Asia-Pacific
Economic Cooperation

2. Progress Report of the APEC Outlook 8th Edition

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Topics for this presentation

- Description of the Outlook
- Updates since EWG 60
- Outlook scenarios
- Preliminary results for energy demand in the Reference scenario

APEC Energy Demand and Supply Outlook

- Provides coverage on projected energy demand and supply trends for all 21 APEC member economies
- Published every three years
    - 7th edition published June 2019
    - 8th edition scheduled for Q2 2022
- Two volumes
    - APEC-wide trends
    - Economy-specific trends (21 chapters)
- Data tables
- For the 8th edition
    - Redesigned analysis workflow
    - EGEDA data

Overview of the 8th edition

- Projections run through 2050 (2018 base year)
- Historical energy balances use EGEDA energy balances
- Macro-economic assumptions are constant across scenarios
  - Population: historical data from World Bank WDI, growth rate projections from UN DESA 2019 Population Prospectus
  - GDP: historical data from World Bank WDI, projections from OECD and internal analysis
  - COVID-19 impact on GDP is incorporated in the 2020-2025 timeframe
- Energy units are in petajoules (PJ) (changed from MTOE)
- Emissions analysis considers CO2 emissions from combustion in the energy sector, excluding non-energy and AFOLU

Project schedule

	Q4	Q1 2021	Q2	Q3	Q4	Q1 2022	Q2
※ Scenario review							
Model development							
※ Assumption review							
Reference scenario modelling	X						
※ Reference scenario review	**X**	**X**					
Reference scenario revisions		X	X				
Net-zero scenario modelling		X	X				
※ External review				X			
Drafting				X	X	X	
Editing					X	X	
※ Report review						**X**	
※ Publication						X	**X**

Updates since EWG 60

- the former Current Policies Scenario is now the Reference Scenario
- the Announced Policies Scenario has been removed
- the Net-zero Scenario has been added
- Revisions to Reference scenario made based on external reviewer feedback
- Modelling on Net-zero scenario started

