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Hawaii, The United States, 15 December, 2015

2. APEC Energy Demand and Supply Outlook 6th Edition

2-4 Alternative Scenarios

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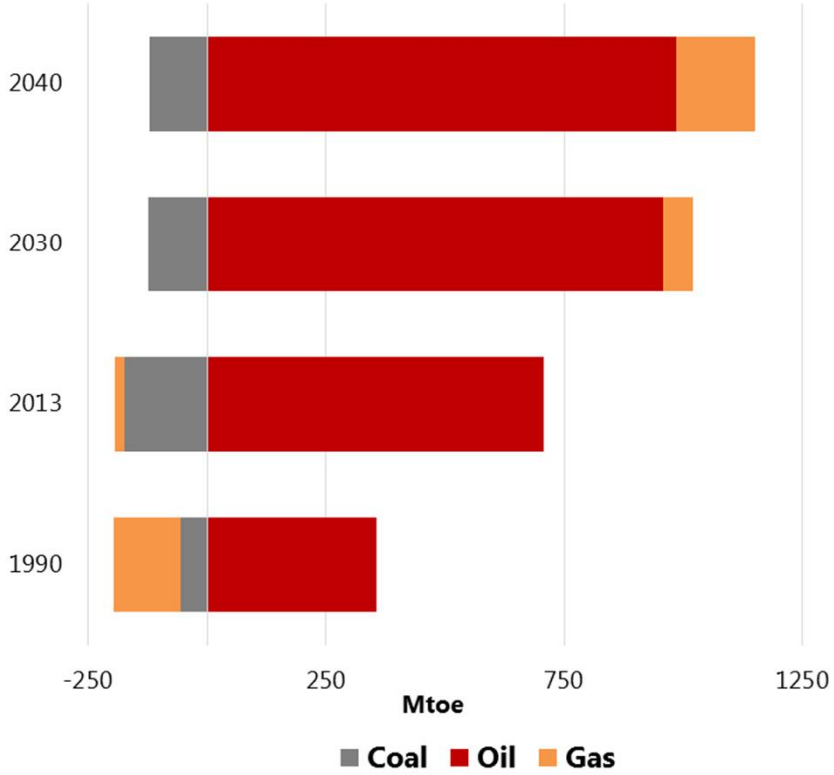
Preliminary results
(under review by economies)

