

The 11th IEEJ/APERC International Energy Symposium

The Gap Between Climate Ambitions and Energy Realities

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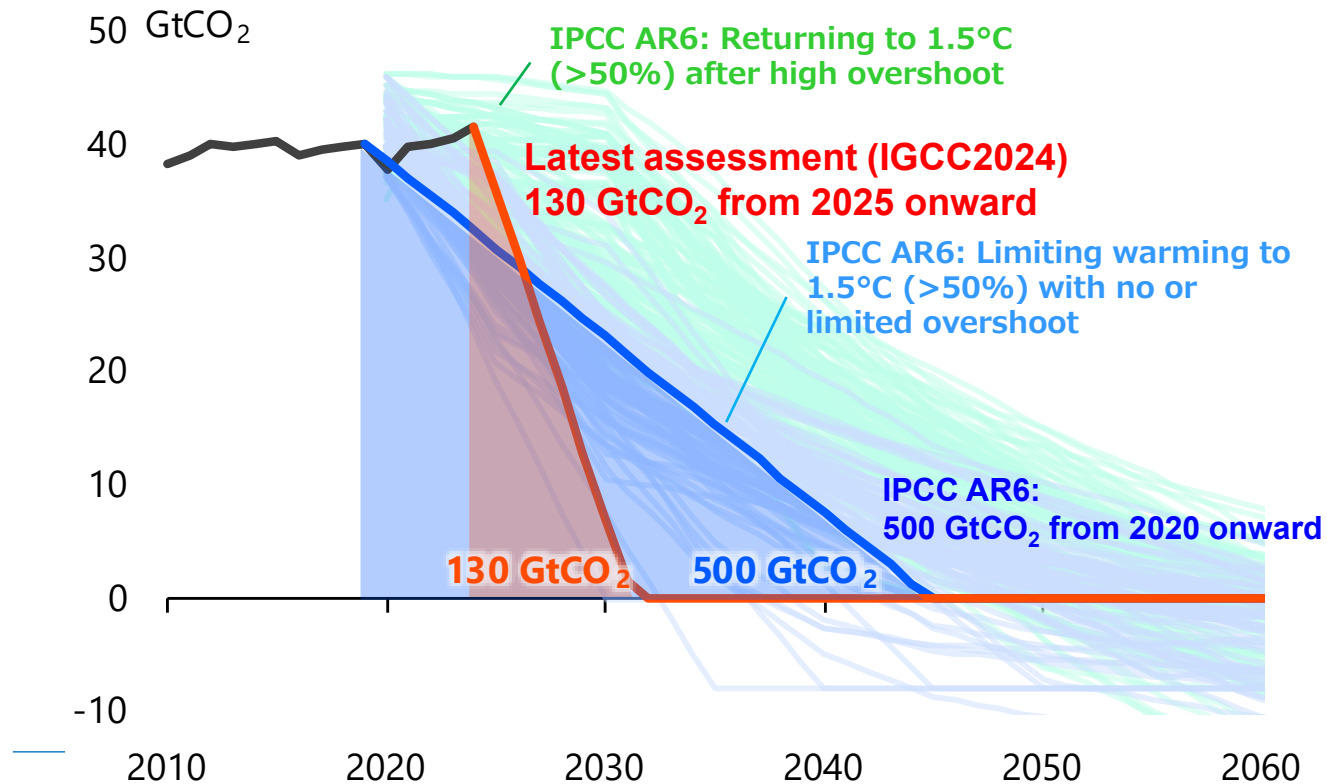
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1.5°C target practically unattainable

Remaining carbon budgets toward 1.5°C with a 50% probability

- ✓ **The IPCC AR6: 500 GtCO₂** from 2020 onward
- ✓ **The latest assessment: 130 GtCO₂** from 2025 onward (IGCC2024)
 - Less than four years' worth of current emissions, requiring net-zero by 2032.