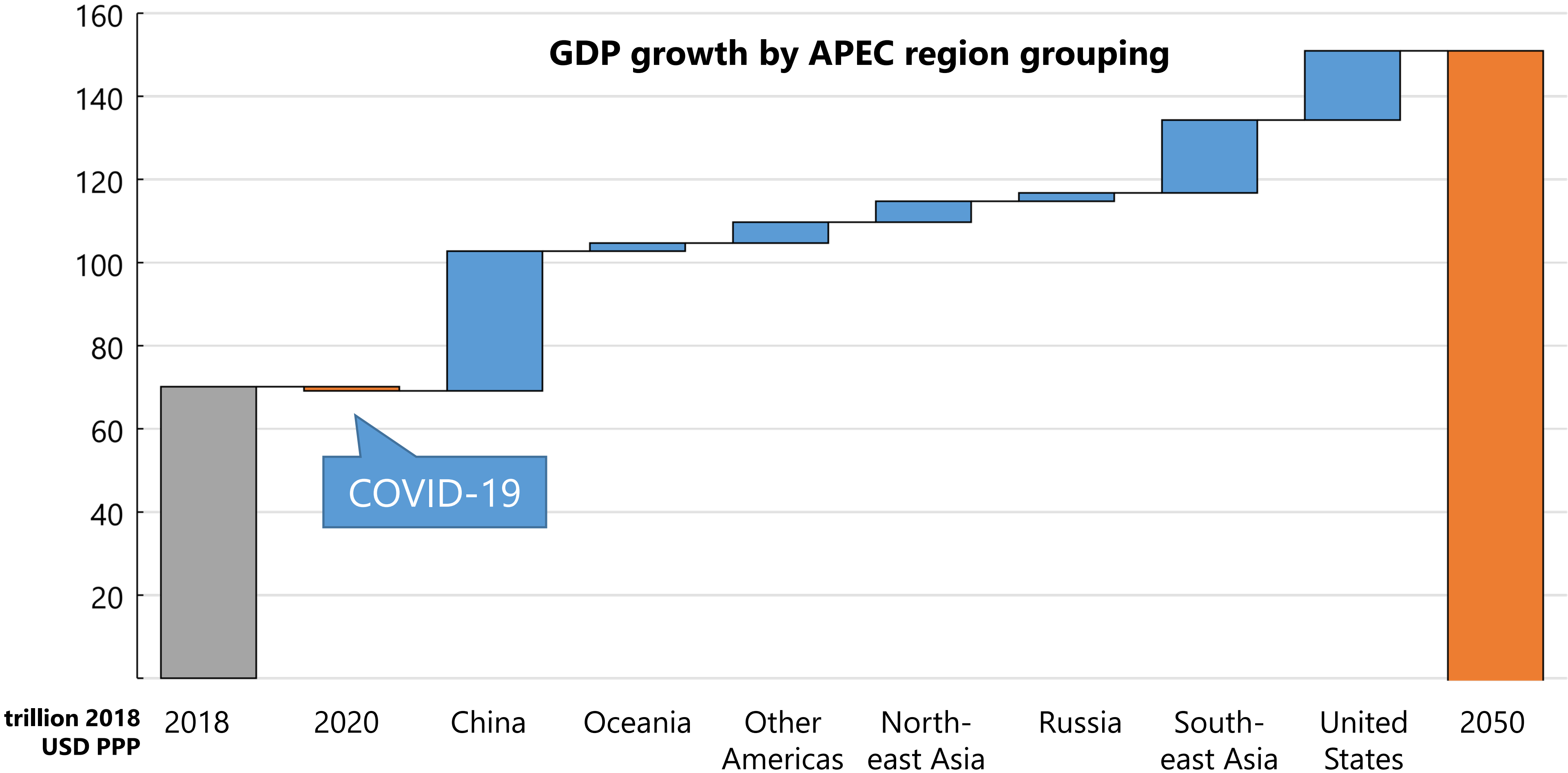
8th edition scenarios

	Reference	Net-zero (new)
Definition	Recent trends and current policies.	Investigates hypothetical energy sector net-zero pathways for each APEC economy through 2050.
Purpose	Provides a baseline for comparison with the Net-zero scenario.	Explores the degree of additional ambition needed to support development of net-zero energy systems.
Key assumptions	NDCs and initial steps towards net-zero ambitions are included up to 2030. Additional net-zero ambition after 2030 is not included.	Increased levels of energy efficiency, behavior changes, hydrogen consumption, and CCUS deployment.