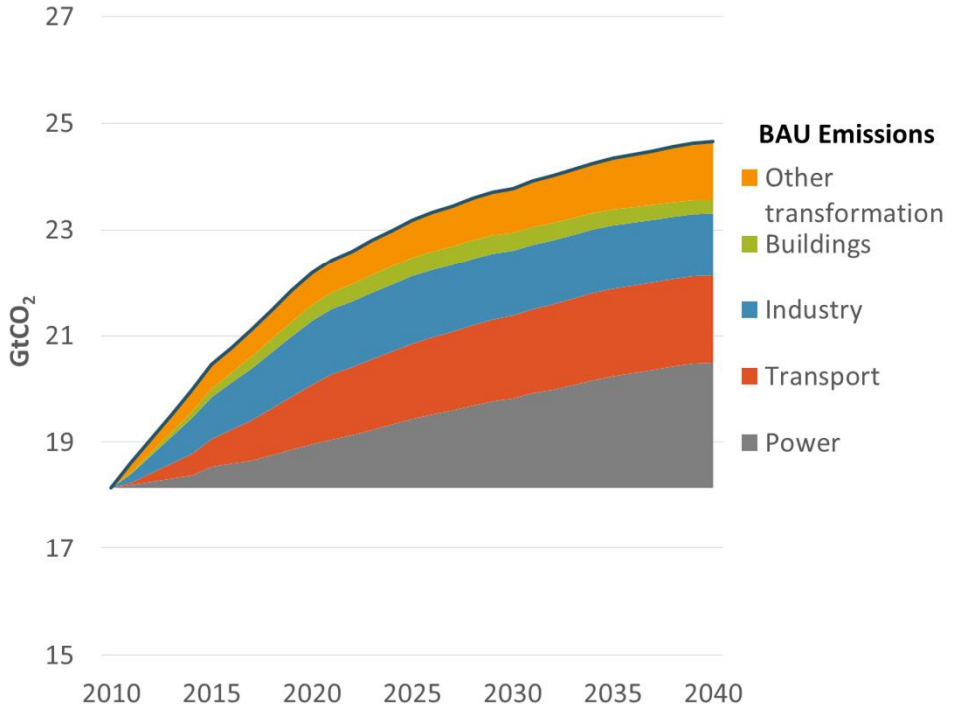
Please do not cite

BAU leads to an unsustainable energy future

Energy exports and imports



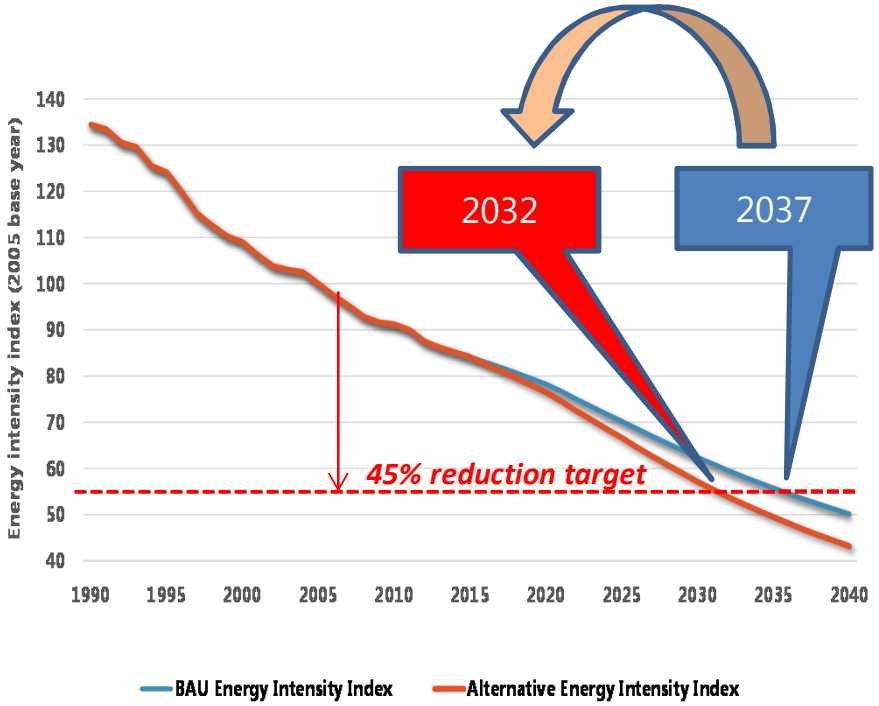
Growth in energy related CO_2 emissions

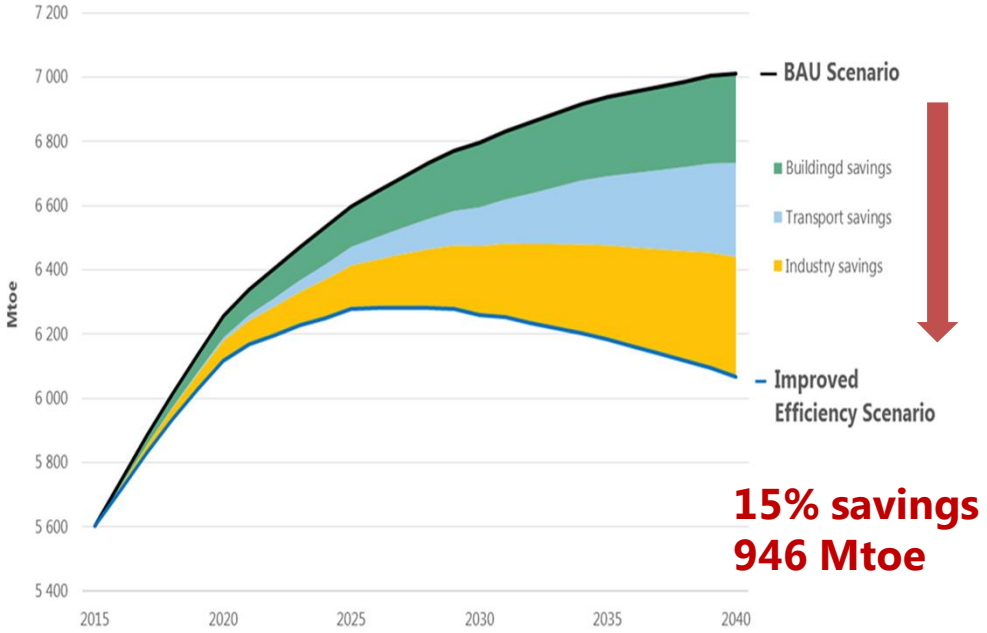


Rising energy imports and emissions in APEC negatively impact energy security and climate change

