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Realigning Policies for Deep Decarbonization of EAS countries

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Intended Nationally Determined Contributions (INDCs)

Country	INDC targets	Role of Renewables	Sectoral Targets
Australia	26-28% by 2030 (reference: 2005)	• 33,000 GwH by 2020 • 23.5% of electricity generation in 2020	INDC targets include energy, industrial processes and product use, waste, agriculture, and LULUCF sector
Brunei	Reduce total energy consumption 63% by 2035	• 10% of power generation by 2035 • Total power generation mix: 954,000 MWh by 2035	• Reduce CO2 emissions from morning peak hour vehicle use by 40% by 2035 • Increase the total forest reserves to 55% of total land area
Cambodia	Conditional 27% by 2030 (reference: BAU)	Hydro 32,500 MW by 2020	Emissions reduction by 2030: • Energy industries 16% • Manufacturing industries 7% • Transport 3% • Other 1% • Total savings 27%
China	60-65% per unit of GDP by 2030 (reference: 2005)	Increase the share of non-fossil fuels in primary energy consumption to around 20%	Increase forest stock volume by around 4.5 billion cubic meters on the 2005 level
India	Conditional: 33-35% per unit of GDP by 2030 (reference: 2005)	40% electric power installed capacity from non-fossil fuel by 2030	An additional carbon sink of 2.5 to 3 billion tons of CO2e through additional forest and trees cover by 2030
Indonesia	29% and conditional 41% by 2030 (reference: BAU)	23% energy from new and renewable energy (including nuclear) by 2025, at least 31% by 2050	12.7 million hectares of forest area has been designated for forest conservation
Japan	26% by 2030 (reference: 2013)	Renewables by 22%-24% by 2030	Removals target by LULUCF is 37 million tCO2e

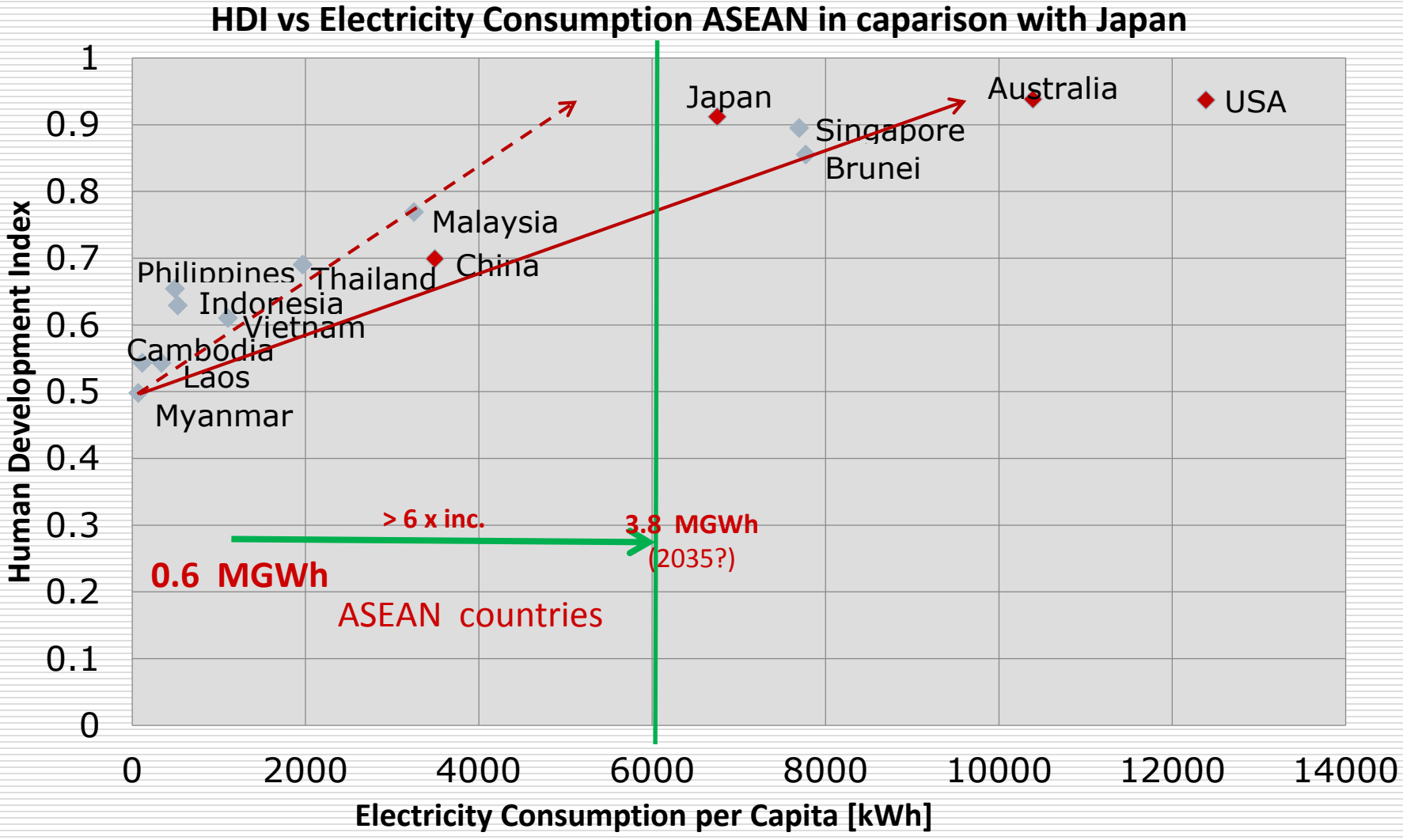
Source: ERIA, 2016

Intended Nationally Determined Contributions (INDCs)