CO₂ emissions pathway consistent with the 1.5°C target



500 GtCO₂

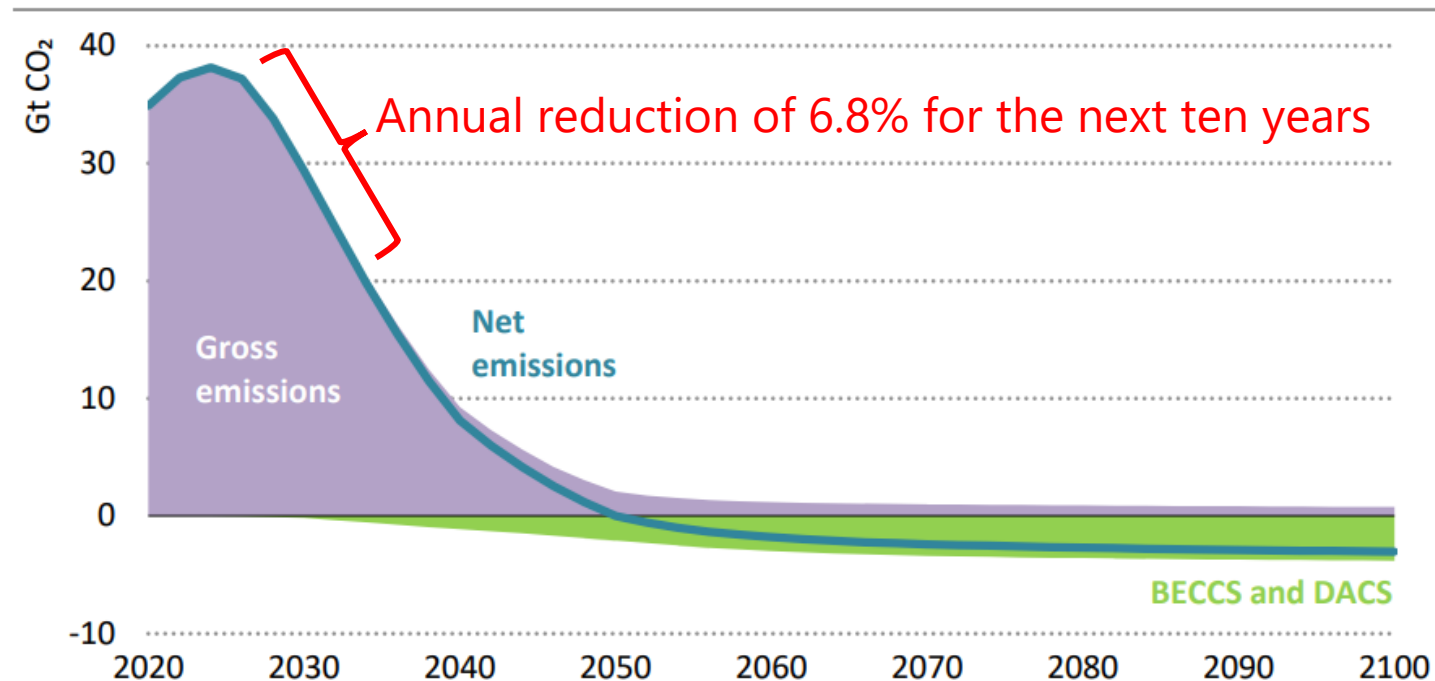
- Minus **200 GtCO₂** in emissions from 2020 to 2024
- Minus just **over 100 GtCO₂** due to the reduction of aerosols with cooling effect
- Minus about **40 GtCO₂** due to high temperatures over the past few years

Gives us **130 GtCO₂**

1.5°C target : What if high overshoot is allowed?

- ✓ IEA's NZE Scenario (WEO2025) :
 - Above 1.6°C for almost 30 years with peak of around 1.65 °C
 - Above 1.5°C for around 55 years
 - Falls back below 1.5°C in 2100
- ✓ CO₂ emissions need to be reduced by more than half **by 2035 with CAAGR -6.8%**. Emissions reduced by **-5.2% in 2020 under COVID 19**. Still inconceivable.