Alternative Scenarios

Improved efficiency scenario

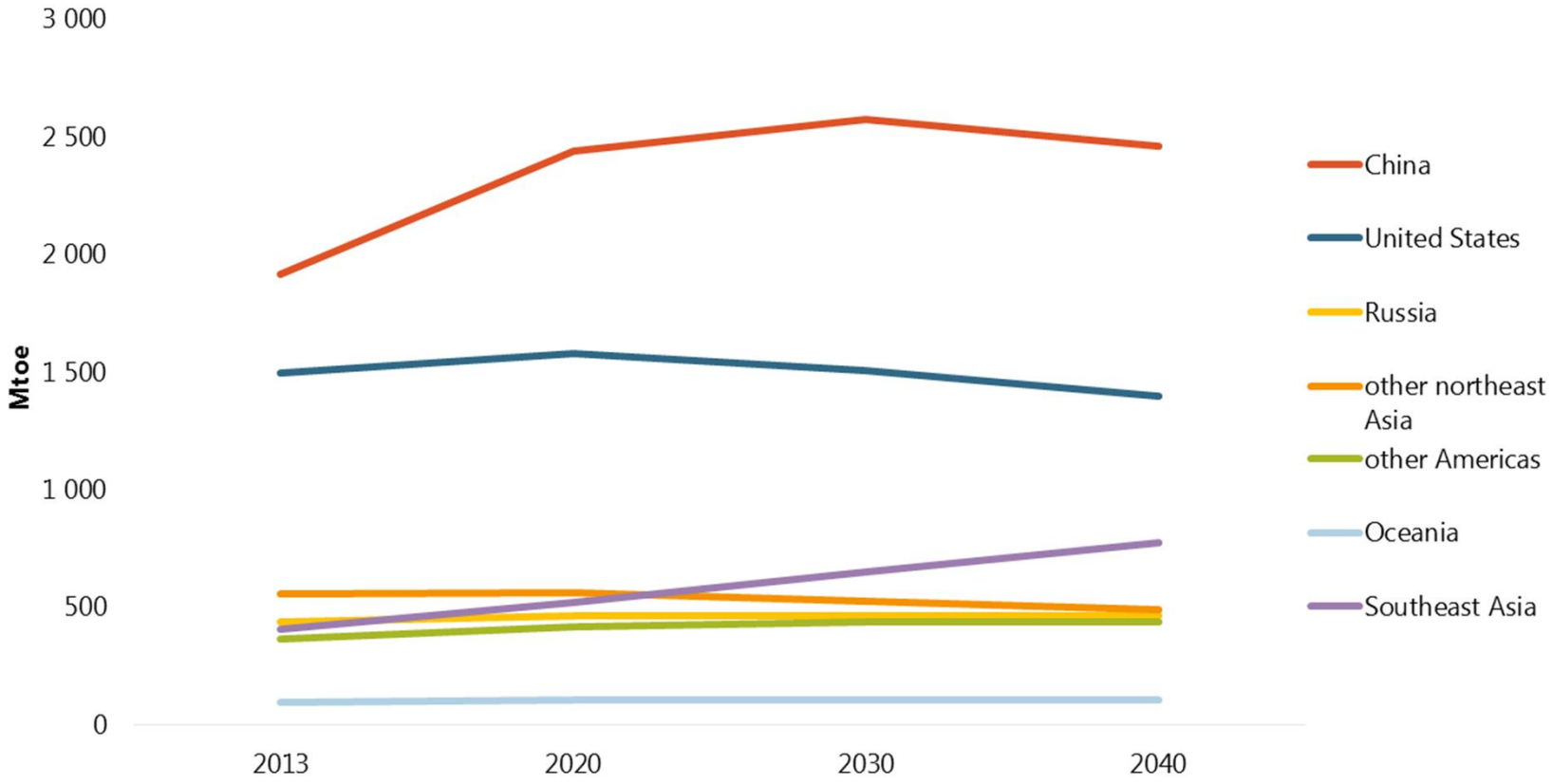




APEC's target in 2035 can be met earlier under the Improved Efficiency Scenario

Energy demand by region

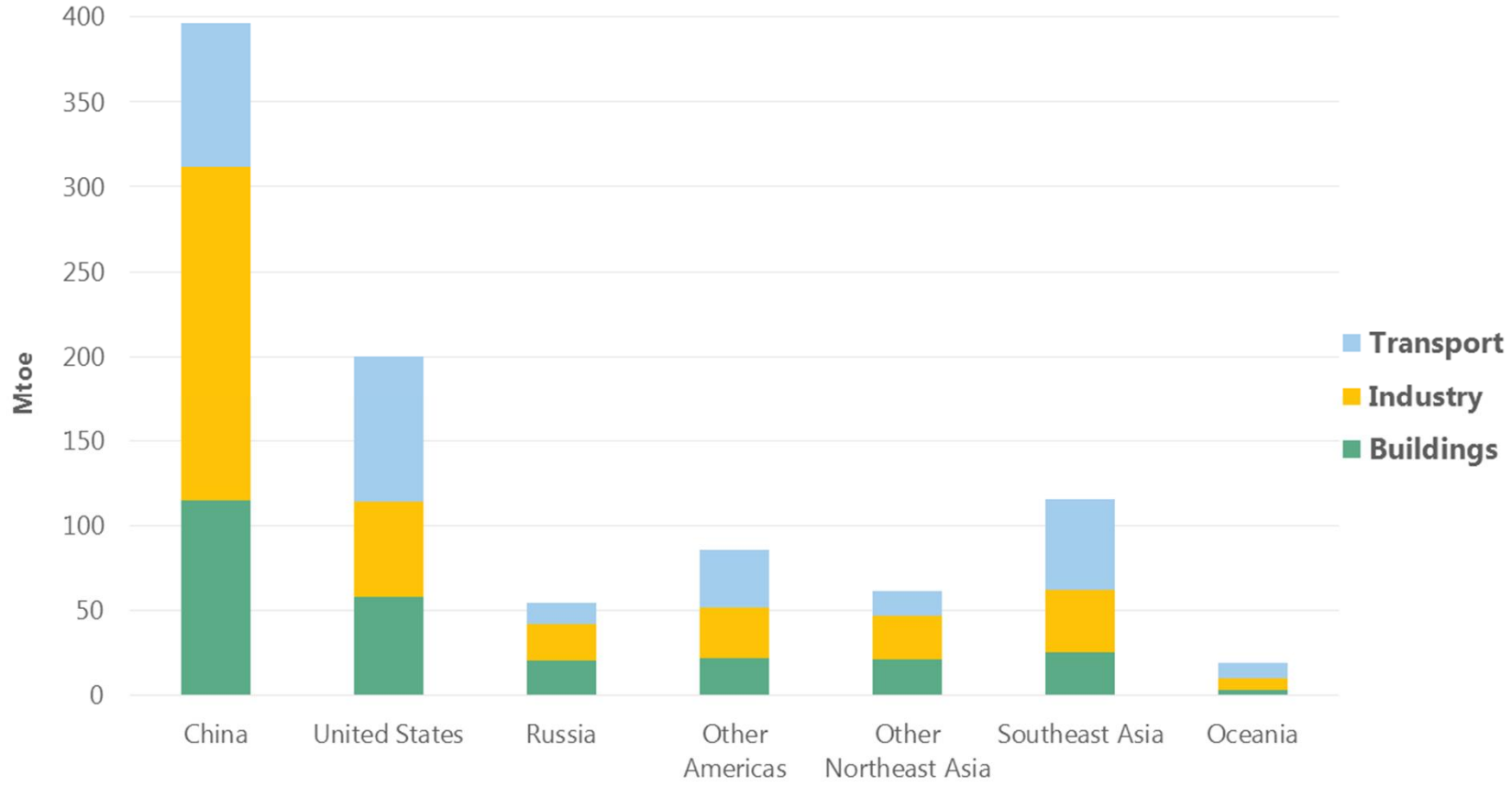
Final energy demand in the Improved Efficiency Scenario