Country	INDC targets	Role of Renewables	Sectoral Targets
Laos	Did not set the overall target	Increase the share of renewable energy to 30% of energy consumption by 2025	Increase forest cover to 70% of land area by 2020
Malaysia	35% in emissions intensity of GDP and conditional 45% (reference: 2005)	Cumulative total RE (MW): • 2020: 2,065 (9%) • 2030: 3.484 (10%) • 2050: 11.544 (13%)	INDC targets include energy, industrial processes, waste, agriculture, and LULUCF sector
Myanmar	Further analysis needed to quantify the reduction (reference: 2030)	Increase the share of hydroelectric generation to 9.4 GW by 2030	• Reserved forest and protected public forest: 30% of total national land area • Protected area systems: 10% of total national land area
New Zealand	11% by 2030 (reference: 1990)	Increasing renewable generation to 90% by 2025	Continue to achieve a rate of energy intensity improvement of 1.3 percent per annum
Philippines	Conditional 70% by 2030 (reference: BAU)	Capacity installation targets by 2012-2030: 8,902 MW	The INDC targets cover all sectors including LULUCF
Korea	37% by 2030 (reference: BAU)	22-29% of electricity generation from nuclear by 2035	Reduce energy intensity by 46% between 2007 and 2030
Singapore	36% by 2030 (reference: 2005)	Raise solar power in the energy system up to 350 MW by 2020	Energy intensity improvement (from 2005 levels) target of 35% by 2030
Thailand	20% and conditional 25% by 2030 (reference: BAU)	Targeted renewable generation: 13,927 MW by 2021	Reduce energy intensity by 25% in 2030
Vietnam	8% and conditional 30% by 2030 (reference: BAU)	Targeted capacity by 2030 • Wind power: 6,200 MW • Biomass power: 2,000 MW • Other renewables: 5,600 MW	Forest cover will increase to the level of 45%