Figure 7.8 ▶ Global gross and net energy-related CO₂ emissions in the NZE Scenario, 2020-2100

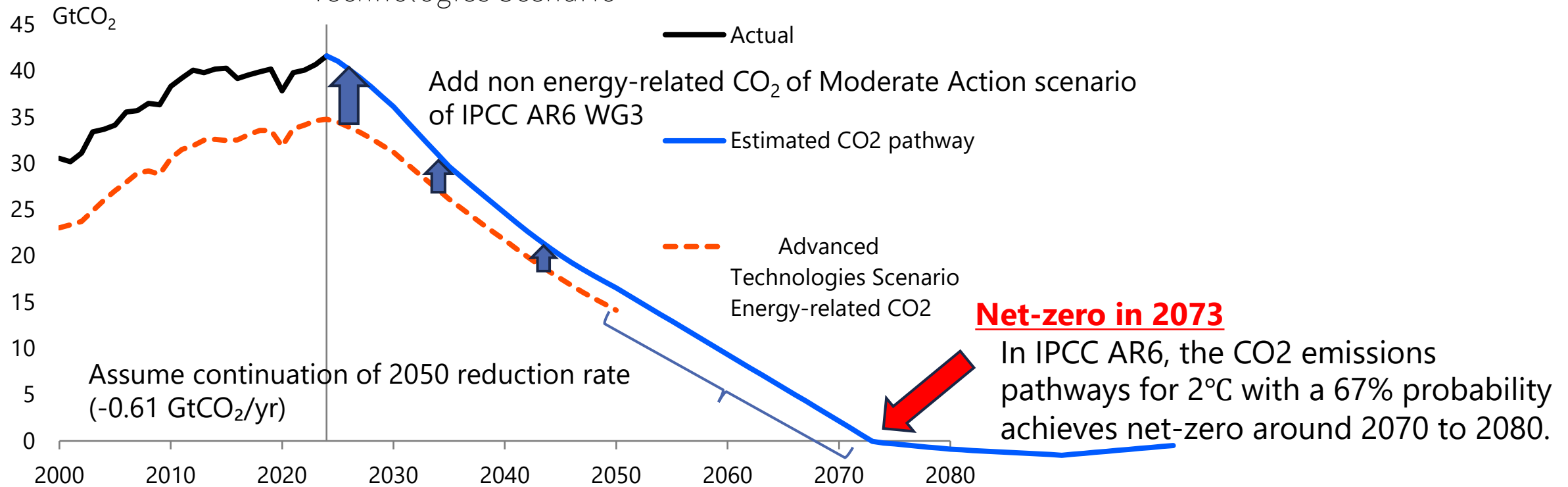


(Source) IEA, WEO2025

Comparison of the Advanced Technologies Scenario (ATS) and the 2 °C target (CO₂ emissions pathway)

- ✓ Two IEEJ Outlook scenarios:
 - **ATS: Maximum feasible efforts for energy security and climate goal (what temperature rise?)**
 - REF: Continuation of historical trends

Estimated CO₂ emissions pathway based on the Advanced Technologies Scenario



Comparison of the Advanced Technologies Scenario and the 2°C target (carbon budget)

