Sustainable Stock Exchanges Initiative

Carbon Tracker Initiative

Fossil Fuel Exposure

The Carbon Risk Footprint of G20 Equity Markets



Highlights

- Wide variation across markets: Fossil fuel exposure ranges from 0.06% of market capitalization to 67%.
- Most markets have limited exposure: 16 of the 22 exchanges have fossil fuel exposure below 10%, with nine below 5%.
- Exposure declined in most markets: 14 exchanges recorded lower fossil fuel exposure in 2025 than in 2015, while eight recorded increases.
- Progress has not been linear: 16 exchanges recorded higher exposure in 2025 than in 2021, highlighting the importance of monitoring trends over time.

MARKET MONITOR

SDG 13 - Climate Action

Introduction

> ***I call on every country to develop a credible roadmap to transition away from fossil fuels – with clear timelines.***
>
> ***The G20, responsible for 80 per cent of global emissions, must lead.***
>
> \- UN Secretary-General António Guterres[1]

For stock exchanges, securities regulators and investors, understanding the exposure of listed equity markets to fossil fuel industries provides an important starting point for assessing the implications of a global transition away from fossil fuels.

Drawing on more than 308,000 annual market records covering approximately 40,500 listed securities over the period of 2015–2025, this joint UN SSE and Carbon Tracker Market Monitor examines fossil fuel exposure across the primary stock exchanges of G20 economies, 22 exchanges in all. It addresses two questions: what proportion of each exchange's market capitalization is attributable to fossil fuel companies, and how has that proportion changed in the decade since the adoption of the Paris Agreement?

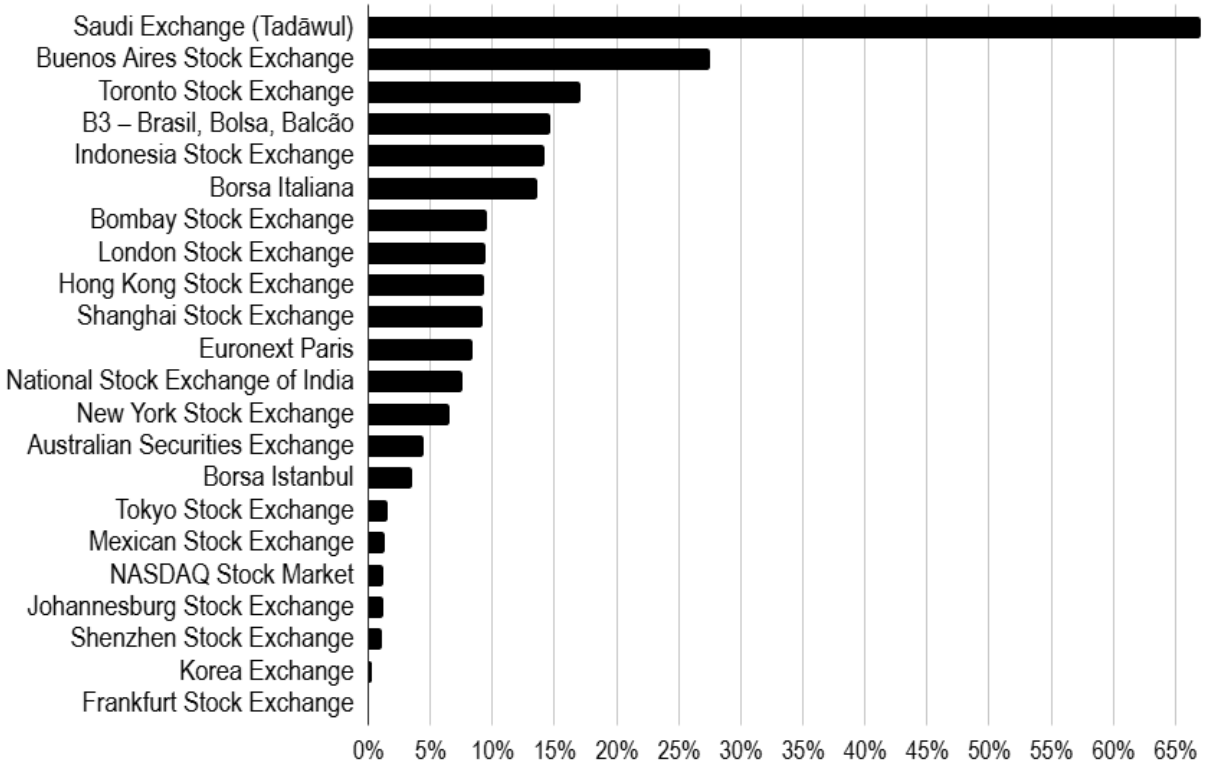
By comparing exposure in 2025 and tracking changes since 2015, the Monitor establishes a baseline for a recurring assessment of listed market composition. This market-level perspective complements company-level analysis by identifying where fossil fuel exposure is concentrated and how its relative importance within equity markets is changing over time. By making fossil fuel exposure more visible and comparable, the Monitor provides a common evidence base for dialogue among exchanges, issuers, investors, regulators and policymakers. Repeated over time, it can help identify priorities for engagement, inform discussions on disclosure and transition planning, and support efforts to strengthen the resilience of capital markets through the transition to net zero emissions.

