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MARKET SNAPSHOT

February 2025

Index Carbon Analysis: Hang Seng

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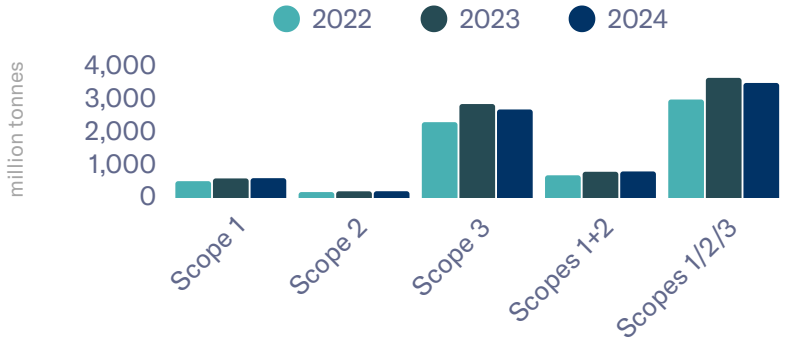
KEY FINDINGS

- Scope 1&2 emissions have increased in 2024
- Top 5 emitters represent ~80% of index emissions (10% of market cap)
- Index faces 46% potential carbon liability under IPCC Net Zero scenario by 2050

ⓘ This series examines the carbon footprint of major indices, revealing key sector patterns, company-level drivers, and potential carbon liabilities under different climate scenarios.

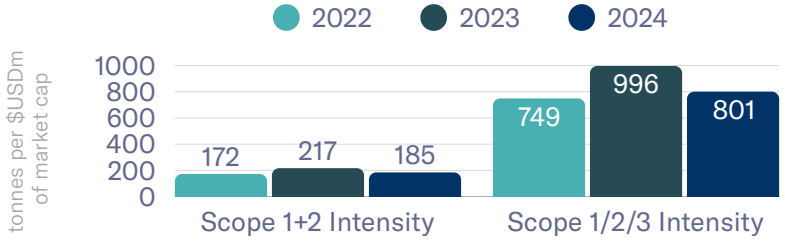
Emissions

Hang Seng companies increased their Scope 1 and 2 emissions in 2024, though supply chain emissions (Scope 3) bucked the trend with a reduction from 2023 to 2024.



Emissions Intensity

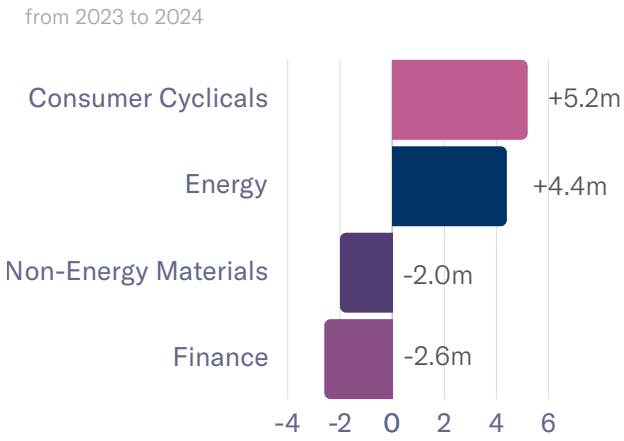
Despite a slight rise in absolute emissions, rising valuations through 2024 ensured Scope 1+2 'intensity' fell from 2023. All scopes intensity fell from 2023 levels, but was still up on 2022 levels.



Sectors: Biggest Movers in Total Emissions

Analysis of Scope 1 and 2 emissions reveals an increase in consumer cyclicals, energy, and utilities, while emissions dropped across non-energy materials and the finance sector.

Consumer cyclicals saw increased emissions primarily from automotive manufacturers, reflecting the growing demand for BYD's electric vehicles and associated production capacity expansion.



1. While 'divested', these emissions are captured under Scope 3 (Cat. 15 - Investments) as a deferred payment note.

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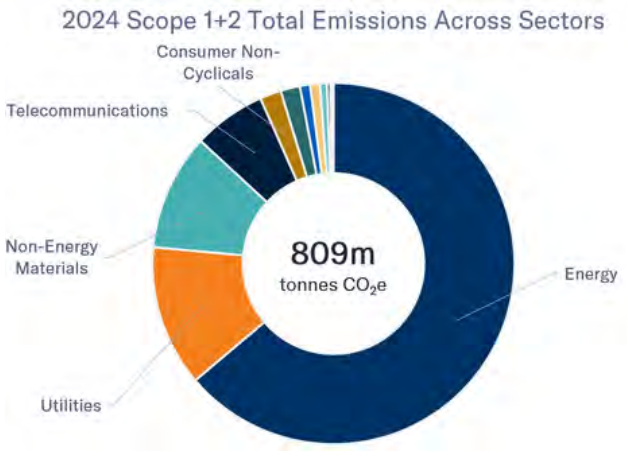
Total Emissions Across Sectors

Energy and utilities are the majority of Scope 1 and 2 emissions, collectively making up 76% of the index total.