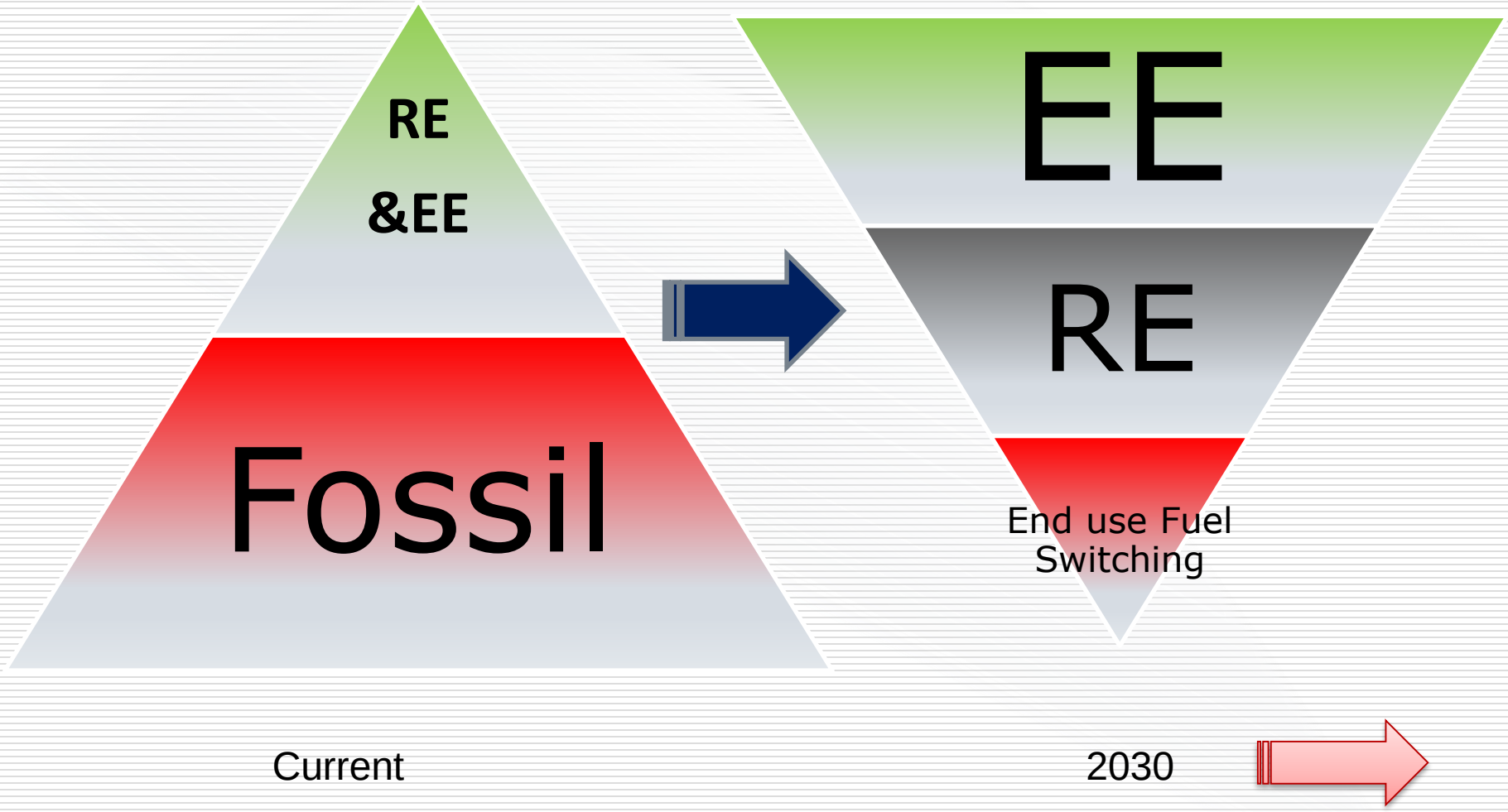
Source: ERIA, 2016

ASEAN Energy Consumption Scenario

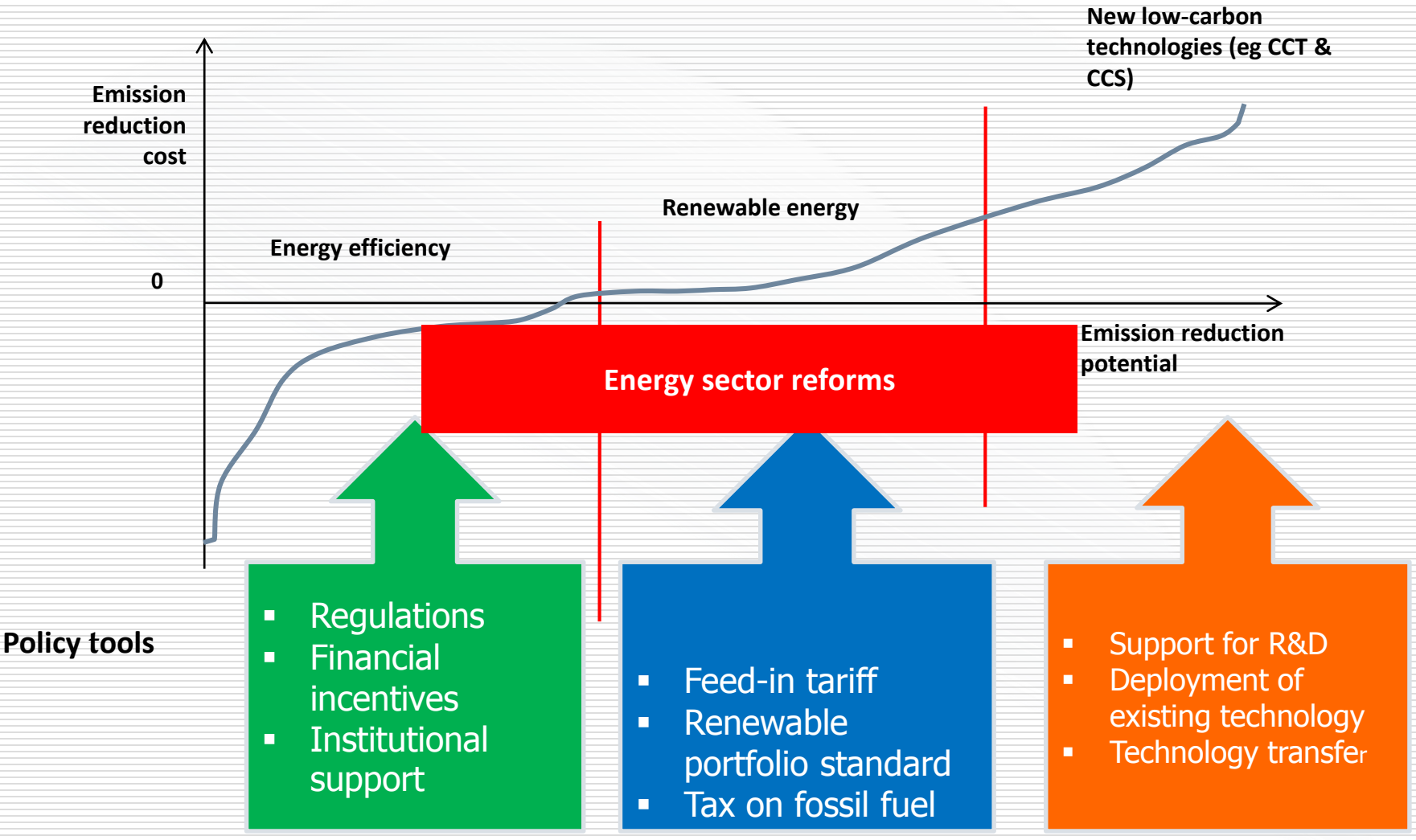


What INDC indicates?