Fossil fuel market capitalization exposure measures the share of listed equity markets represented by companies operating in fossil fuel industries. It offers an indication of the extent to which markets are exposed to fossil fuel activities, but should not be interpreted as a direct measure of financial risk, emissions, stranded assets or alignment with the Paris Agreement. Changes in exposure may reflect movements in company valuations and shifts in market composition, rather than changes in fossil fuel production or investment. Results also need to be considered in the context of differences in national market structures, including the extent to which fossil fuel activities are represented by publicly listed companies rather than state-owned or private entities. The analysis focuses on listed equity markets and does not capture exposure through debt markets, private companies or financial institutions' portfolios. The findings therefore provide one perspective on market exposure and should be considered alongside broader information on company activities, investment decisions and transition plans, as well as the wider policy and economic context.

[1] UN Secretary-General(23 September 2026) Remarks at the High-Level Event on Climate Action and the Just Transition.

Observations

What proportion of G20 equity market capitalization is based on fossil fuel companies?
(Fossil fuel industry market capitalization as a percent of total market capitalization)



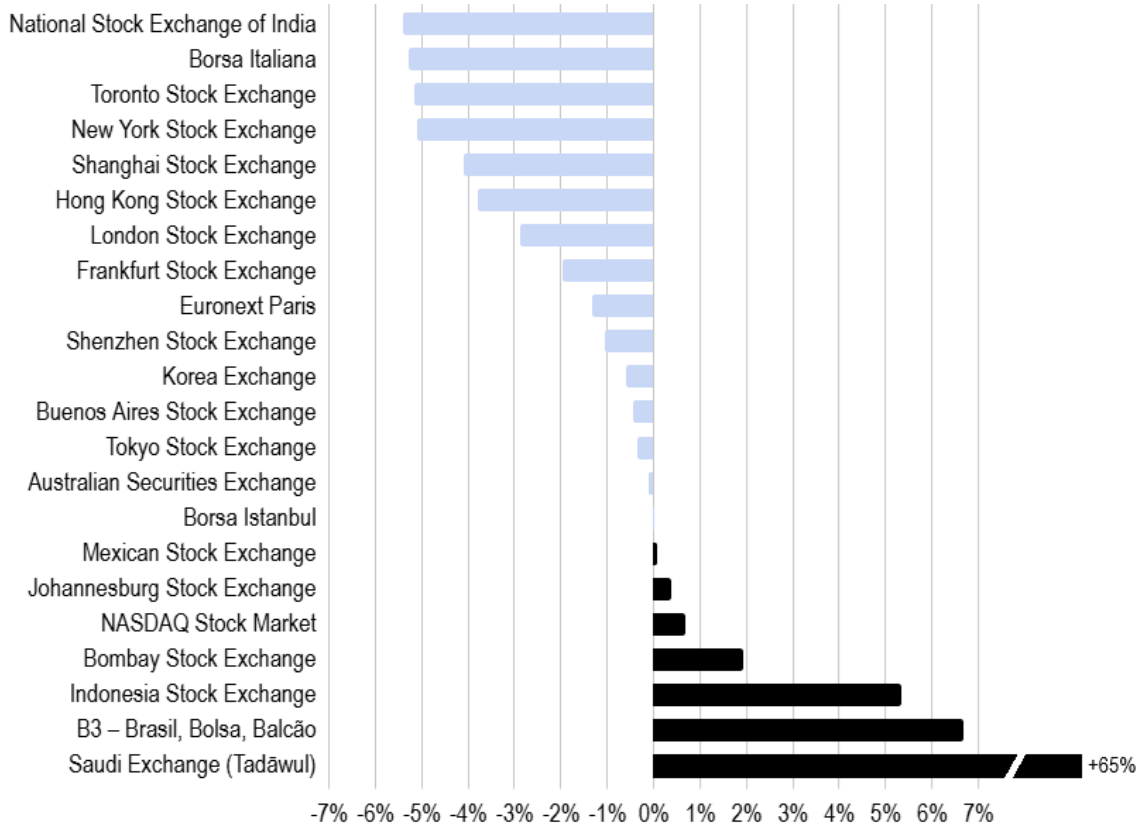
Source: UN SSE, based on Bloomberg data

The current landscape: fossil fuel exposure in 2025

- Fossil fuel exposure varies substantially across the 22 exchanges, ranging from just 0.06% of market capitalization on the Frankfurt Stock Exchange to 67% on the Saudi Exchange.
- The Saudi Exchange records the highest exposure, with fossil fuel companies accounting for approximately two-thirds of market capitalization. Buenos Aires follows at 28%, ahead of Toronto at 17%.
- Three further exchanges have exposure above 10%: B3 – Brasil, Bolsa, Balcão (15%), Indonesia Stock Exchange (14%) and Borsa Italiana (13%). Together with Saudi Arabia, Buenos Aires and Toronto, these comprise the six exchanges with the highest fossil fuel shares.
- Most exchanges have exposure below 10%. Of the 22 exchanges, 16 fall below this threshold, including nine below 5% and seven below 2%.

Have fossil fuel companies become a bigger or smaller part of market capitalization since the Paris Climate Summit in 2015?

(10-year change in fossil fuel industry market capitalization as a percent of total market capitalization, 2025 compared to 2015, G20 markets)