Energy demand in almost all APEC regions peak and or decline

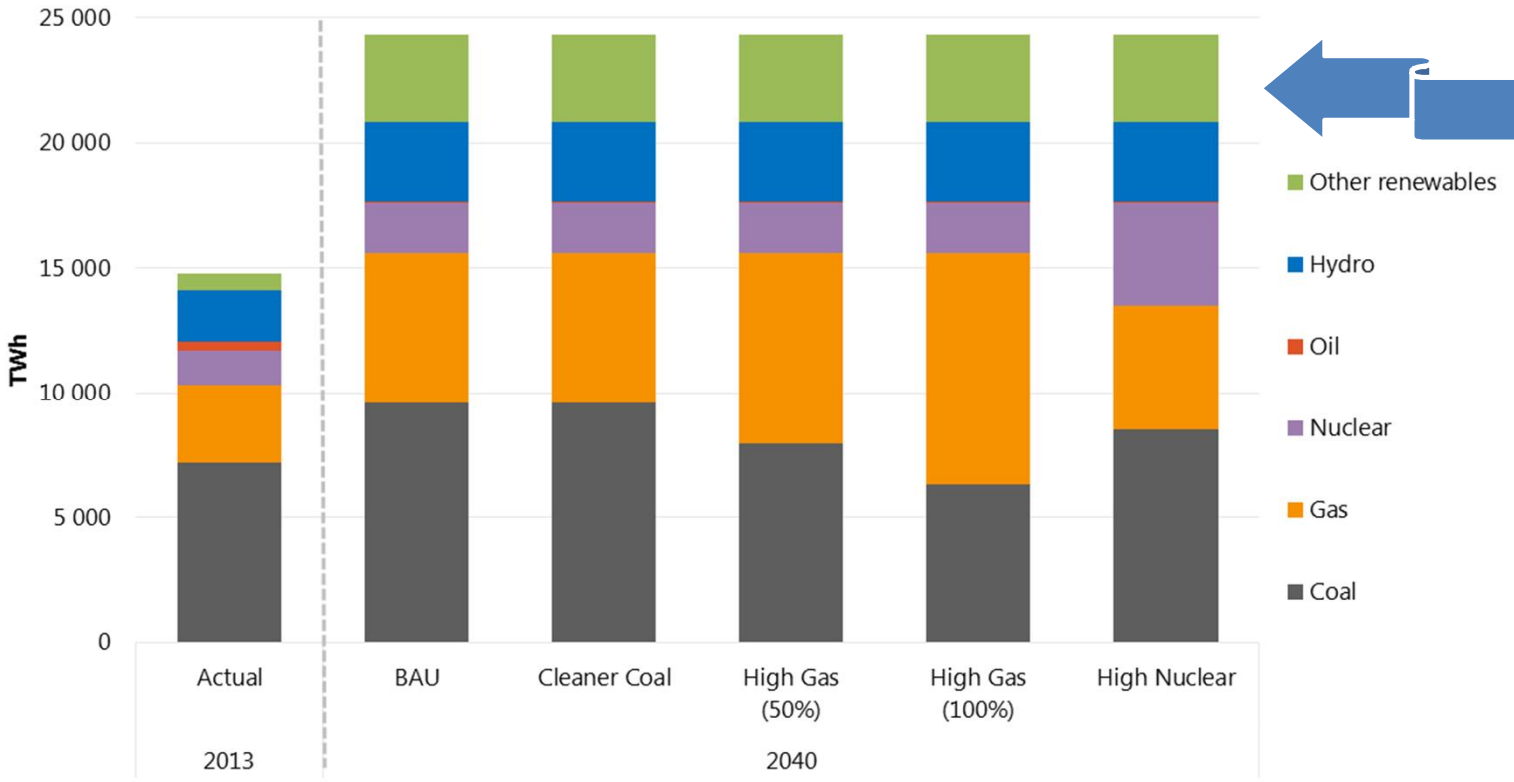
Regional energy savings by sector

Energy savings by region and sector in the Improved Efficiency Scenario in 2040



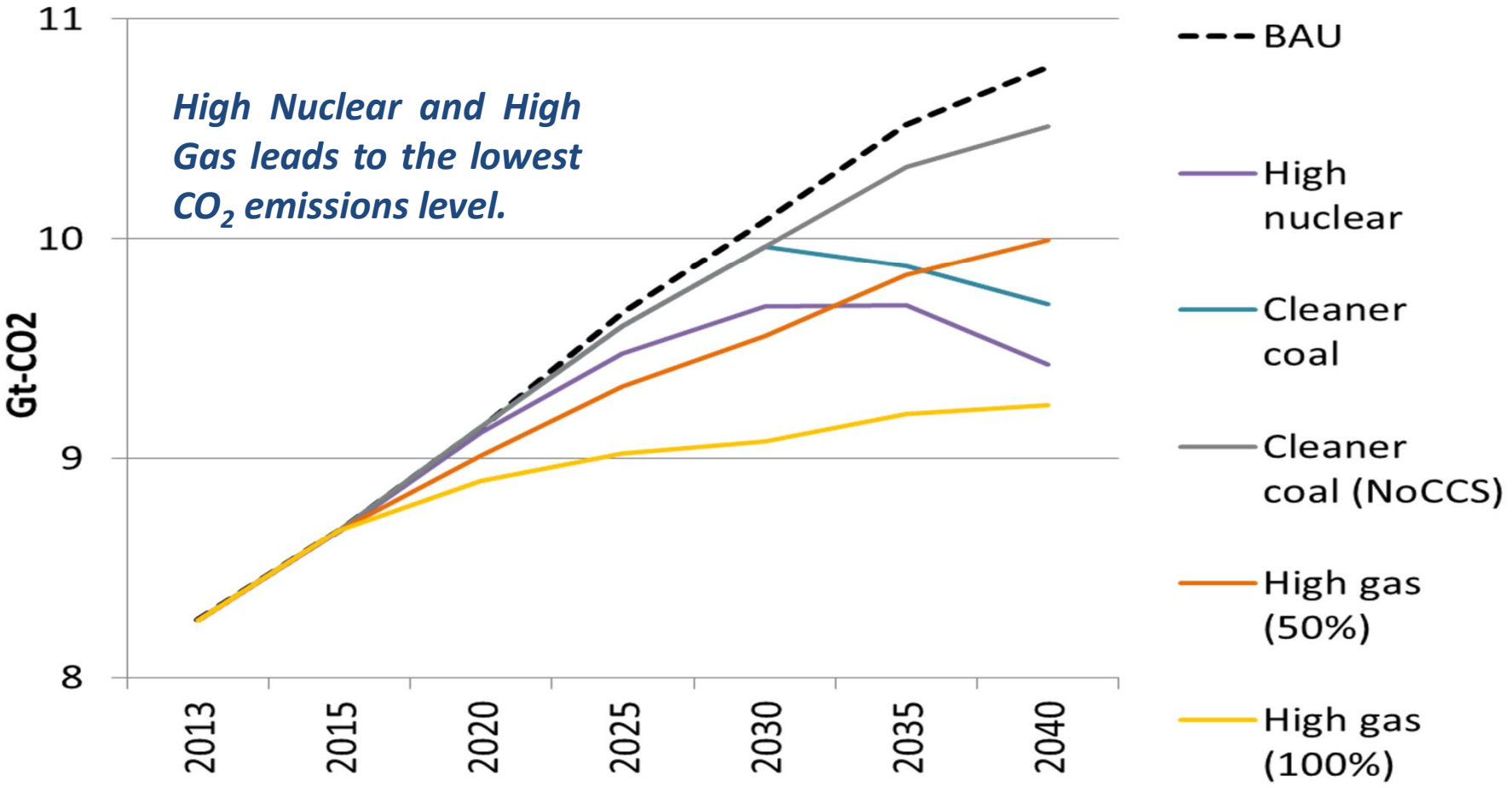
Alternative power mix scenario

APEC's electricity generation, 2013 and 2040:



