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Index Carbon Analysis: STI30



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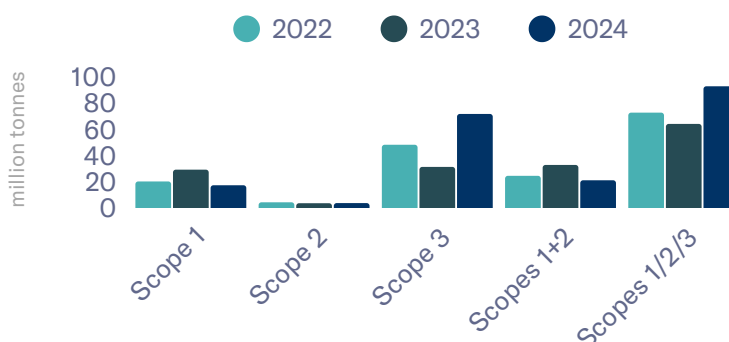
KEY FINDINGS

- Scope 1&2 emissions have returned to 2022 levels
- Top 5 emitters represent ~90% of index emissions (13% of market cap)
- Index faces 36% potential carbon liability under IPCC Net Zero scenario by 2050

① 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

STI30 companies cut their Scope 1 and 2 carbon output in 2024, reverting to levels slightly below 2022. Supply chain emissions (Scope 3) bucked the trend with an uptick from 2023 to 2024 (although this is likely due to increased reporting rather than emissions).



Emissions Intensity

Rising valuations and lower Scope 1 emissions through 2024 ensured Scope 1+2 'intensity' fell from 2023. However, increased Scope 3 emissions produced a increase in Scope 1/2/3 intensity.

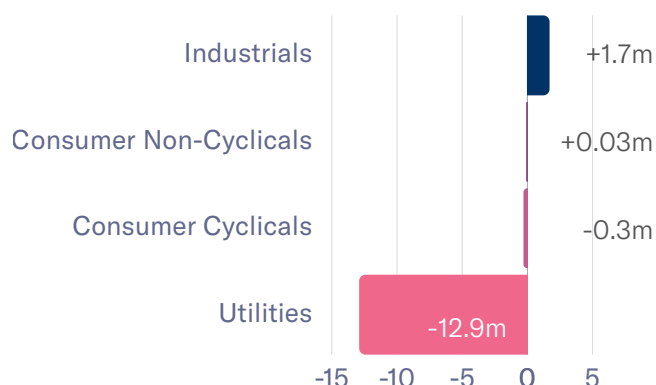


Sectors: Biggest Movers in Total Emissions

Analysis of Scope 1 and 2 emissions reveals a significant reduction in the utilities sector. This decrease largely stems from Sembcorp's divestment of their Indian coal-fired power plant operations, to align with their strategic transition to green energy generation¹.

Meanwhile, the industrial sector saw an uptick in emissions, attributed to Singapore Airlines' ongoing recovery and expanded operations in the post-COVID period.