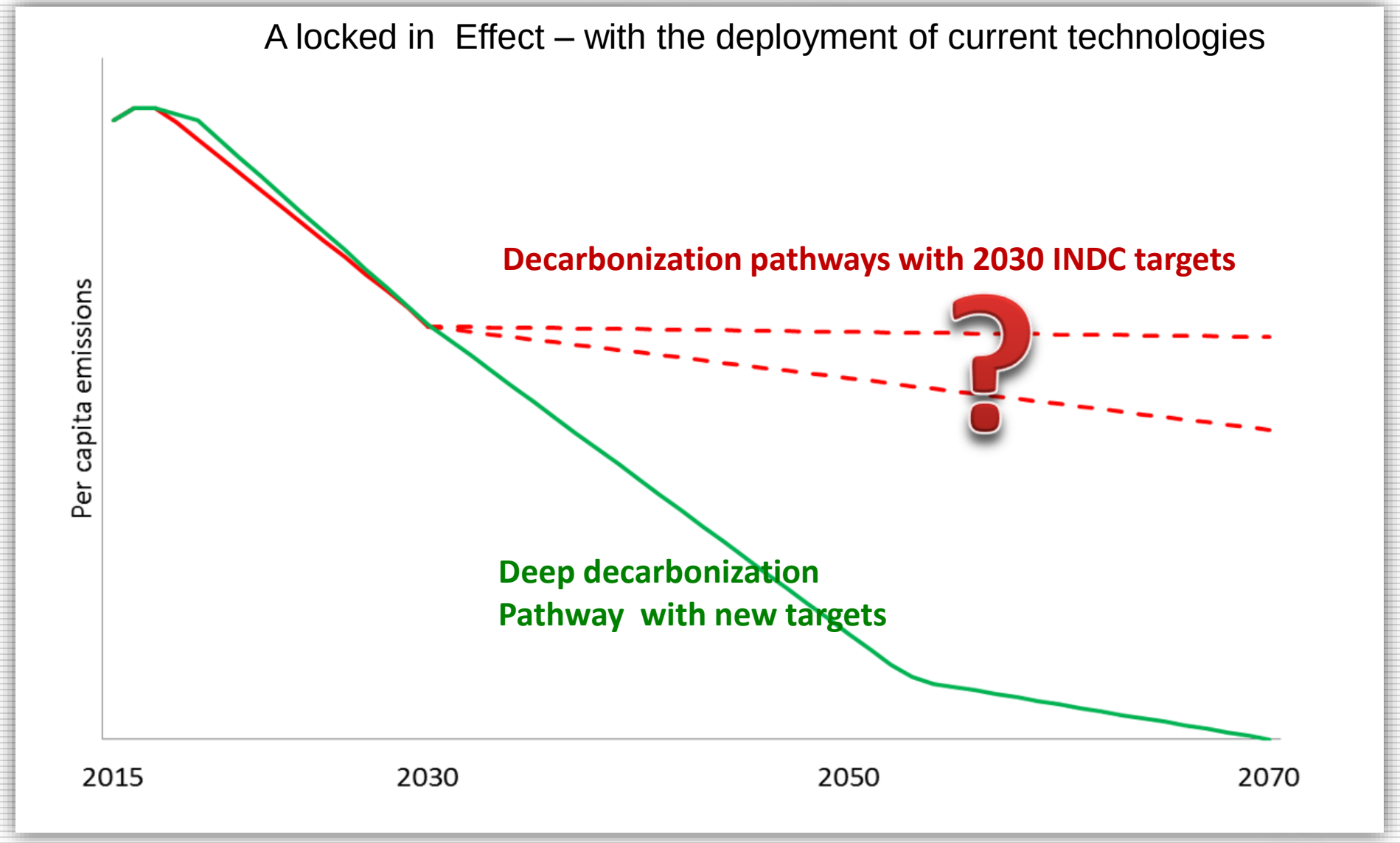
Towards great energy transformation?



