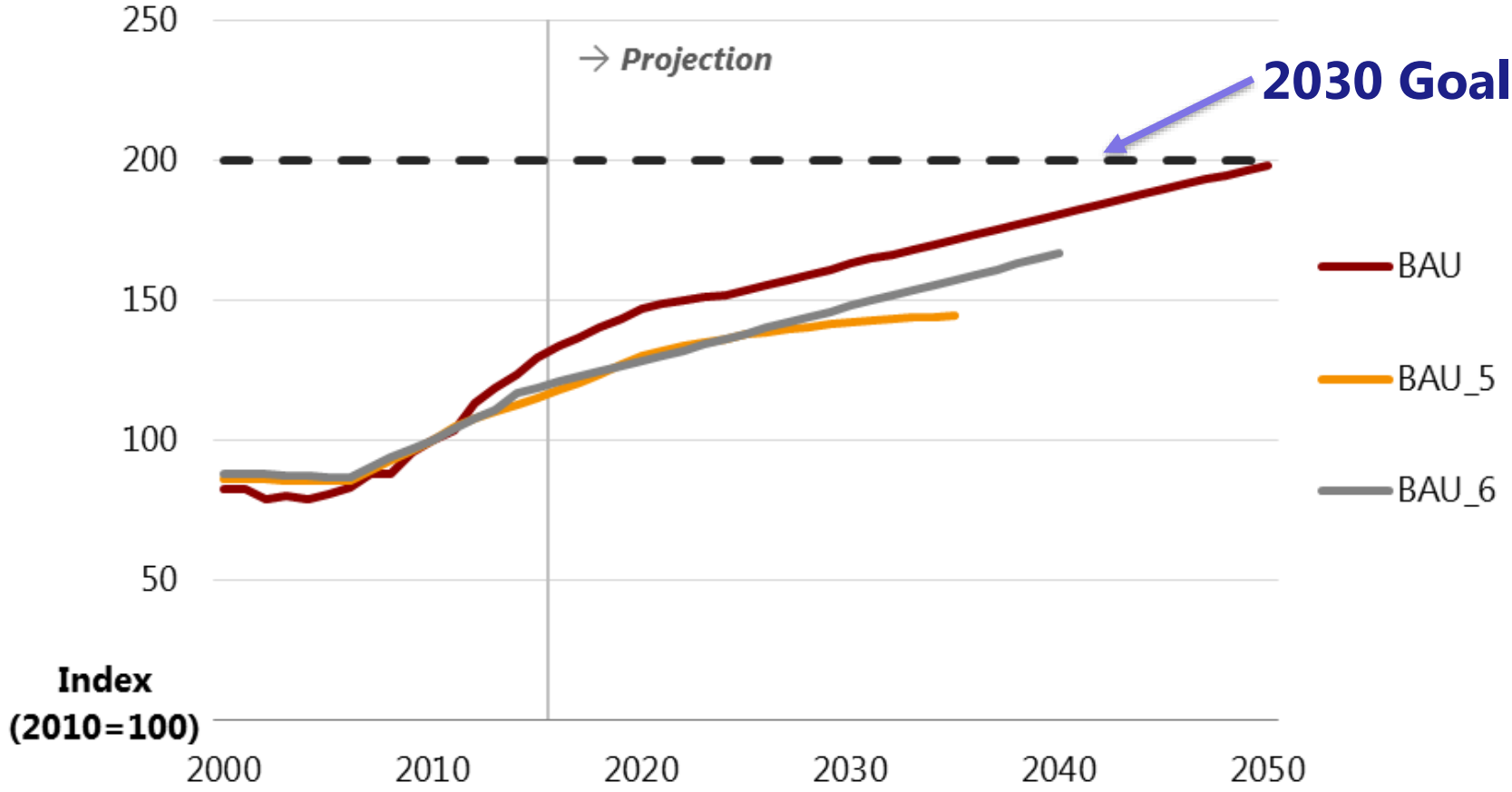


Source: IEA statistics 2017 and APERC analysis.

APEC achieves its aspirational energy intensity goal by 2033 in the 7th edition projections.

Renewables doubling compared with the 5th and 6th Ed.