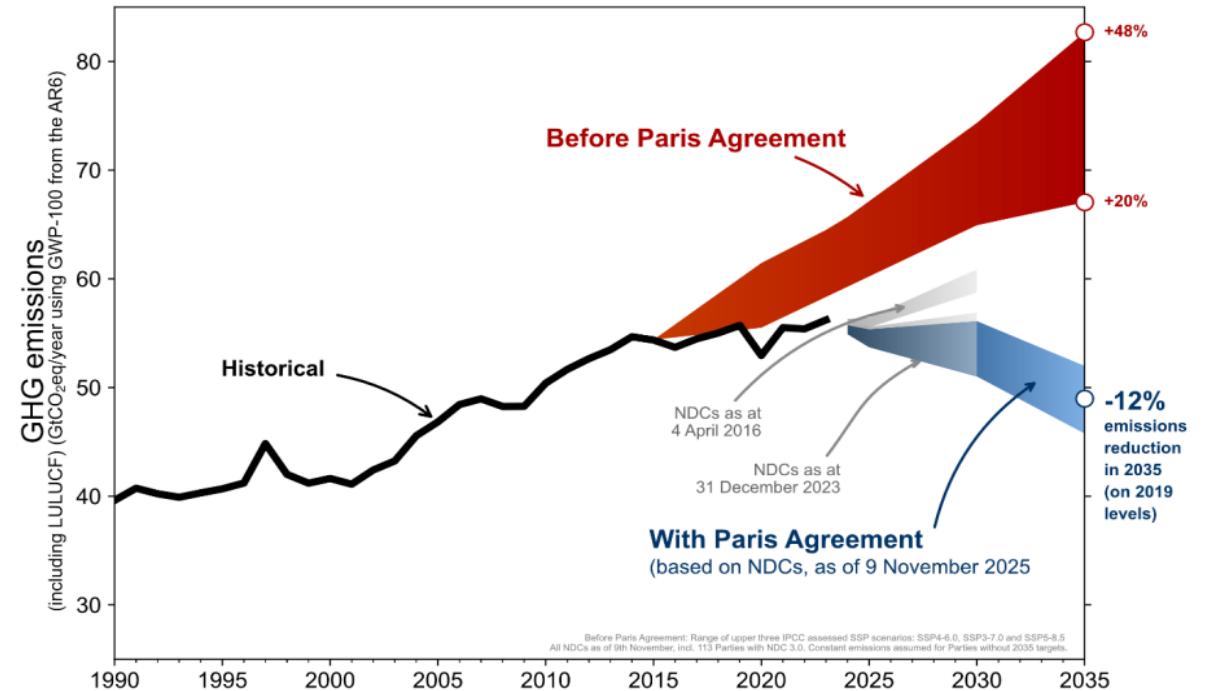
- ✓ Carbon budget under ATS is lower than other estimates to limit global temperature rise to 2 °C with 50% probability.
- ✓ However, it slightly exceeds IGCC 2024 estimate for 2 °C target with 67% probability. It remains crucial to pursue reduction potentials exceeding ATS.

Scenarios		Cumulative CO ₂ from 2025 onwards (GtCO ₂)
Estimated pathway (cumulative to net-zero)		906
2°C with 50% probability	IPCC AR6 SYR (Starting point adjusted)	1,150
	GCB2024	1,110
	IGCC2024	1,050
2°C with 67% probability	IPCC AR6 SYR (Starting point adjusted)	950
	GCB2024	NA
	IGCC2024	870

- ✓ Note:
 - Since the IPCC AR6 SYR budget starts in 2020, the value is listed after deducting 200 GtCO₂ emissions for 5 years from 2020 to 2024.
 - GCB (Global Carbon Budget) and IGCC (Indicators of Global Climate Change) are international research projects, updated annually.

Gap between ambition and commitments

- ✓ Emissions pathway based upon **new NDCs of 113 countries** who submitted before COP30
 - Great progress compared with "Before PA"
 - But **far away from 1.5°C pathway: 60% reduction by 2035 compared with 2019**
 - Not consistent even with 2°C pathway



- ✓ **Some G7 countries seem to have adjusted their commitments from G7 agreement in 2024**, "Our goal remains unchanged by 60% by 2035, relative to the 2019 level."
- ✓ Even the EU is adjusting its policies.