Source: UN SSE, based on Bloomberg data

A decade of change: 2015–2025

- Fossil fuel exposure declined on 14 of the 22 exchanges and increased on eight. The scale of change varied considerably across markets.
- Four exchanges recorded declines of more than five percentage points: National Stock Exchange of India (−5.4), Borsa Italiana (−5.3), Toronto Stock Exchange (−5.2) and New York Stock Exchange (−5.1).
- Large declines did not necessarily translate into low exposure in 2025. Toronto and Borsa Italiana remained among the six exchanges with the highest fossil fuel shares, at 17.1% and 13.6%, respectively. Buenos Aires remained second highest at 27.5%, having declined by just 0.45 percentage points.
- Outside Saudi Arabia, the largest increases occurred on B3 and Indonesia Stock Exchange. Exposure rose by 6.69 percentage points on B3, from 7.9% to 14.6%, and by 5.3 percentage points in Indonesia, from 8.9% to 14.2%. Bombay Stock Exchange followed with an increase of 1.93 percentage points, from 7.6% to 9.5%.

Annual trends reveal reversals within the decade

- Decade-long declines often included periods of renewed growth in fossil fuel exposure. Sixteen exchanges recorded higher exposure in 2025 than in 2021, even though 14 ended the decade below their 2015 levels.
- Toronto's fossil fuel share fell from 22.3% in 2015 to 11.5% in 2021, before rising to 17.1% in 2025. Similar patterns occurred in London, where exposure moved from 12.3% to 7% and then 9.5%, and Shanghai, where it moved from 13.3% to 4.7% and then 9.2%.
- Annual monitoring therefore adds context to the decade-long comparison. Lower exposure in 2025 than in 2015 does not necessarily indicate a sustained downward trend throughout the period.

Methodological note

This Market Monitor examines fossil fuel exposure across 22 selected stock exchanges in G20 economies over the period 2015–2025. The underlying database covers approximately 40,500 listed securities. The analysis compares exposure in 2025 and changes since 2015, providing a consistent basis for monitoring the composition of listed equity markets since the adoption of the Paris Agreement.

Company classifications, listing information and market capitalization data are drawn from Bloomberg data using historical data for the period. Companies are assigned to exchanges on the basis of primary listing venue. Market capitalization is measured at the first business (trading day) for each year. The analysis uses Bloomberg data for market capitalization, consistently applied to fossil fuel companies and the overall market. Where currency conversion is required, values are converted into USD using Bloomberg exchange rate data.