Data excludes imports
Source: APERC Analysis

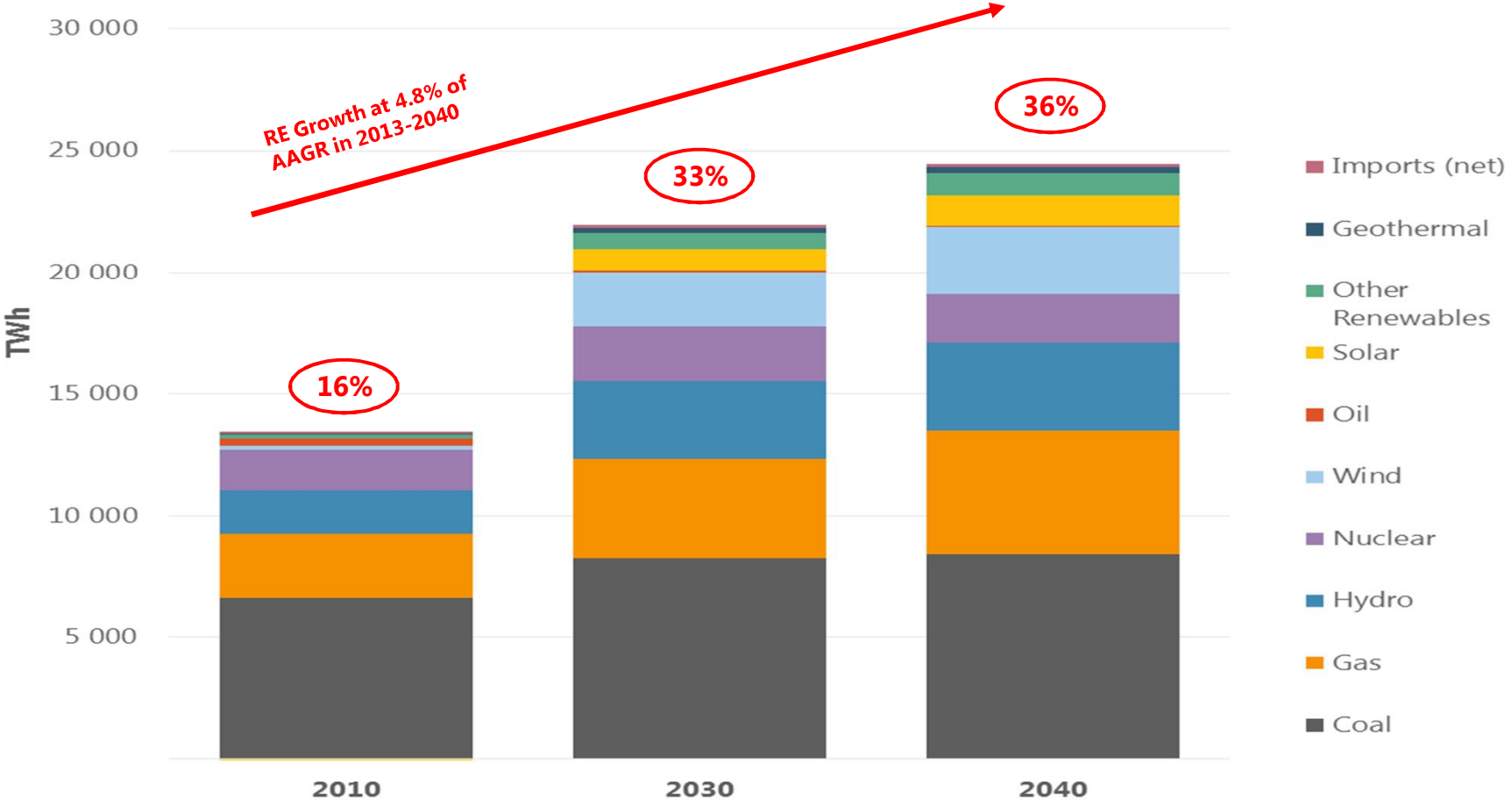
Power sector emissions continue to rise



Understanding Power Mix Trade Offs

Economy	Categories assessed*											
	CO_2 Emissions			Diversity of Power Mix			Generation Costs			Supply Security		
	Cases**											
	CC	HG	HN	CC	HG	HN	CC	HG	HN	CC	HG	HN
Australia			NA			NA			NA			NA
Chile			NA			NA			NA			NA
China												
Indonesia												
Japan												
Korea												
Malaysia												
Mexico***	NA	NA		NA	NA		NA	NA		NA	NA	
Papua New Guinea	NA		NA	NA		NA	NA		NA	NA		NA
Philippines			NA			NA			NA			NA
Russia												
Chinese Taipei***												
Thailand												
USA												
Viet Nam												