	2030 NDC2.0	2035 NDC3.0	2035 (relative to 2019)
Canada	▲40%~▲45% Relative to 2005	▲45%~▲50% Relative to 2005	▲44%~▲49%
EU	▲55% relative to 1990	▲66.25%~▲72.5% relative to 1990	▲54%~▲62%
Japan	▲46% relative to 2013	▲60% relative to 2013	▲54%
UK	▲68% relative to 1990	▲81% relative to 1990	▲66%

What about companies? Japanese leadership?

✓ SBTi (Science Based Targets)

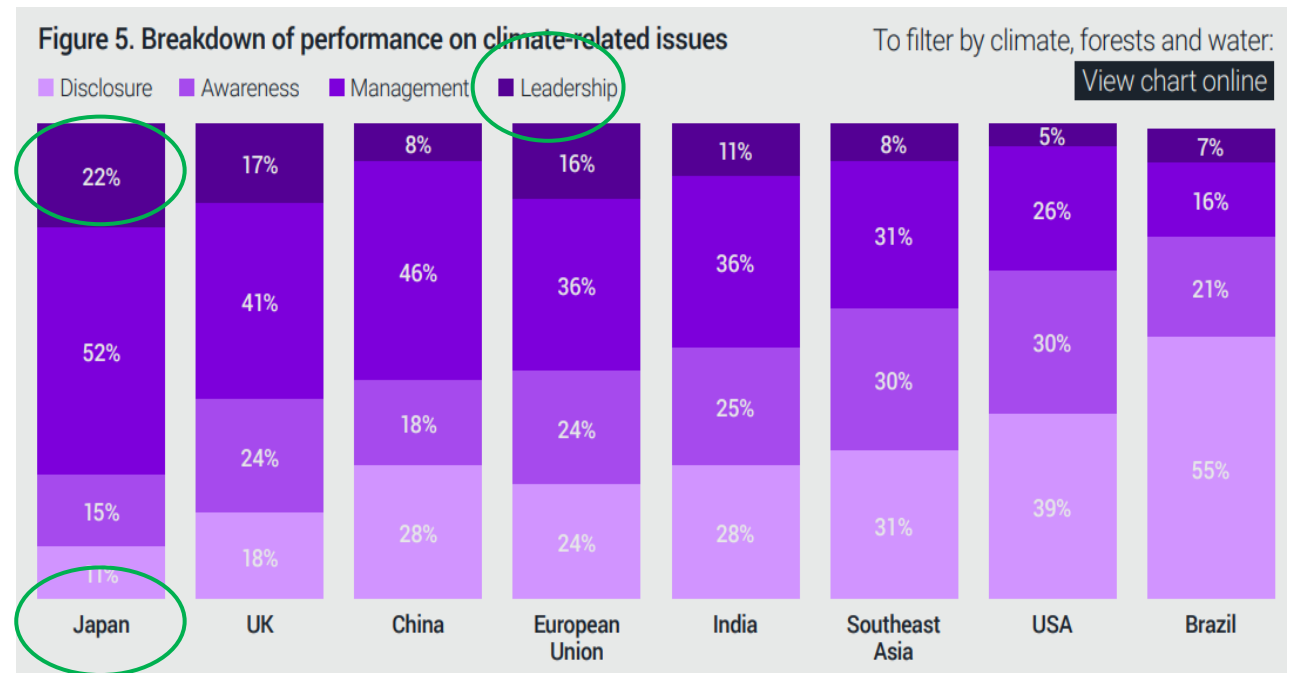
- Among about 11,000 companies with validated SBTi targets, **Japanese companies lead the highest share at around 2,100 (20%).**
- **Among the 1595 companies which left SBTi since 2019, the number of Japanese companies is just 37 (2%).** Most of these companies, including major American and European ones, could not meet the requirements of SBTi.

✓ CDP (Climate Disclosure Project)

- CDP discloses climate-related information of over 22,000 global companies.
- In its report (Jan. 2026), CDP **ranked Japan at top** in terms of percentage of the highest-level performance.