from 2023 to 2024

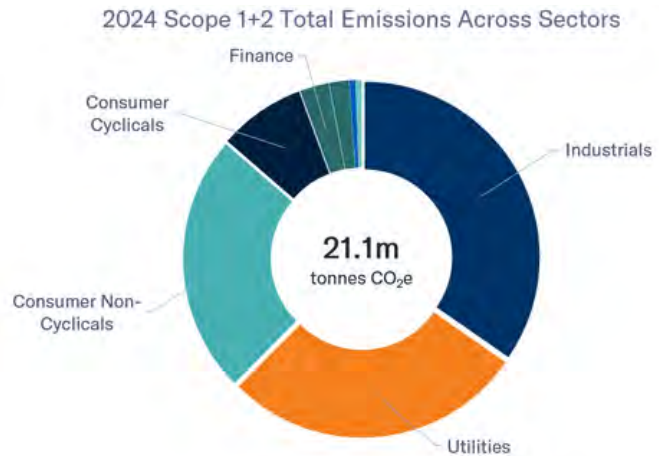


1. While 'divested', these emissions are captured under Scope 3 (Cat. 15 - Investments) as a deferred payment note.



Total Emissions Across Sectors

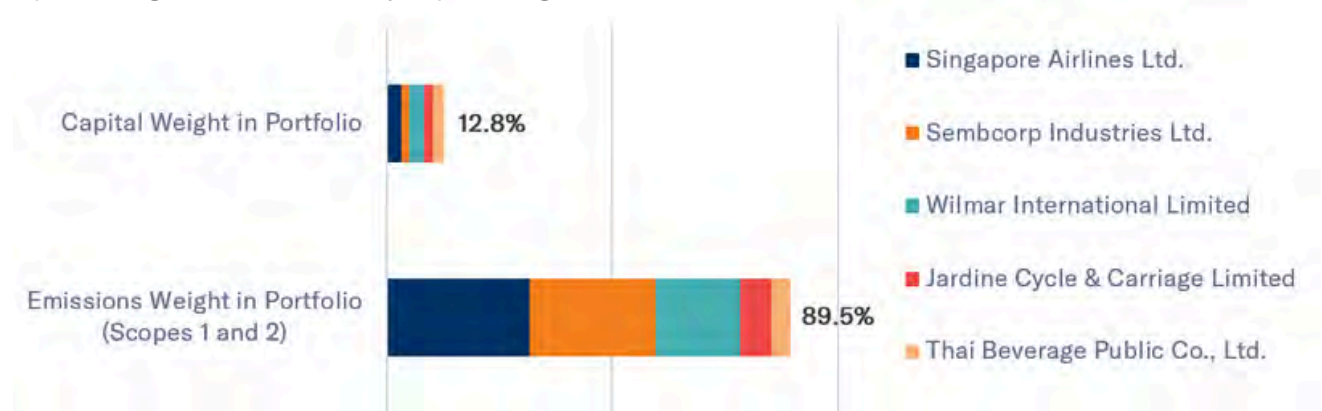
Industrials, utilities, and consumer non-cyclicals make up the majority of Scope 1 and 2 emissions, collectively making up 86% of the index total.



Capital vs Emissions Weight of Top 5 Emitters

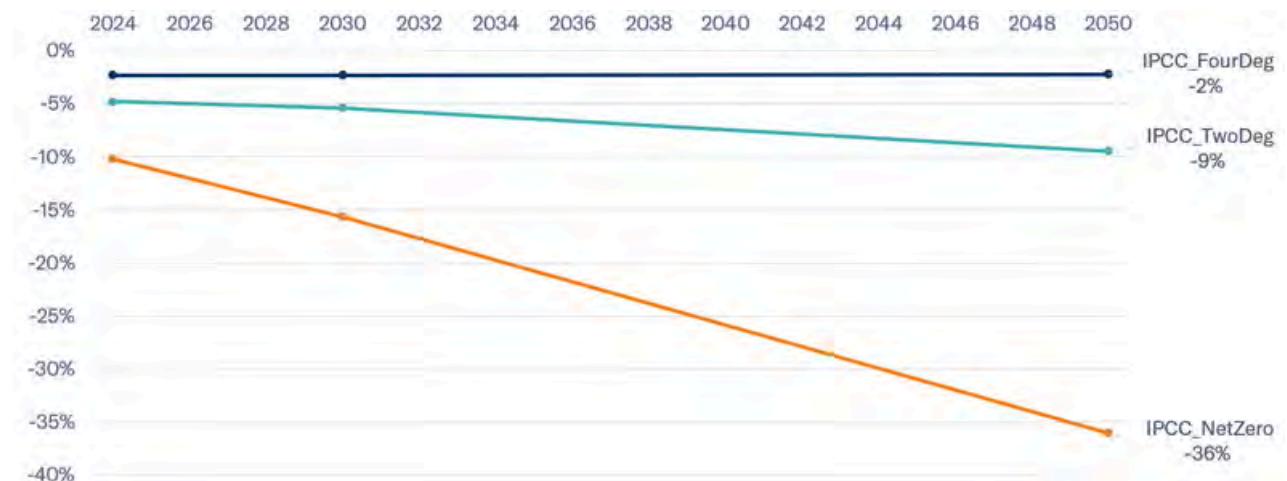
Scopes 1 and 2 (2024)

Of the 30 constituents in the index, almost 90% of total emissions come from just five companies, representing 13% of the index by capital weight.



Potential Carbon Liability (PCL)