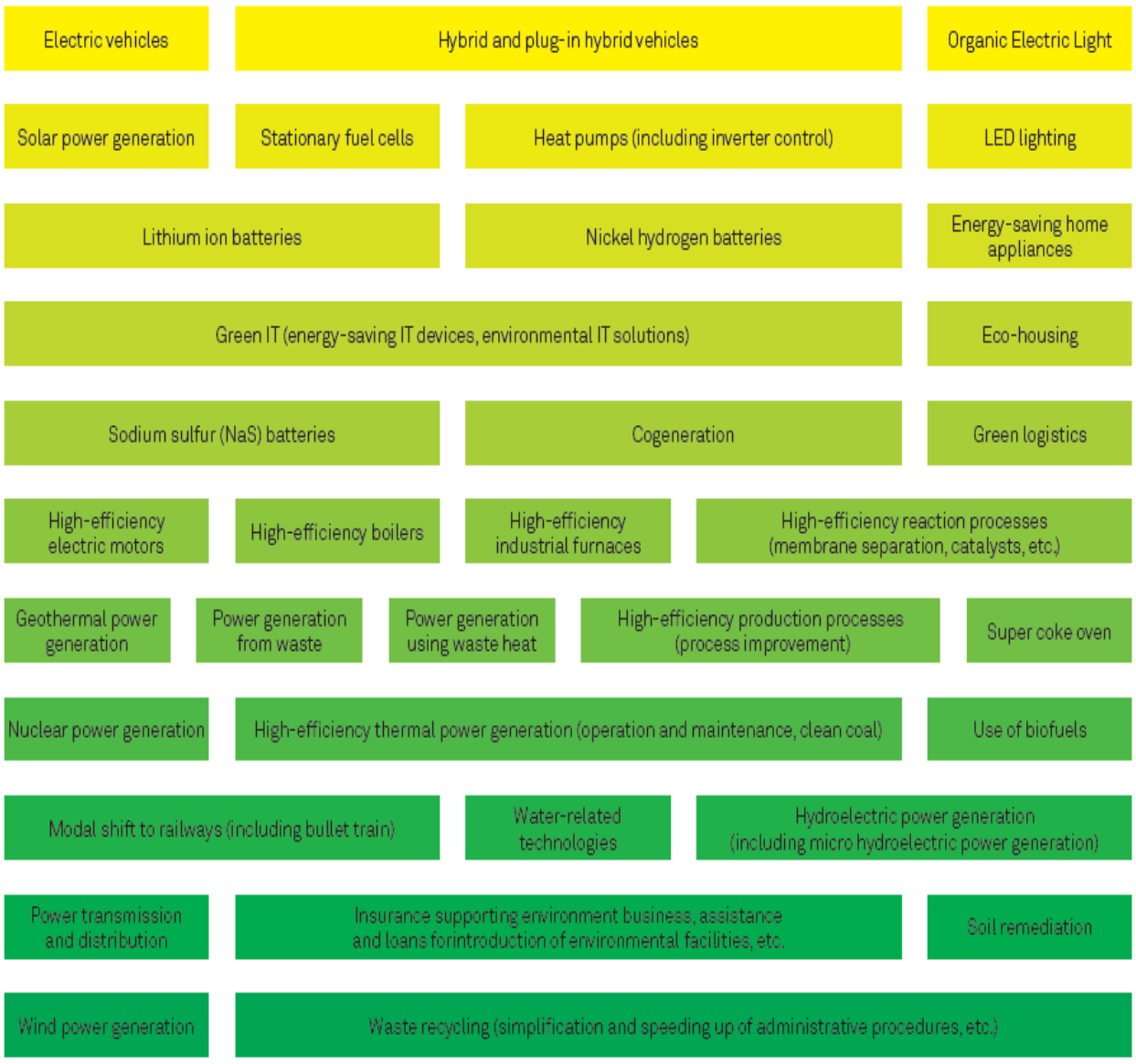
Domestic Energy Policy Tools Available for Decarbonization?



What INDC also implies



Made in Japan LCT: Enough for Deep Decarbonization?