Fossil fuel companies were identified using the Global Industry Classification Standard (GICS) classifications recorded in the database sourced via Bloomberg data. Classification is applied on a binary basis. For records included in the fossil fuel category, the full recorded market capitalization enters the numerator, without adjustment for the proportion of revenues, assets or production attributable to fossil fuel activities. Companies with mixed activities are consequently treated according to their assigned classification rather than through an assessment of individual business segments. The fossil fuel category used in this report includes the GICS categories of: coal and consumable fuels; integrated oil and gas; oil and gas exploration and production; refining and marketing; storage and transportation; drilling; and equipment and services. It also includes gas utilities and industrial gases. Records classified under diversified metals and mining, electric utilities, independent power producers and energy traders, multi-utilities, and renewable electricity are not included in the fossil fuel category. The measure therefore does not capture all fossil fuel activities undertaken by diversified businesses or electricity generators.

For each exchange and observation year, fossil fuel exposure is calculated as the combined market capitalization of companies classified as fossil fuel companies, divided by the total market capitalization of eligible companies on that exchange. The numerator and denominator use the same observation date, capitalization basis and listing eligibility rules. The eligible universe comprises all listed companies on the relevant stock exchange which are classified to the exchange to be the companies primary listing venue.

Change over the period is expressed in percentage points and calculated by subtracting the 2015 exposure share from the 2025 exposure share. A negative value indicates a reduction in the proportion of market capitalization attributable to fossil fuel companies; a positive value indicates an increase. The report presents separate rankings for fossil fuel exposure in 2025 and changes between 2015 and 2025.

The initial dataset contained 333,214 records. Data completeness was assessed using a score corresponding to the number of populated fields across ten variables: ticker, market capitalization, four GICS classification fields, employee numbers, observation year, market and record identifier. Distributions of these scores were summarized by market before and after screening. The retained dataset comprised 308,906 records, following the exclusion of 24,308 records which were missing key criteria required for the analysis.

Limitations

Fossil fuel market capitalization exposure measures the relative equity value of companies classified as operating in fossil fuel industries. It provides an indicator of market exposure relevant to the energy transition, but does not directly quantify expected financial losses, stranded assets, emissions or alignment with the goals of the Paris Agreement. Changes in exposure can arise from movements in fossil fuel company valuations, changes in the value of other sectors, listing and delisting activity, corporate restructuring or changes in company classification. A reduction in the indicator does not necessarily imply a decline in fossil fuel production, reserves, emissions or investment in new supply. Nor does it establish that exchange policies or initiatives caused the observed change. Results also reflect differences in the structure of national economies and listed markets, including the extent to which fossil fuel businesses are publicly listed or held by unlisted or state-owned entities. The analysis covers the eligible listed equity universe and does not measure exposure through debt markets, private companies, or financial institutions' lending and investment portfolios. The findings should therefore be considered alongside complementary information on issuer activities, capital expenditure, transition plans, and the wider policy and economic context.

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About UN SSE

The United Nations Sustainable Stock Exchanges (UN SSE) initiative is a UN Partnership Programme organized by UNCTAD, the UN Global Compact, UNEP-FI and the PRI. The SSE's mission is to provide a global platform for exchanges (in collaboration with investors, companies, regulators, policymakers, and international organizations) to enhance environmental, social, and governance performance and promote sustainable investment aligned with the UN Sustainable Development Goals. The SSE advances this mission through an integrated programme of evidence-based policy analysis, multi- stakeholder consensus building, and the provision of technical guidance, advisory services, and training.

About Carbon Tracker

Carbon Tracker is an independent financial think tank that carries out in-depth analysis on the impact of the energy transition on capital markets and the potential investment in high-cost, carbon-intensive fossil fuels. Its team of financial market and energy experts apply groundbreaking research using leading industry databases to map both risk and opportunity for investors on the path to a low-carbon future. It has cemented the terms "carbon bubble", "unburnable carbon" and "stranded assets" into the financial and environmental lexicon.

Note

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SSE

Carbon Tracker Initiative

The SSE is a UN Partnership Programme of

UN trade & development

United Nations Global Compact

UN environment programme finance initiative

PRI Principles for Responsible Investment