High renewables scenario



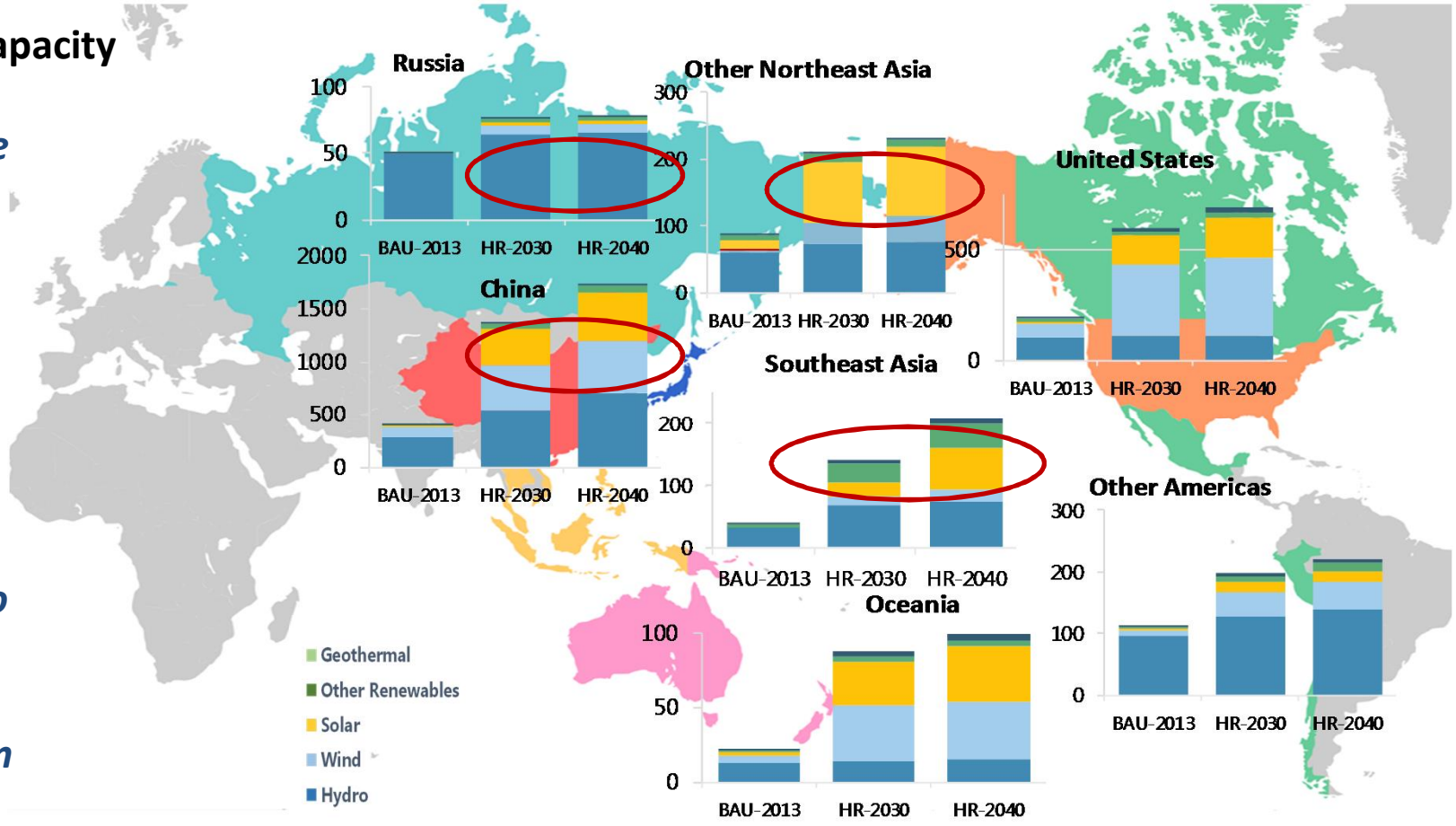
Solar and Wind shows fastest growth rates

Renewables vary from region to region

Installed capacity

Much of the increases in renewable capacity will come from solar and wind.

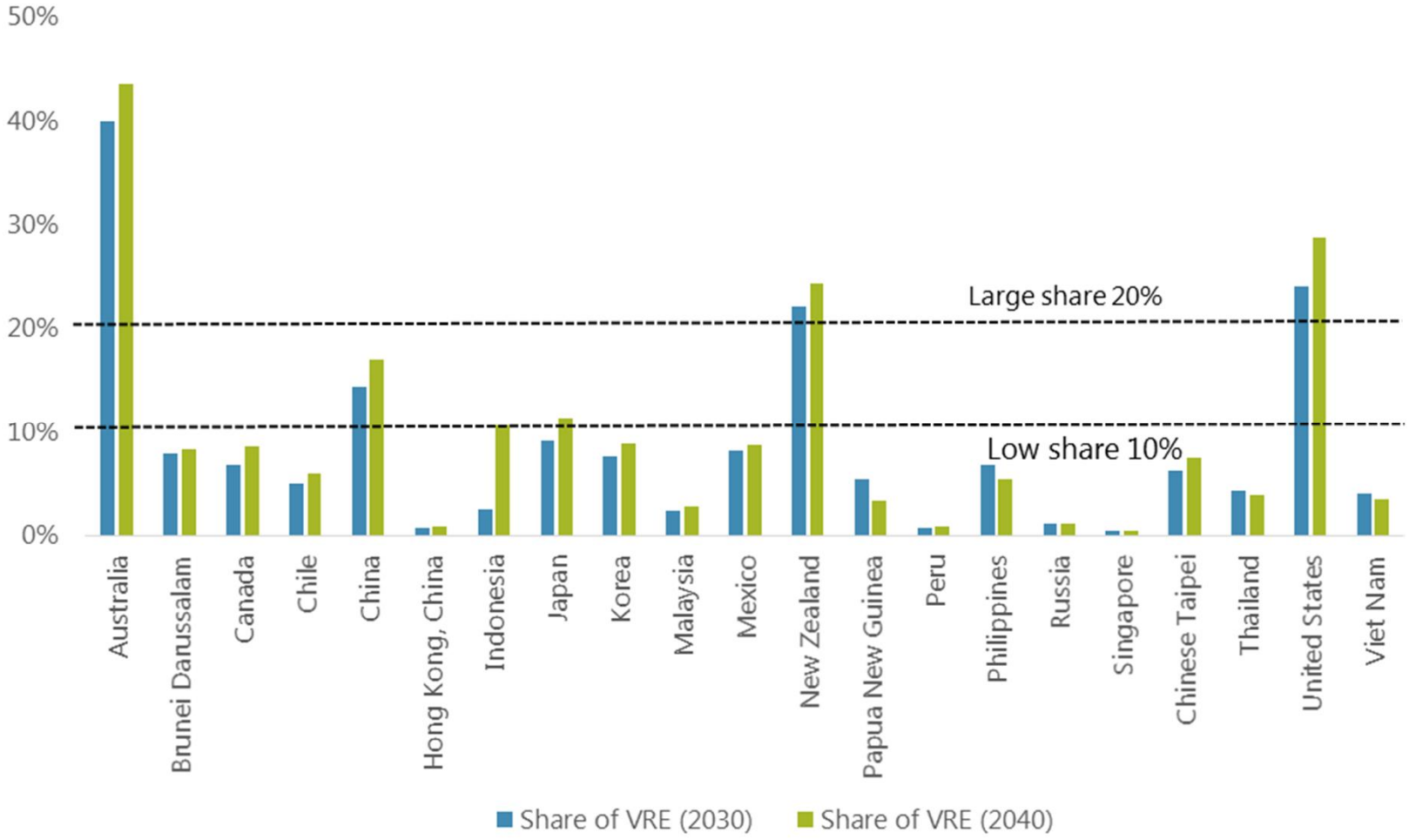
Other sub-regions also see significant contribution of hydro.