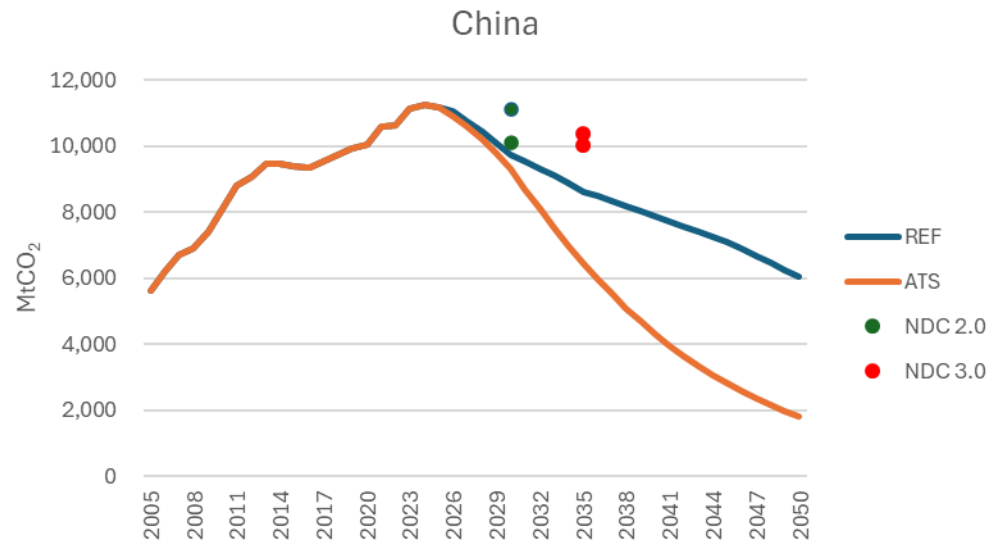


How should we see these?



Emerging economies: China and India

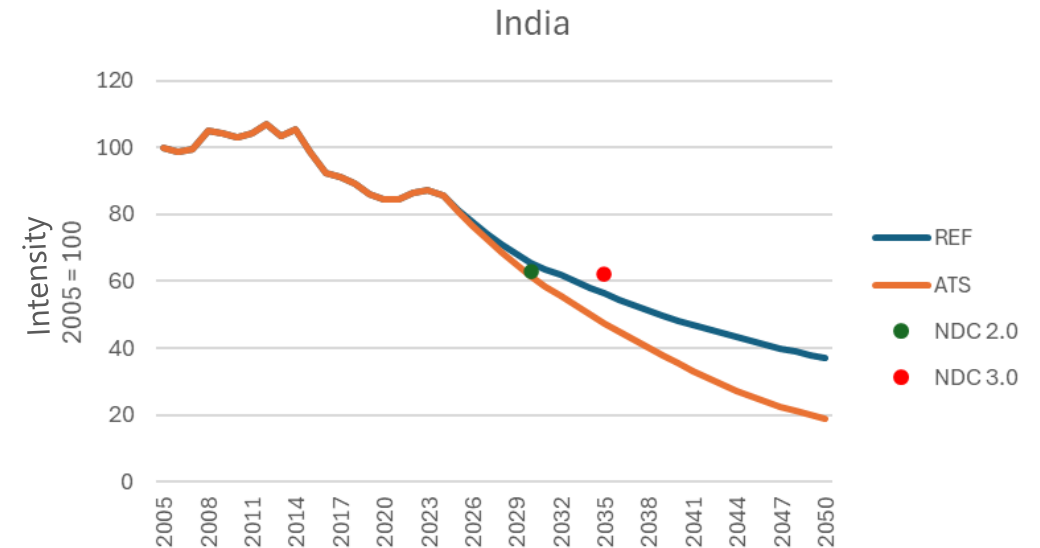
- ✓ **China's new NDC:** 7-10% GHG emissions reduction from peak by 2035 is **well above REF scenario.**



Note: The same emissions reduction target by 2035 was assumed for energy-related CO₂.