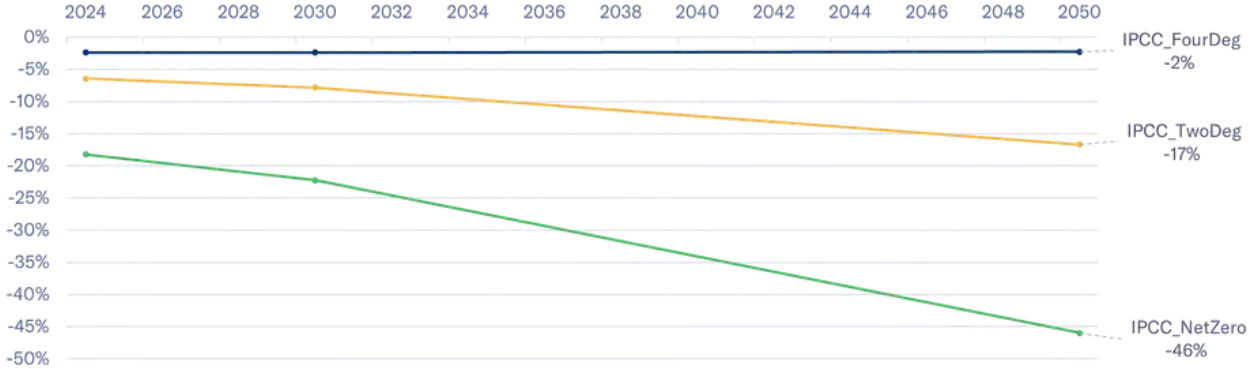
Capital vs Emissions Weight of Top 5 Emitters

Scopes 1 and 2 (2024)

Of the 83 constituents in the index, almost 80% of total emissions come from just five companies, representing 10% of the index by capital weight.

Potential Carbon Liability (PCL)

Across the index, we observe a potential carbon liability of up to 46% under the IPCC Net Zero scenario in 2050, with only a 2% potential loss under the IPCC Four Degree scenario. Contact us for any analysis on the NGFS scenarios.



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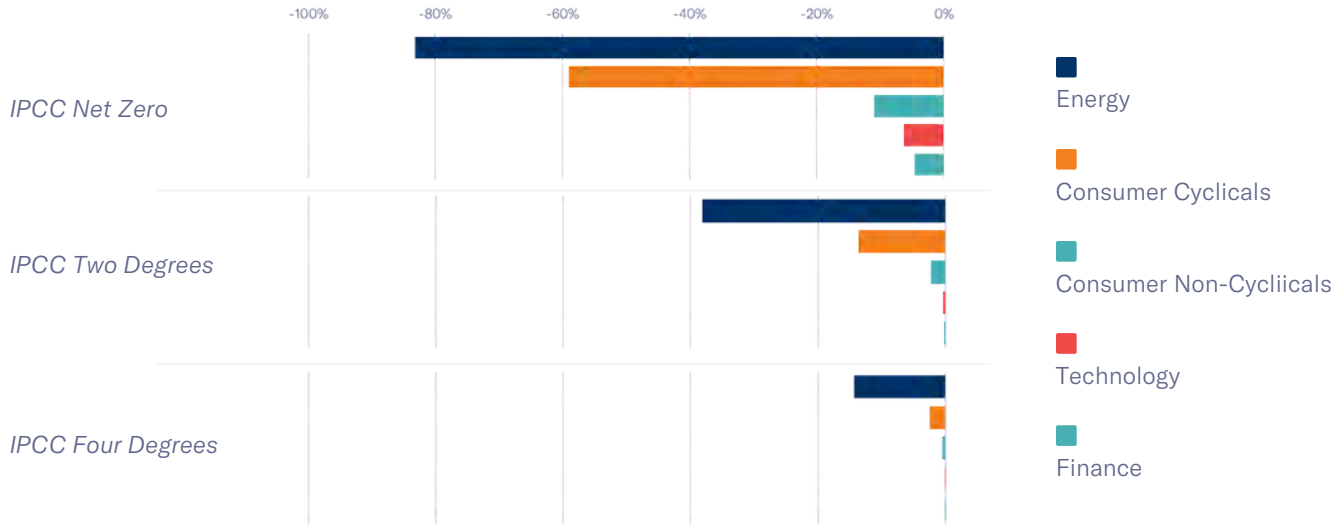
Total Emissions Across Sectors

Potential Carbon Liability - 2030

In terms of carbon risk, energy has an 83% PCL under the IPCC Net Zero scenario in 2030, whereas the technology and finance sectors carry low risk across all scenarios.