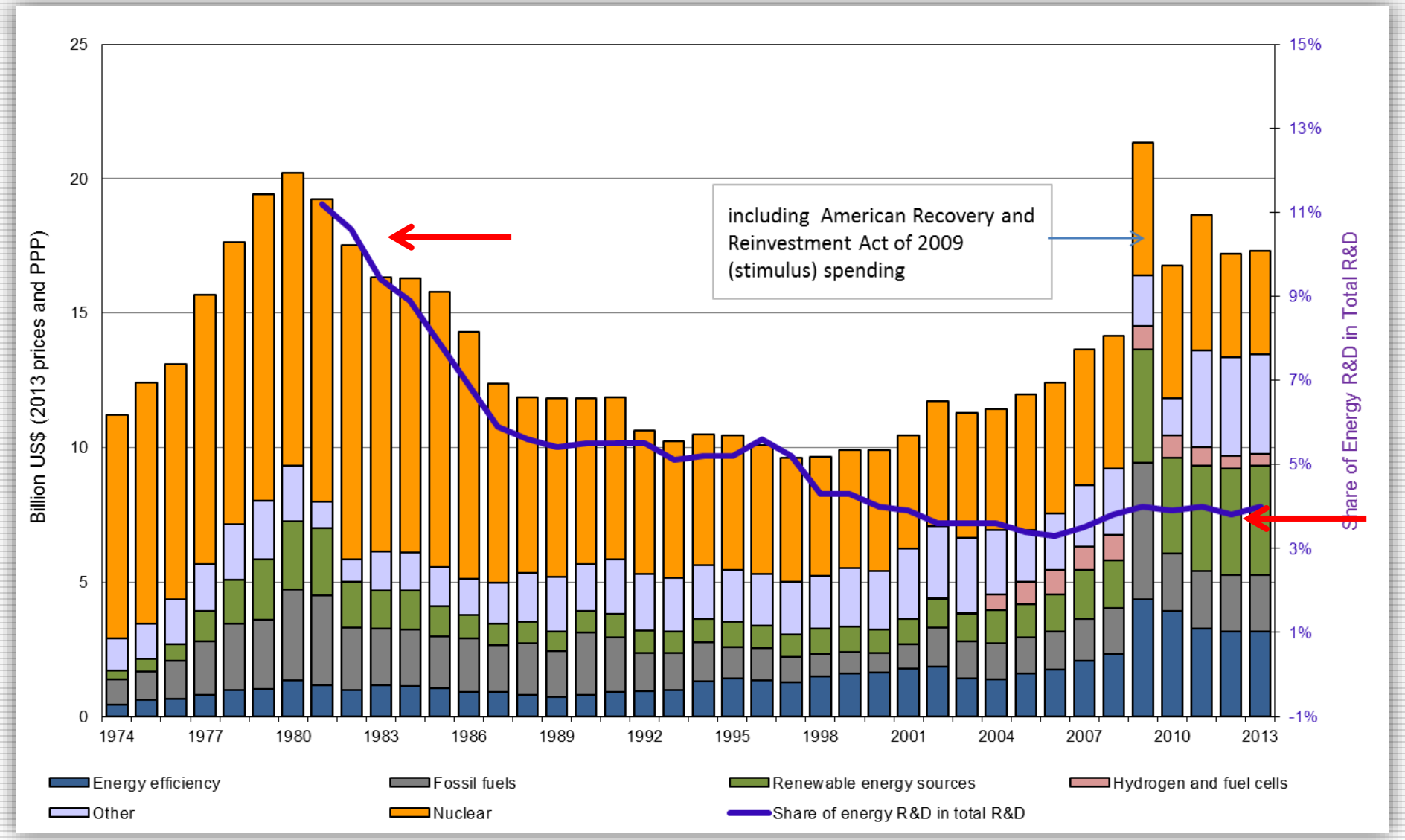


- Horizontal and vertical Innovation
- Free Trade in low carbon goods and services
- Innovative financing

Beyond Conventional Energy Policies

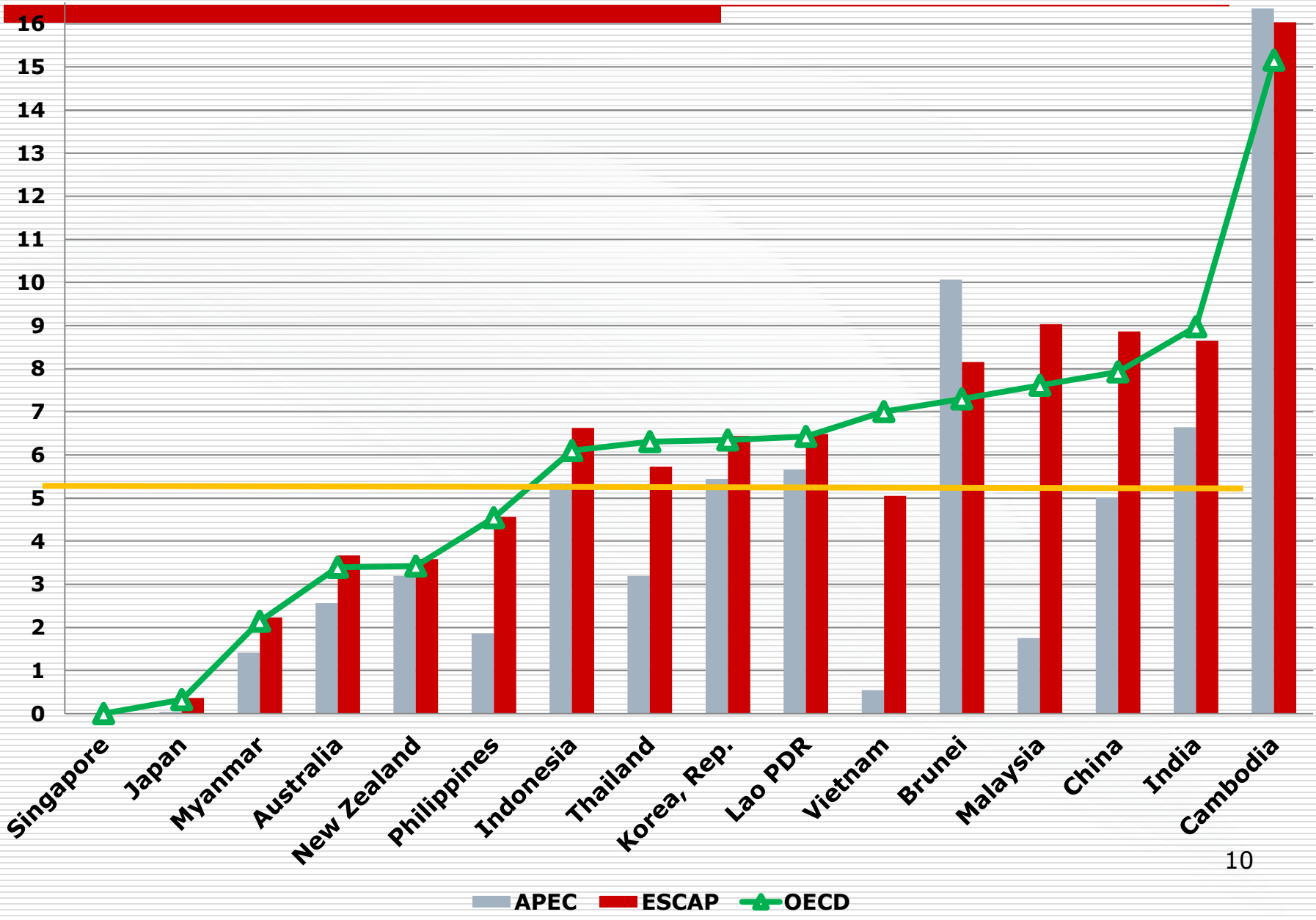
Source: Nippon Keidanren (2012)