Limitations	Assumes that recent trends, including existing NDCs, remain static in coming years.	Does not consider non-energy impacts on CO2 emissions (e.g., land-use change, non combustion of fuels, etc).

Net-zero announcements in APEC

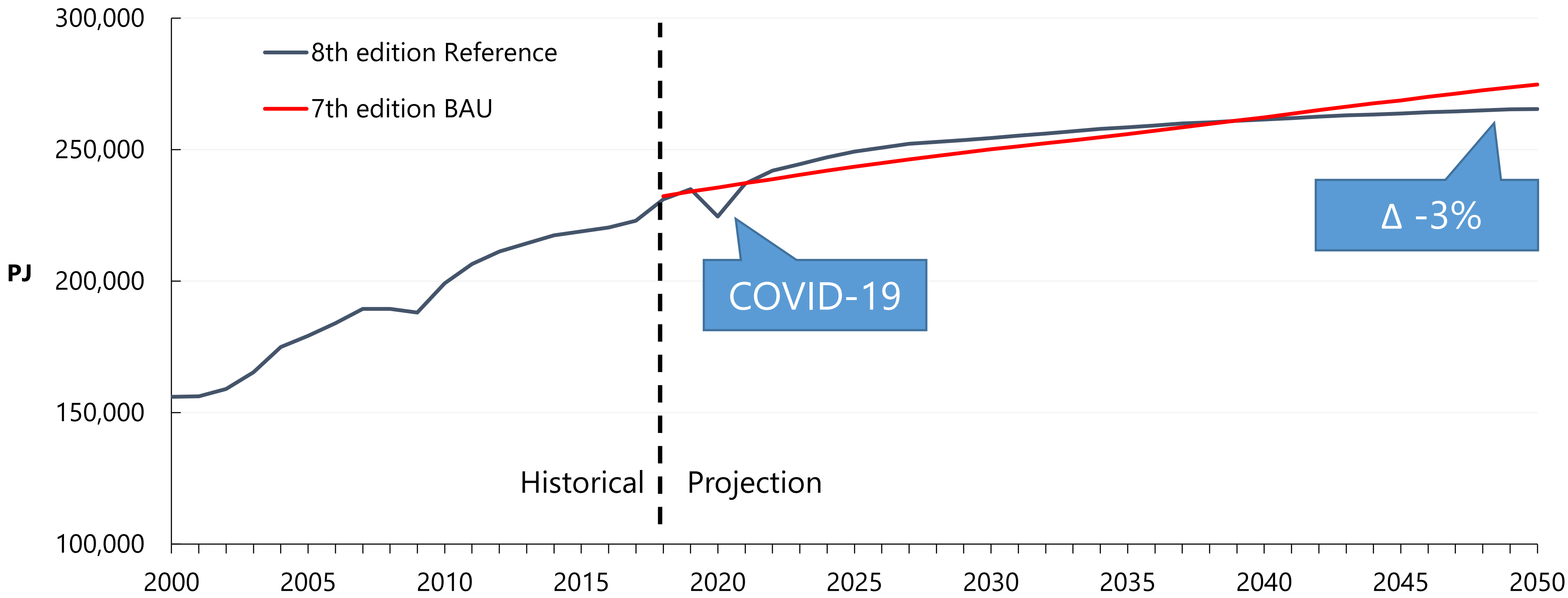
Economy	Net-zero by	Share of APEC CO2 emissions (2018)	Share of APEC GDP (2018)
Canada	2050	2.5%	2.7%
Chile	2050	0.4%	0.7%
China	2060	45.3%	30.8%
Hong Kong, China	2050	0.2%	0.7%
Japan	2050	5.1%	7.7%
Korea	2050	2.9%	3.0%
New Zealand	2050	0.1%	0.3%
Papua New Guinea	2050	1.0%	1.3%
Singapore	Second half of the century	0.2%	0.8%
Chinese Taipei	2050*	1.3%	1.9%
United States	2050	24.4%	29.5%
	Total	**83.3%**	**79.3%**