Peak Before Progress: The Hang Seng's Carbon Transition Challenge

Analysis of the Hang Seng Index highlights the fascinating paradox in China's decarbonisation story.

In line with other financial centres, technology and financial firms dominate its market capitalisation. However, as noted in our analysis of Singapore's STI, the Hang Seng has a significantly higher carbon footprint. Just five companies (representing less than 10% of its market weight) account for ~80% of the index's total emissions, led by energy giants PetroChina and China Shenhua Energy.

China's approach to decarbonisation has a dual narrative. Its massive economy needs energy – agnostic to source. So, these heavy emitters operate under relatively flexible commitments to 'peak carbon emissions before 2030' - effectively permitting continued increases in the near term. Meanwhile, it also has an ambitious clean energy agenda and installed a record 370GW of renewable capacity in 2024.

This combination is likely to make it look like it is out of step with the world's low carbon transition through to 2030. But, the weight of investment in low carbon/low fuel cost technologies now is likely to mean an inflection point, as coal-fired power stations come to end-of-life, with a significant acceleration in the transition from 2030 to 2050.

Methodology notes: Our machine learning models achieve strong accuracy across all scopes, with WMAPE (Weighted Average Median Absolute Percentage Error) ranging from 15.3% to 18.1%.

For detailed methodology and validation metrics, read our white paper: emmi.io/newsroom/white-paper-nov-2024

This analysis applies to the current Hang Seng constituents, using market values as of each year-end to determine index weightings.

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Peak Before Progress: PCL Implications

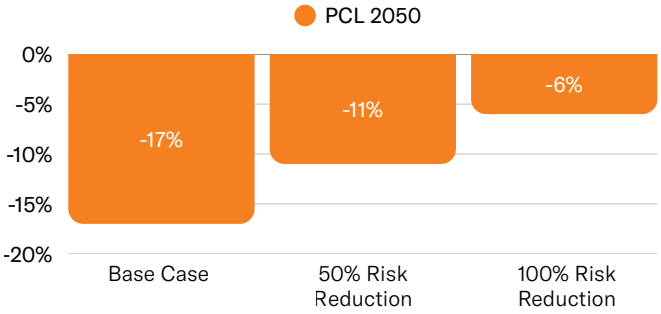
In addition to the dual energy story, the PCL numbers in our IPCC Two Degree scenario analysis draw attention to another important nuance: while these five companies account for 80% of index emissions, their impact on the Hang Seng's PCL is constrained by market cap.

No company can lose more than its total value, regardless of emissions intensity. So, this mathematical boundary, combined with their relatively small market weights, creates an intriguing carbon risk profile for the Hang Seng.

Even eliminating the carbon risk of the heavy emitters leads to less dramatic shifts in index-level PCL than emissions data alone would imply.

Under IPCC Two Degree scenario.

Below, we model the index's carbon risk in 2050 under two scenarios: a 50% and 100% reduction in energy and utilities sector emissions, holding all other variables constant.



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About Emmi Solutions

Emmi is 'your net-zero investor toolkit' – we provide financed emissions data and climate risk analysis across all major public and private asset classes. These support climate-related reporting, and analysis that feeds into investment management processes.

We use a combination of reported emissions, proprietary machine-learning models and algorithms to do this. Our tools translate emissions into financial implications, based on climate and pricing scenarios. This gives our clients actionable insights about their carbon exposure.

This diagnostics 'toolkit' is backed by our team of climate and finance experts.

Emmi believes that a low carbon economy is possible, and that properly incentivising and mobilising capital is the fastest and most cost-effective way to reach Net Zero and beyond.

Incorporating the cost of carbon into every decision will enable the finance sector, and its customers, to efficiently allocate resources towards this goal, which will accelerate decarbonisation.

To achieve this, and to meet regulatory requirements, there is a need for a broad spectrum of quality carbon emissions data and climate risk analysis. We have built Emmi to solve that problem.