



The MSCI Net-Zero Tracker

A quarterly gauge of progress by the world's public companies toward curbing climate risk



Introduction

The goal of reducing the risks of climate change is spurring investors, companies, financial intermediaries and policymakers across the world to sharpen their focus on efforts by companies to drive their greenhouse gas emissions down to net-zero.

Investors are monitoring whether companies have credible plans to reduce their carbon footprint and tracking the alignment of their portfolios with the Paris Agreement, which aims to limit global temperature rise to well below 2 degrees Celsius (2°C) by the end of the century.

The MSCI Net-Zero Tracker indicates the collective progress of publicly listed companies in the MSCI ACWI Investable Market Index (IMI)* (which covers 9,300 listed companies, representing 99% of the global equity universe) in keeping global warming well below 2°C. It also highlights the largest listed companies with improved climate disclosures, as well as those that lag.

The MSCI Net-Zero Tracker offers investors, companies, financial intermediaries and policymakers an objective gauge of the contribution by the world's public companies to total carbon emissions and their progress toward a net-zero economy.

*The [MSCI ACWI Investable Market Index \(IMI\)](#) captures large, mid and small cap publicly listed companies across 23 Developed Markets (DM) and 27 Emerging Markets (EM) countries. The index is comprehensive, covering approximately 99% of the global equity investment opportunity set.

Key findings

Time remaining until listed companies deplete the emissions budget for keeping global temperature rise below **1.5°C**



Time remaining until listed companies deplete the emissions budget for keeping global temperature rise below **2°C**



Source: MSCI, based on the emissions trajectory of the MSCI ACWI IMI, as of May 31, 2021

Burning through the emissions budget

Companies in the MSCI ACWI IMI emit an estimated 10.9 billion tons (gigatons) of direct (Scope 1) greenhouse gases annually, putting them on a trajectory to exceed their carbon budgets as soon as 2026.*

The calculation reflects listed companies' share of the global budget, which is the total amount of greenhouse gases that humans can put into the atmosphere without undermining the Paris Agreement goal of keeping global warming well below 2°C, preferably no more than 1.5°C, by the end of the century.