Innovation and Skills Development Policies
Public Sector Energy RD&D



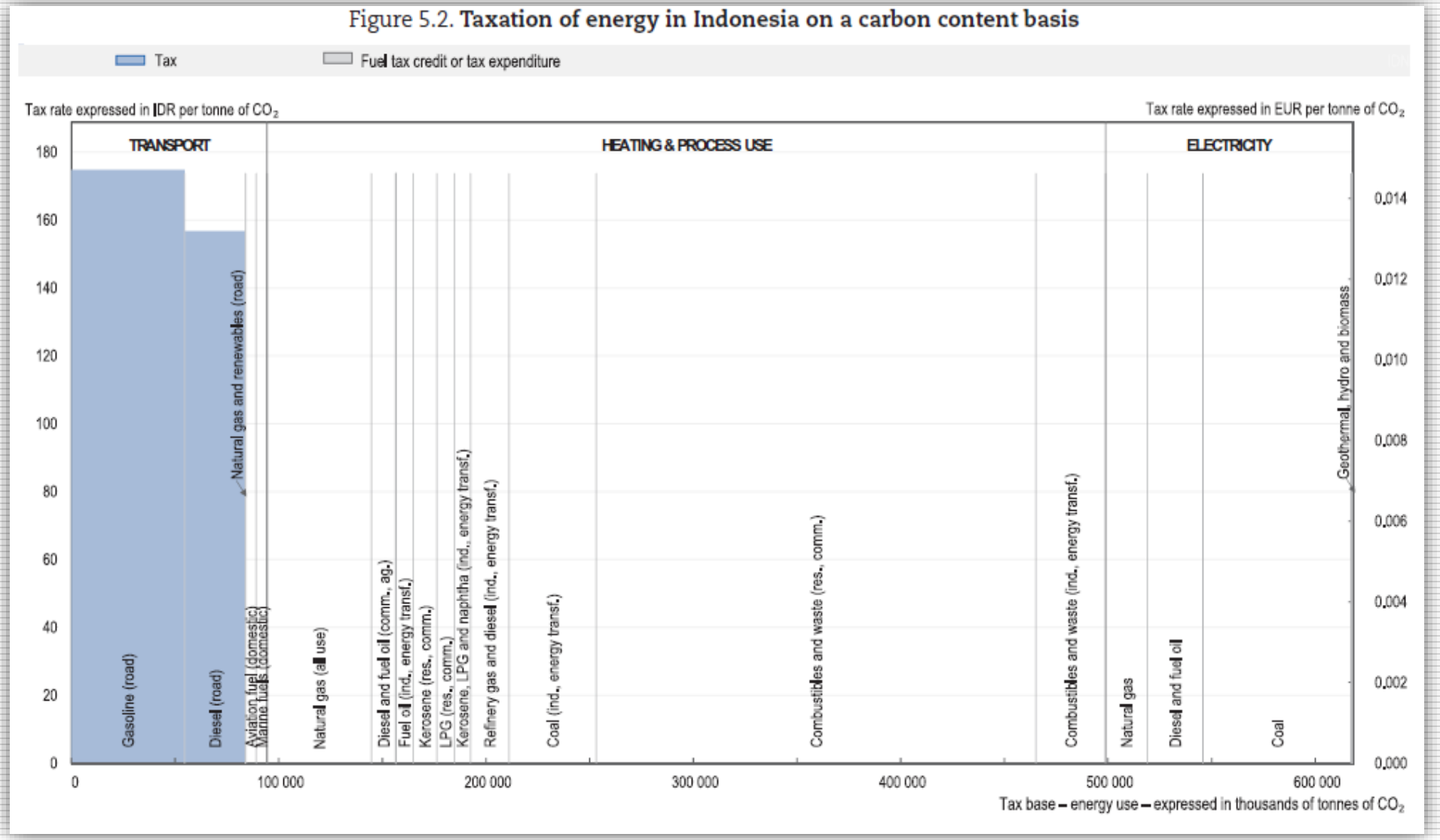
Source: IEA databases, 2014 cycle.