- ✓ China's 15th Five-Year Plan implies that its GHG emissions will not peak until 2030.

- ✓ **India's new NDC:** 47% GHG emissions intensity per GDP reduction by 2035 from 2005 is also **above REF scenario.**



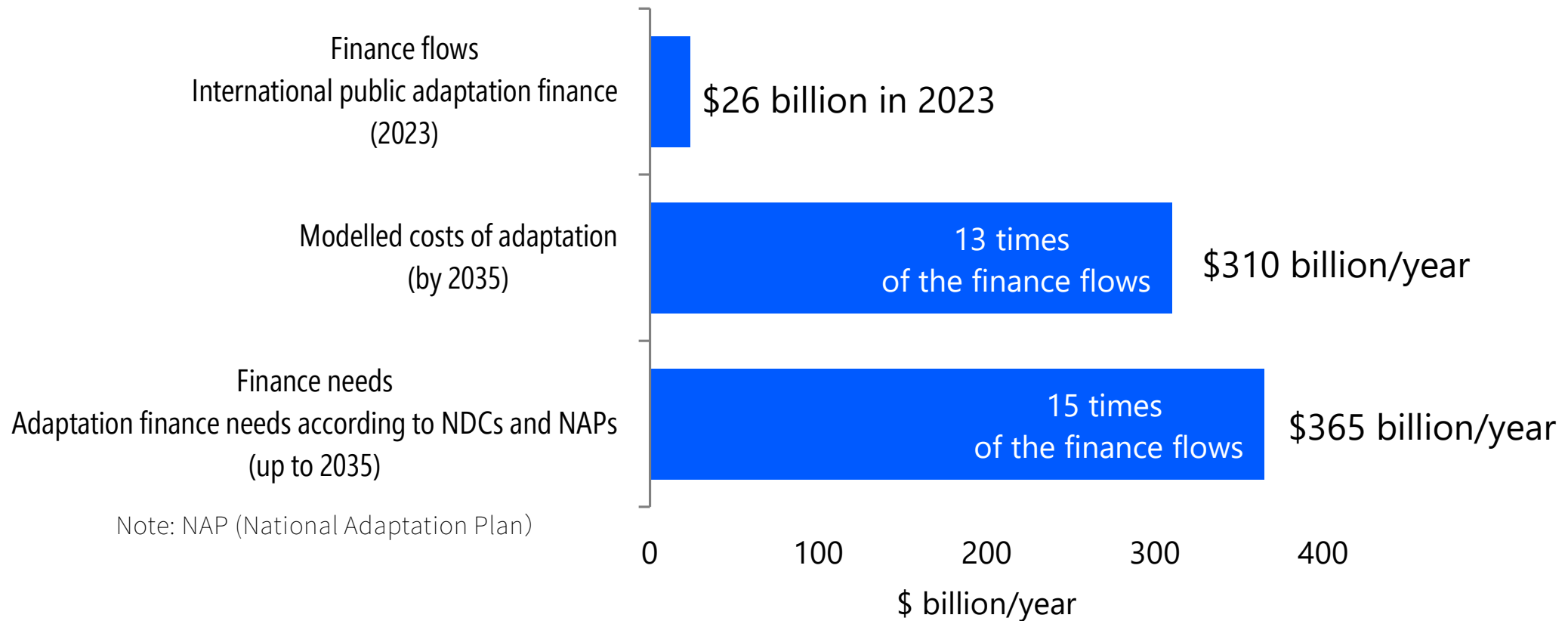
Note: Energy-related CO₂ intensity target was calculated from the past correlation between GHG and energy-related CO₂ emissions.

- ✓ India's energy-related emissions will grow by around 48% by 2035, compared with 2023.