2013 BAU: 903 GW
2030 High Renewables (HR): 2,684 GW
2040 High Renewables (HR): 3,257 GW

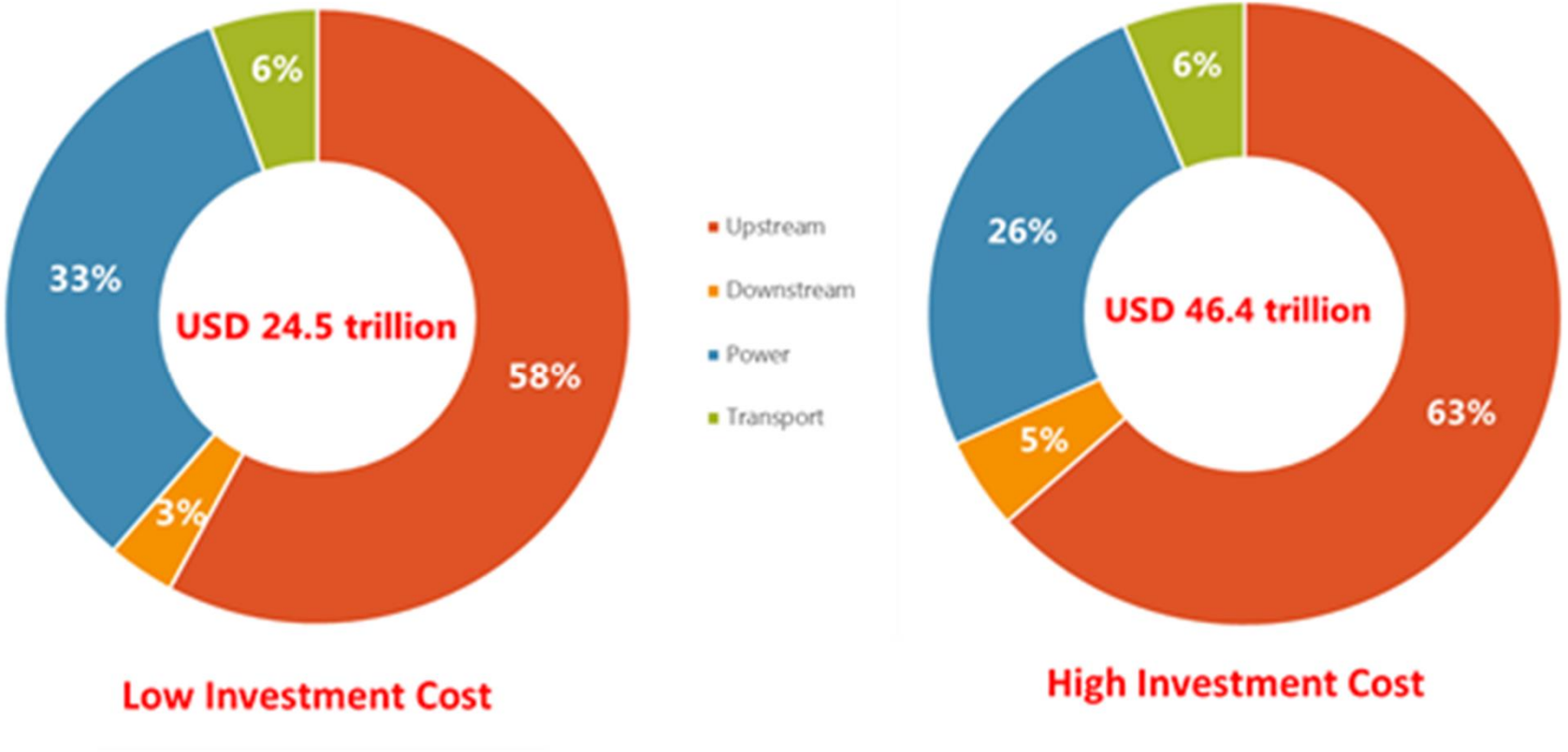
Note: This map is for illustrative purposes and is without prejudice to the status of or sovereignty over any territory covered by this map.