Trade Policies: Regional Average MFN Tariff of LCTs



Linking Tax Polices to Carbon Markets

Taxation of energy in Indonesia (in IDR and $/tCO$_2$)



Source: GOI - OECD, 2013

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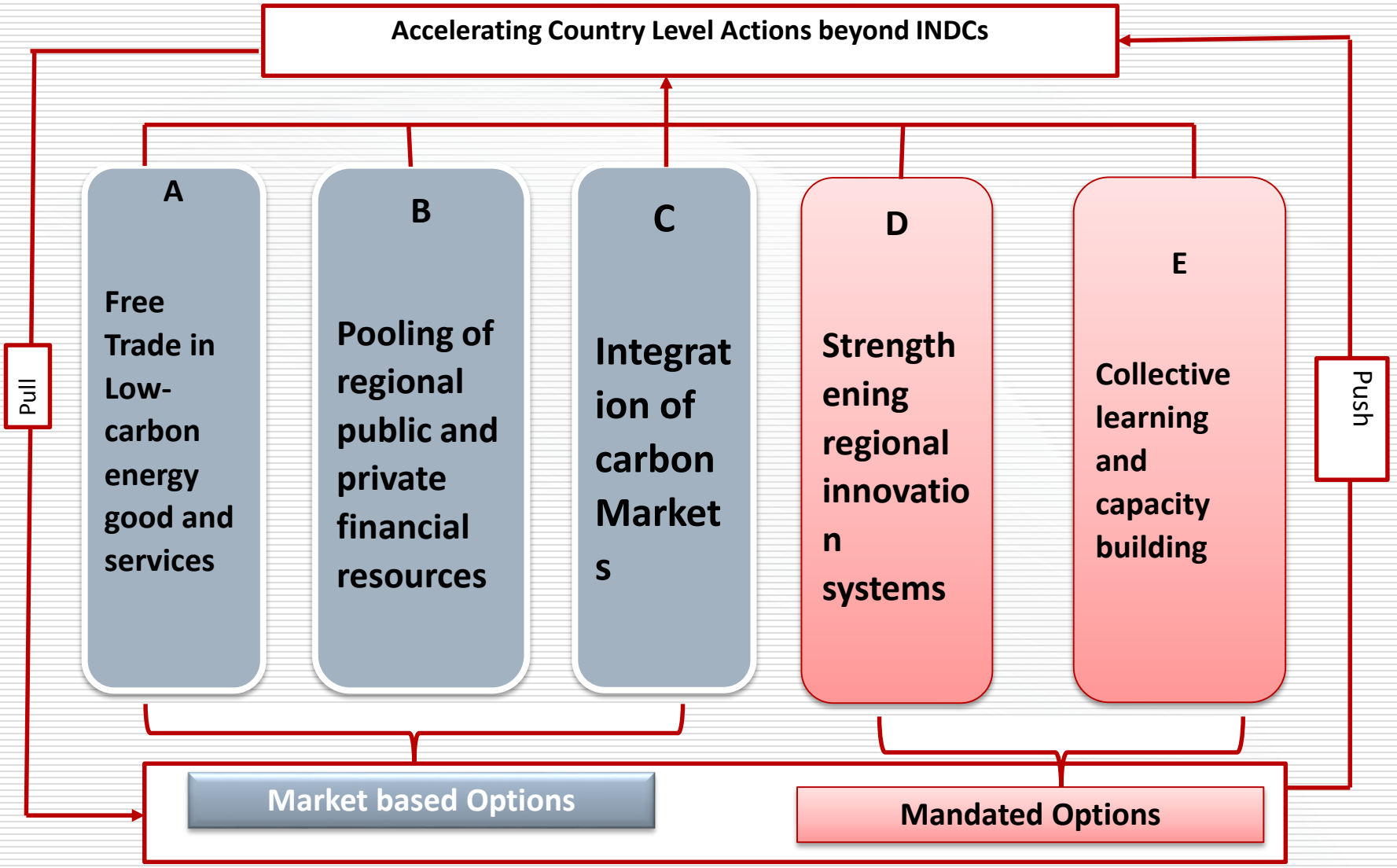
Regional Cooperation Framework for Deep Decarbonization



Source: ERIA, 2015

Conclusion

- **INDCs are short-term pathway for decarbonization**

-shared understanding on potentials of current policy instruments on energy efficiency, renewable energy and switching the end fuel use are needed

- **Deep decarbonization need long-term pathway**

-INDCs need to be nested with realigning of other sectoral policies with energy policies

- **Provide a regional cooperation framework for cumulative problem solving in each EAS country**

- Japan can take a lead with technology, finance and knowledge prowess