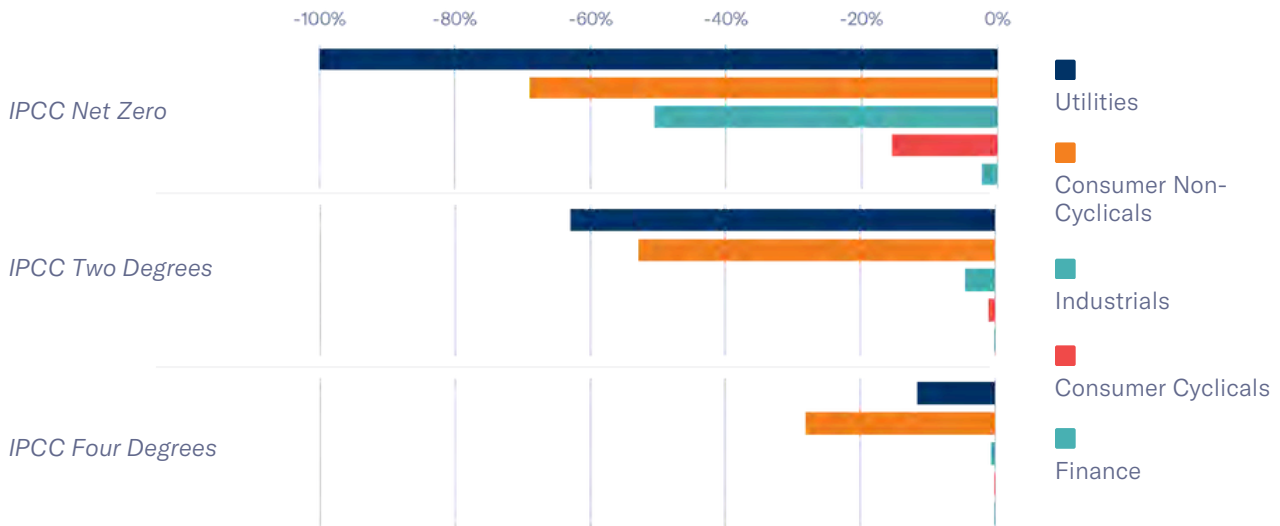
Across the index, we observe a potential carbon liability of up to 36% under the IPCC Net Zero scenario in 2050, with only a 2% potential loss under the IPCC Four Degree scenario. Contact us for any analysis on the NGFS scenarios.





Total Emissions Across Sectors Scope 1+2 (2023)

As expected, the high-emitting companies flow through to carbon risk, with utilities and consumer non-cyclicals generally the largest contributors of PCL across scenarios.



A Tale of Two Tigers



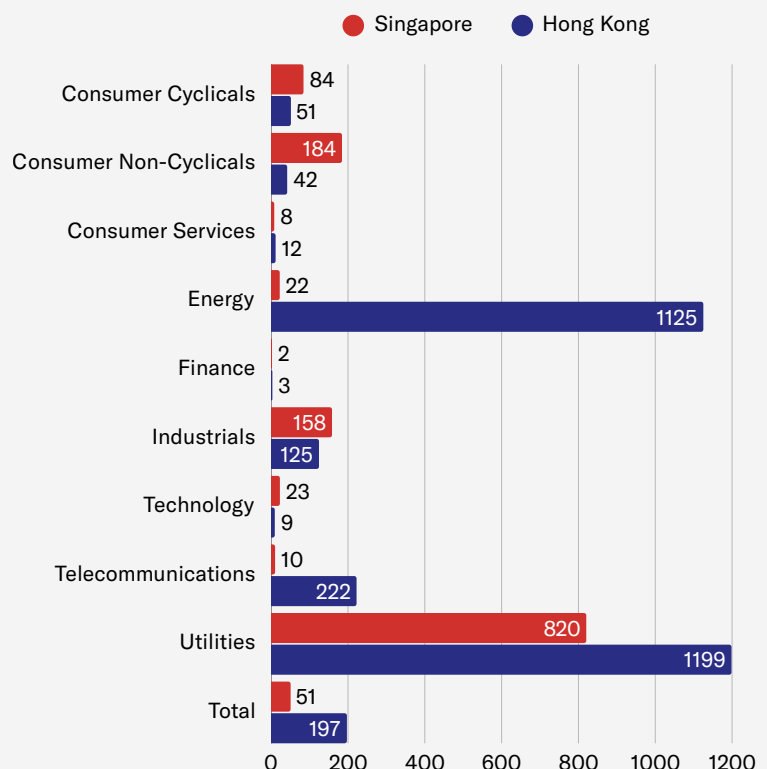
Comparing the carbon footprints of Asia's two leading financial hubs suggests Singapore and Hong Kong are remarkably similar, with Singapore showing a marginally higher carbon intensities across most sectors. However, this surface-level comparison masks a striking disparity in their highest-emitting constituents.

Despite the Hang Seng's reputation as a finance and technology-driven index, its carbon profile is heavily skewed by a handful of carbon-intensive outliers. Most notably, just two of its 83 constituents - China Shenhua Energy and PetroChina - account for over 50% of the index's total emissions, with an average carbon intensity of 3,400 tonnes per million dollars invested.

Singapore's highest emitters tell a markedly different story. Its two largest carbon contributors - Singapore Airlines and Sembcorp Industries - have an average carbon intensity of 655 tonnes per million dollars invested. While significant, this is less than one-fifth of their Hong Kong counterparts. It is also worth noting that Singapore Airlines operates in a sector that does not have decarbonisation technologies at scale, unlike the fossil fuel sector where alternatives exist but haven't been adopted in this instance.

Index Carbon Intensities – by Sector

Scope 1+2 Emissions per \$m invested (2024)



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MARKET SNAPSHOT

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 STI constituents, using market values as of each year-end to determine index weightings.

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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.