Macro backdrop



- Despite the slowdown in 2020 and 2021 from COVID-19, APEC economies return to pre-COVID-19 growth rates leading to a doubling in output by 2050

Total energy demand (preliminary)



- Energy demand grows 15% in the Reference scenario (2018-2050).
- Growing net-zero ambitions lead to less demand growth relative to the 7th edition Business-as-Usual scenario

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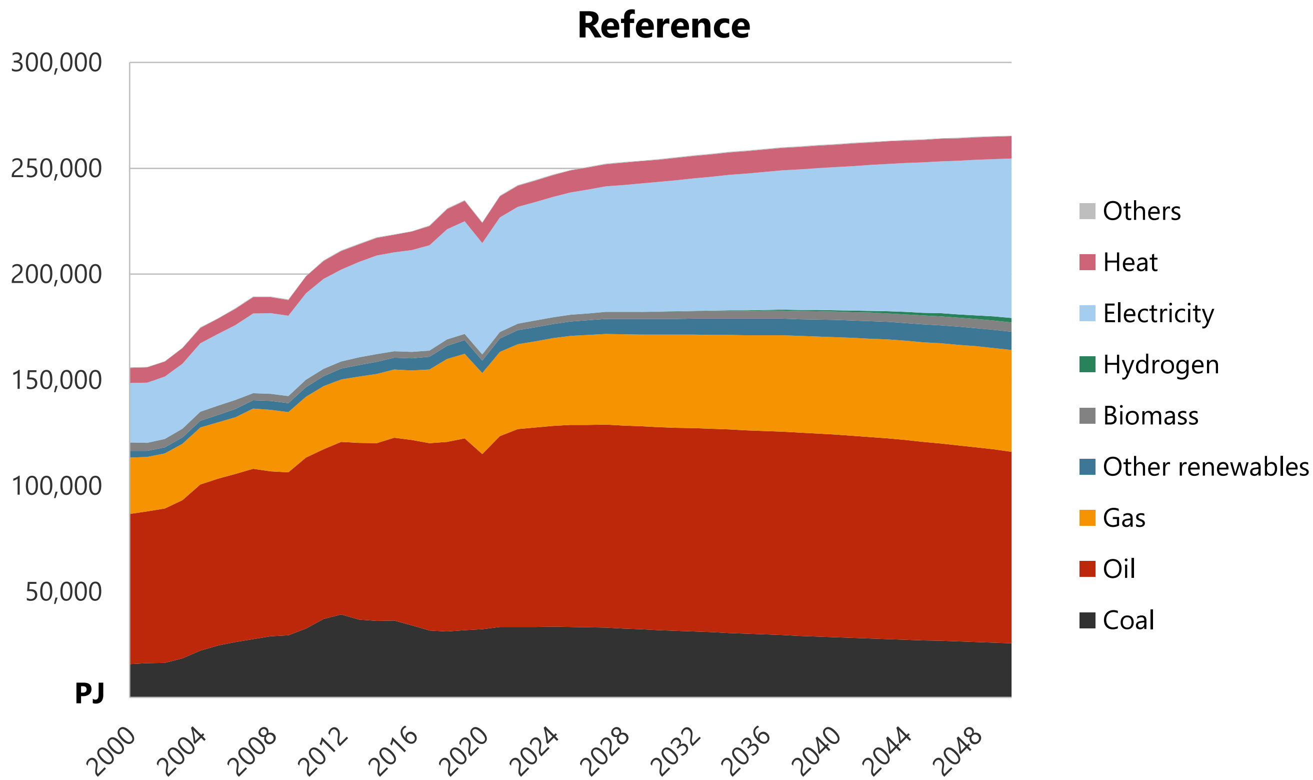
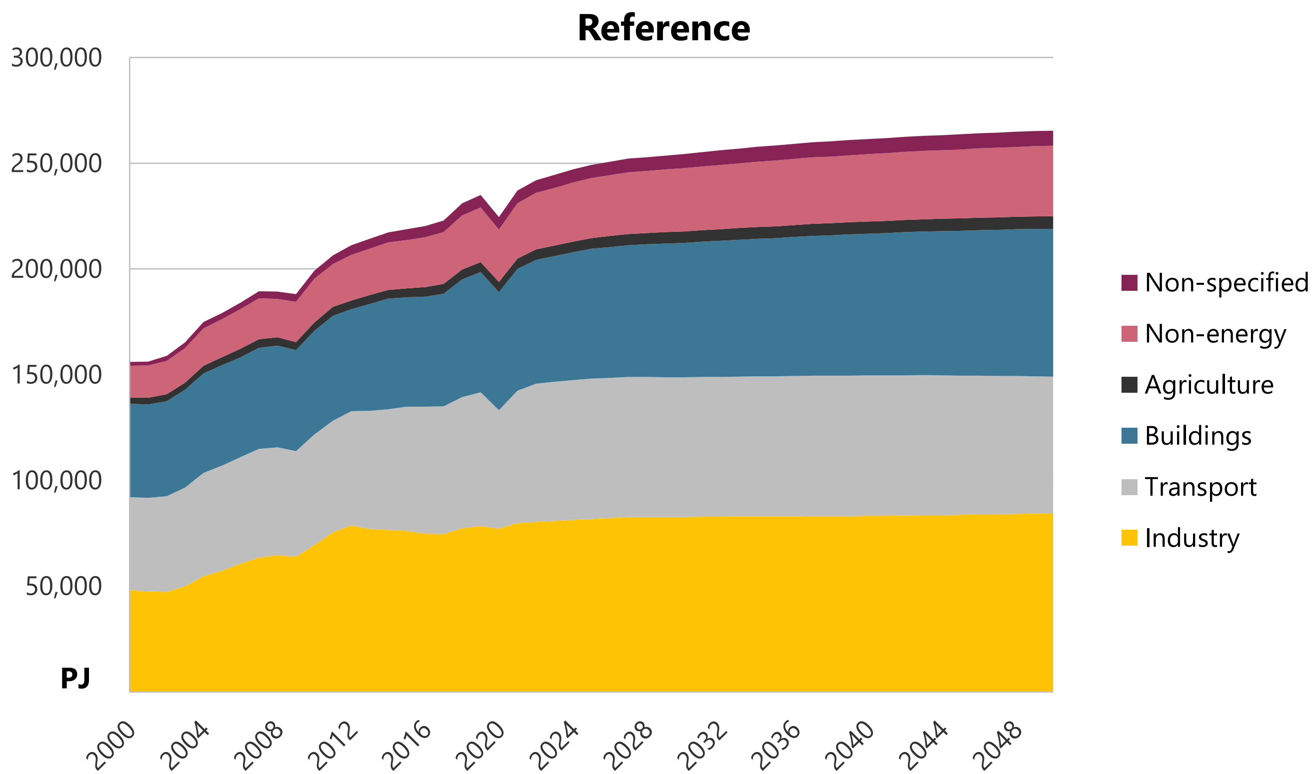
Energy demand by fuel (preliminary)



- Demand for fossil fuels is roughly two-thirds of total energy demand in the Reference scenario (2050).
- Electrification continues to increase while expansion of biofuels fuels remains modest

Energy demand by sector (preliminary)



- Increasing population and service-oriented growth leads to a slowing of industrial energy and an increase in buildings sector demand

EWG member reviews

- **July**: review of preliminary model results for the Reference and Net-zero scenarios
  - An APERC researcher will be in contact to coordinate the review process
  - APERC researchers are available to provide briefings on the preliminary results

- **September/October**: send draft chapters for review

- **Q1 2022**: seek EWG endorsement

Thank you for your kind attention.

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