Variable renewable integration

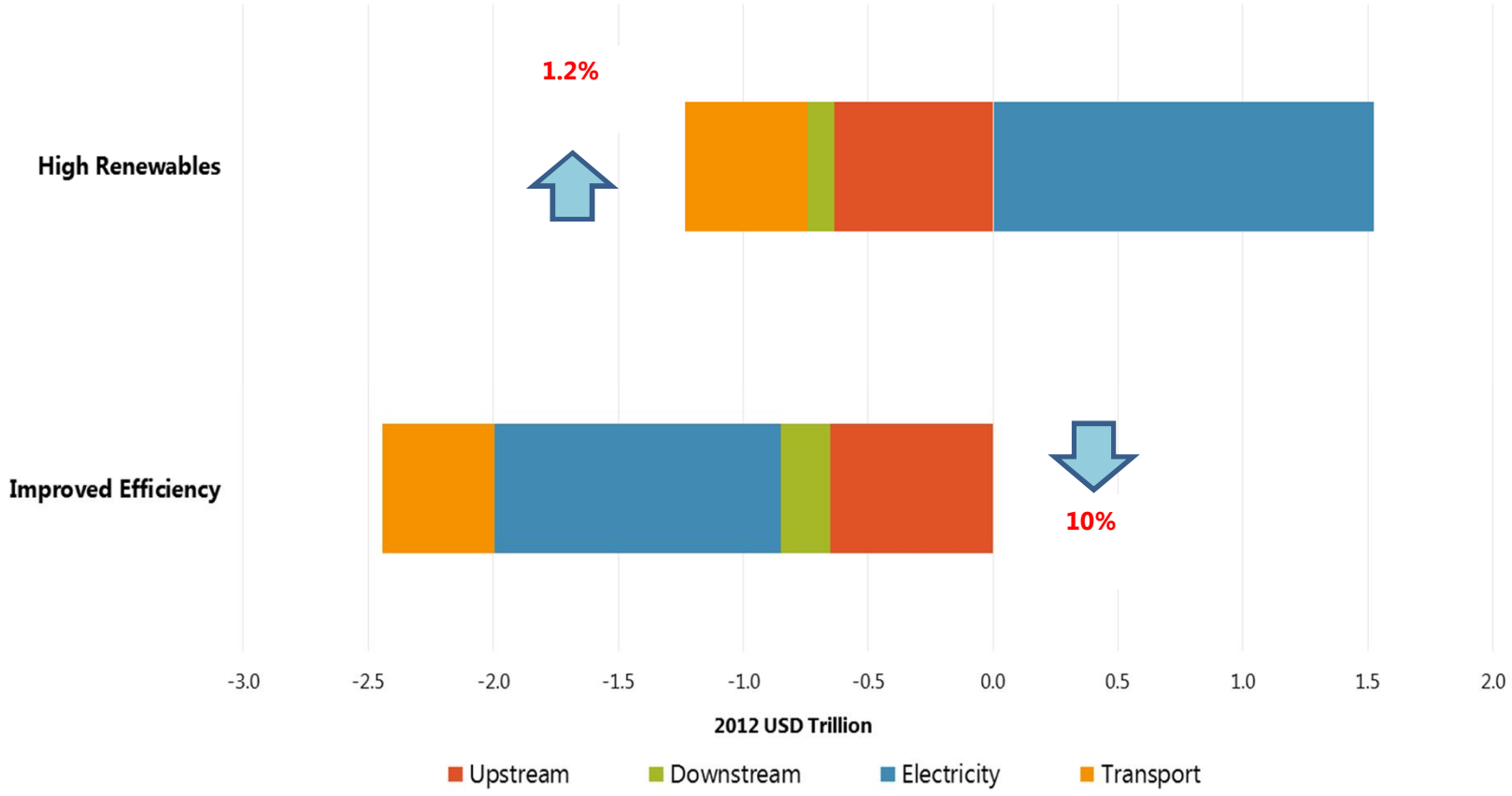


Variable renewables remain below 10% in most economies

Investments in BAU Scenario



Investments in alternative scenarios



USD 2.4 trillion investment savings in Improved Efficiency, while High Renewables results in similar total investments

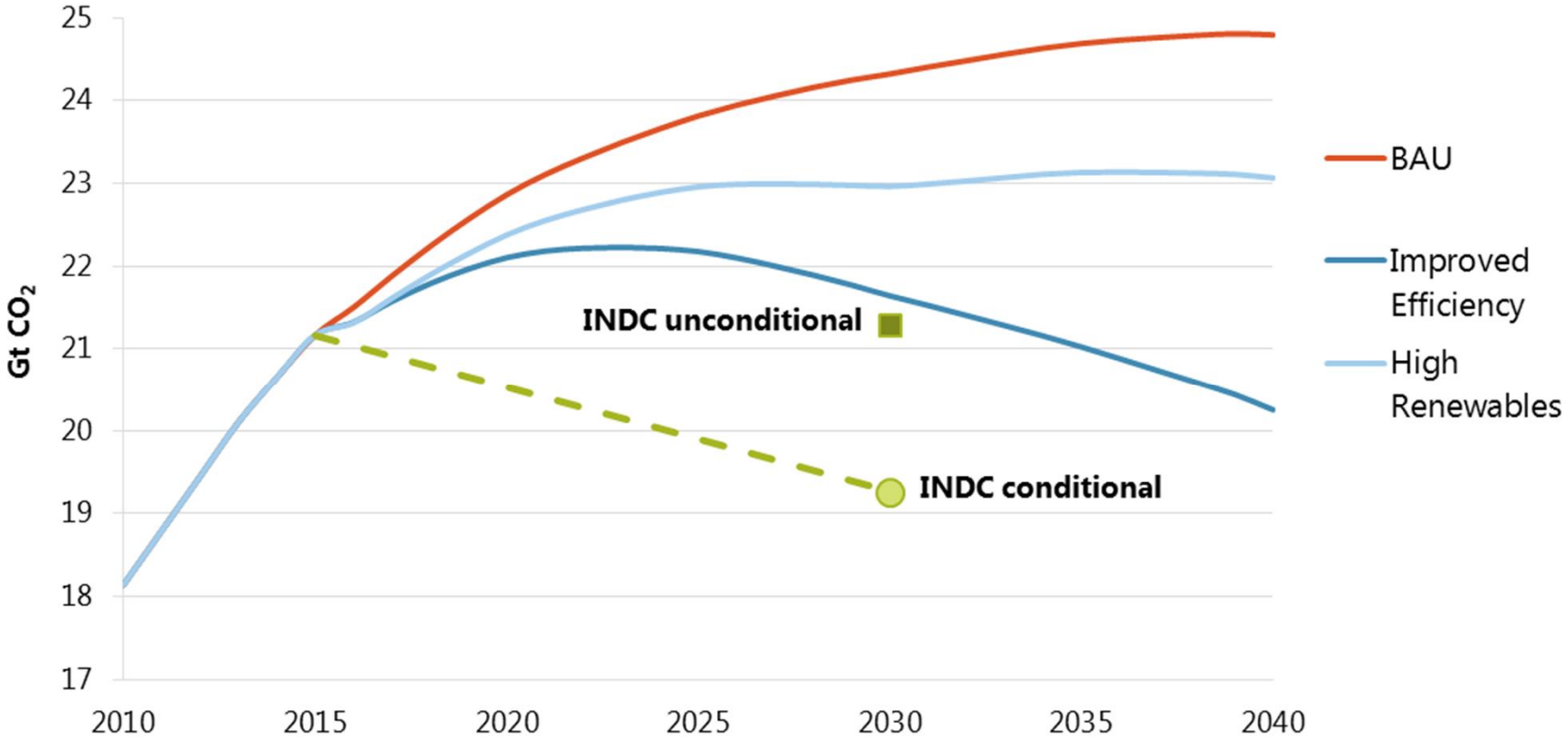
Energy security indicators

	BAU	Improved Efficiency	High Renewables	Cleaner Coal	High Nuclear	High Gas 50%	High Gas 100%
Primary energy supply diversity	0.24	0.23	0.23	0.24	0.22	0.24	0.24
Primary energy supply self-sufficiency (%)	92	94	94	92	94	90	87
Coal self-sufficiency (%)	100	100	100	100	100	100	100
Oil self-sufficiency (%)	75	80	75	75	75	75	75
Gas self-sufficiency (%)	94	98	89	94	99	86	79
Electricity generation input fuel diversity	0.30	0.28	0.27	0.30	0.27	0.28	0.27

Largest gains
Improvement
Unchanged
Deteriorate

In terms of energy security, Improved Efficiency and High Nuclear show largest improvements

Total CO_2 emissions in APERC scenarios



Efficiency and renewables needed to achieve reduction in emissions

Thank You!

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