APEC renewables share, 2000-2050

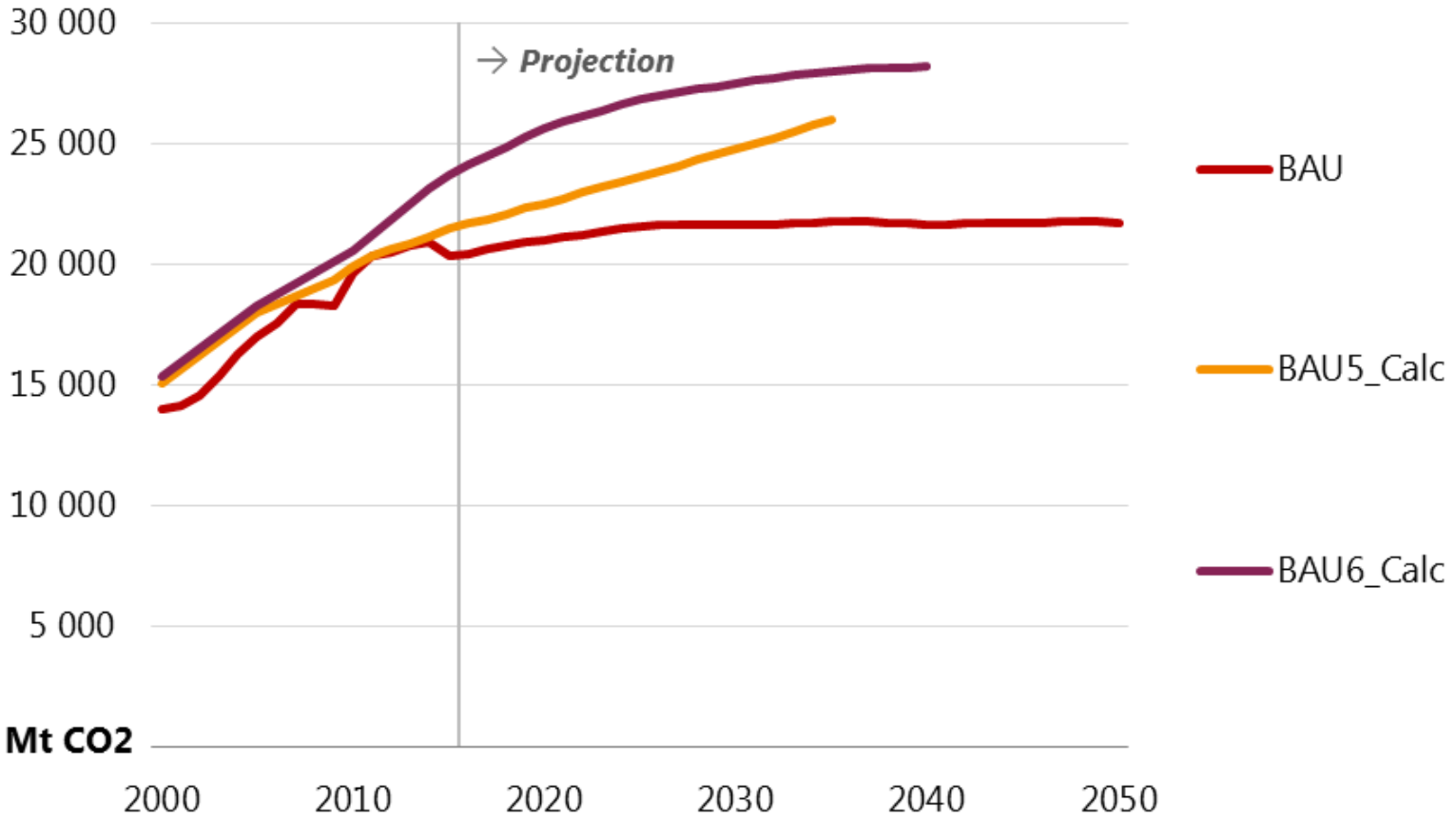


Source: IEA statistics 2017 and APERC analysis.

APEC does not achieve its renewables doubling goal in the BAU scenario until just after 2050.

CO_2 emissions plateau in APEC in the BAU scenario

Energy sector related CO_2 emissions, 2000-2050

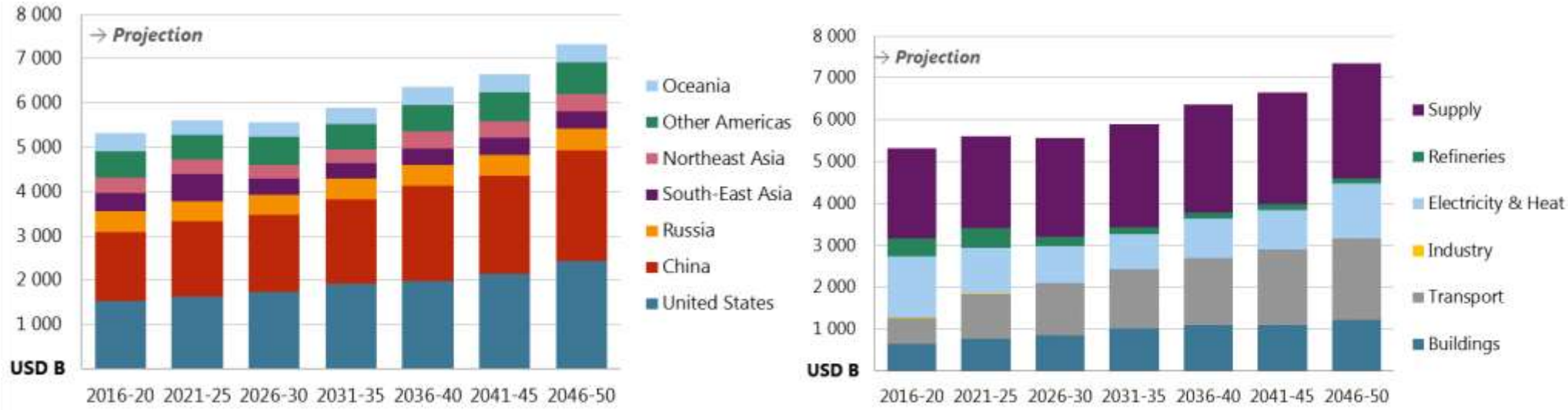


Source: IEA statistics 2017 and APERC analysis.

From 2025 onwards, CO_2 emissions from the APEC energy sector flatten at around 21.7 Gt.

Investment in APEC is driven by China and the USA

Investment in the BAU scenario, 2016-2050



Source: IEA statistics 2017 and APERC analysis.

Investment increases over time, topping USD 7 trillion in 2046-2050.

Demand side investment represents an increasing share of investment in the future, largely due to increasing investment in transportation.

Thank you for your kind attention

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