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

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## First chapter drafts have been completed

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Modelling changes for the 7\textsuperscript{th} 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
Final energy demand rises by 23% from 2015 to 2050. Transportation grows rapidly, almost overtaking industry as the largest consuming sector.

Source: IEA statistics 2017 and APERC analysis.
Oil remains the dominant end-use fuel in APEC

Final energy demand by fuel, 2000-2050

- Heat and other fuels
- Electricity
- Renewables
- Gas
- Oil
- Coal

Source: IEA statistics 2017 and APERC analysis.

Demand for natural gas, electricity, and heat are all projected to grow faster than oil.
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)
Total primary energy supply by fuel, 2000-2050

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

Source: IEA statistics 2017 and APERC analysis.
Electricity capacity growth is strong for gas and renewables.

Electricity capacity and generation, 2000-2050

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)

Source: IEA statistics 2017 and APERC analysis.
Implications
Energy intensity compared with the 5th and 6th ed.

APEC energy intensity, 2000-2050

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

Source: IEA statistics 2017 and APERC analysis.

APEC achieves its aspirational energy intensity goal by 2033 in the 7th edition projections.
APEC does not achieve its renewables doubling goal in the BAU scenario until just after 2050.
CO₂ emissions plateau in APEC in the BAU scenario

From 2025 onwards, CO₂ emissions from the APEC energy sector flatten at around 21.7 Gt.

Source: IEA statistics 2017 and APERC analysis.
Investment in APEC is driven by China and the USA

Investment in the BAU scenario, 2016-2050

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.

Source: IEA statistics 2017 and APERC analysis.
Thank you for your kind attention

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