To face the reality, adaptation is a key. But the adaptation finance gap is substantial.

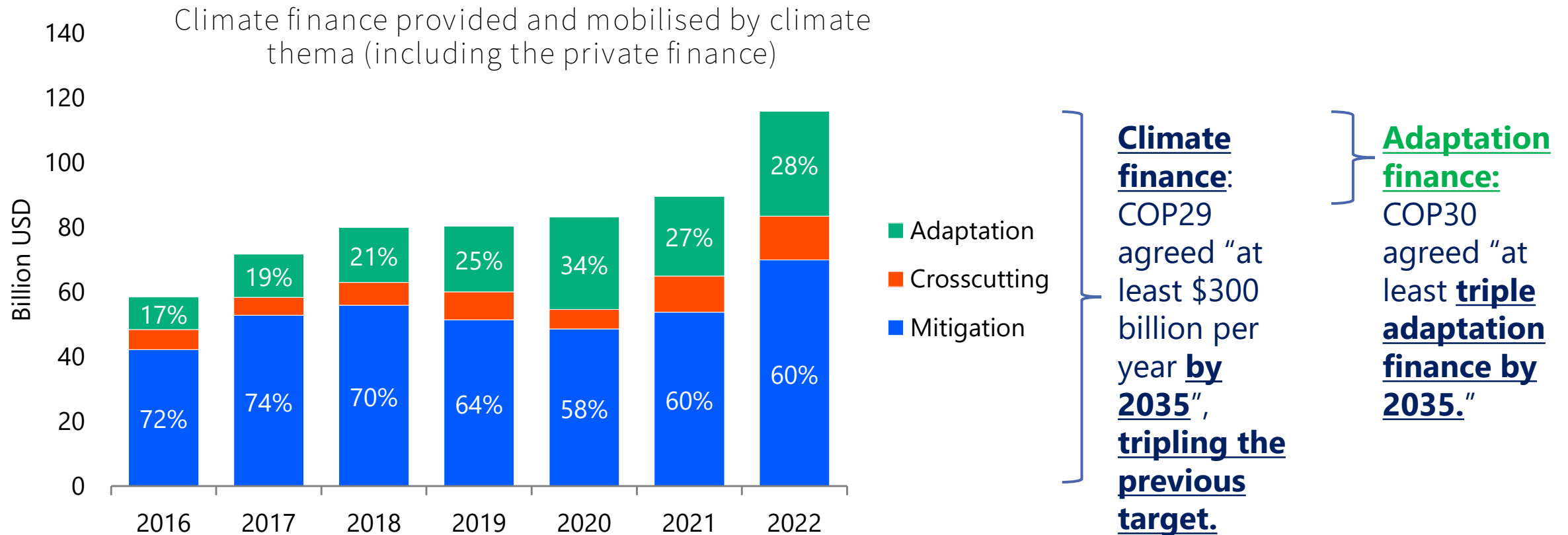
✓ Closing this gap is a priority.

Adaptation finance gap



Balance between adaptation and mitigation finance

- ✓ Art. 9.4 of the Paris Agreement states, "The provision of scaled-up **financial resources** should aim to **achieve a balance between adaptation and mitigation**". But it is unbalanced.
- ✓ Given COP 29 & 30 agreements, it will remain unbalanced.



Summary

- ✓ The remaining carbon budget to achieve the 1.5°C target is rapidly depleting, and it is time to take the 2°C target as a realistic target.
- ✓ Narrative is important. This does not necessarily mean step-back but rather return to the original objective of the Paris Agreement.
- ✓ ATS is consistent with 2°C target. It is a forward-casting scenario and can serve as a milestone for future efforts grounded in reality.
- ✓ Commitments are not consistent even with 2°C target. Only with our maximum efforts, can 2°C be within reach.
- ✓ On adaptation, a large financial gap between what is needed and provided has to be filled. Balance between mitigation and adaptation finance should be revisited.