Shining a light on climate leaders and laggards

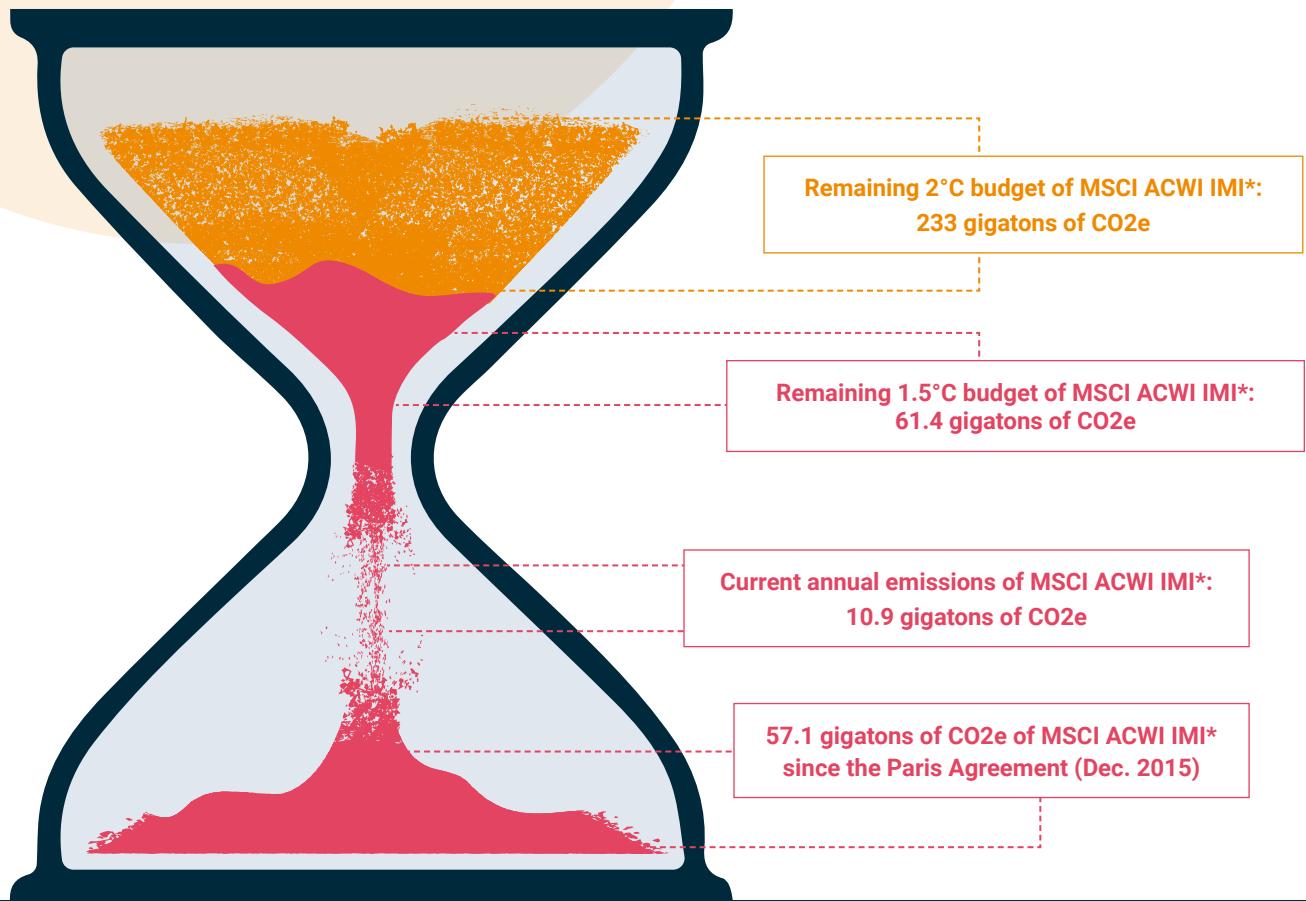
This edition of the Net-Zero Tracker shows:

- » The 15 largest companies by market capitalization in the MSCI ACWI IMI that reported additional scopes or categories of emissions in the 12 months up to May 31, 2021.
- » The 10 largest companies by emissions in the MSCI ACWI IMI that have not disclosed any of their carbon emissions as of May 31, 2021.

Future editions of the MSCI Net-Zero Tracker will highlight companies' alignment with global temperature targets and their progress toward achieving decarbonization goals.

*For methodology used to estimate listed companies' latest annual emissions, see page 7.

We're running out of time to reach net-zero emissions



Listed companies' direct (Scope 1) greenhouse gas emissions are projected to exceed Paris Agreement-aligned carbon budgets as early as 2026.

- » To limit warming to 1.5°C, listed companies would need to collectively cap future Scope 1 emissions at 61.4 gigatons of CO₂e by 2050. Without any change to their current emissions of nearly 11 gigatons a year, listed companies would deplete their remaining emissions budget in 5 years, 8 months.
- » To limit warming to 2°C, listed companies would need to collectively cap future Scope 1 emissions at 233 gigatons of CO₂e by 2050. Without any change to their current emissions of nearly 11 gigatons a year, listed companies would deplete their remaining emissions budget in 21 years, 5 months.

* The chart above shows annual total Scope 1 emissions of MSCI ACWI IMI constituents (not index weighted) based on companies' reported emissions data and MSCI estimates, up to 2020. Emissions for 2020 that companies haven't yet reported and 2021 figures are based solely on MSCI estimates, given a lag in company reporting. The remaining future emissions budget to achieve a 1.5°C and 2°C warming scenario are calculated based on bottom-up estimates (sum of remaining emissions budget of all MSCI ACWI IMI constituents) as of May 31, 2021.

Listed companies' projected future emissions vs emissions budget (%)

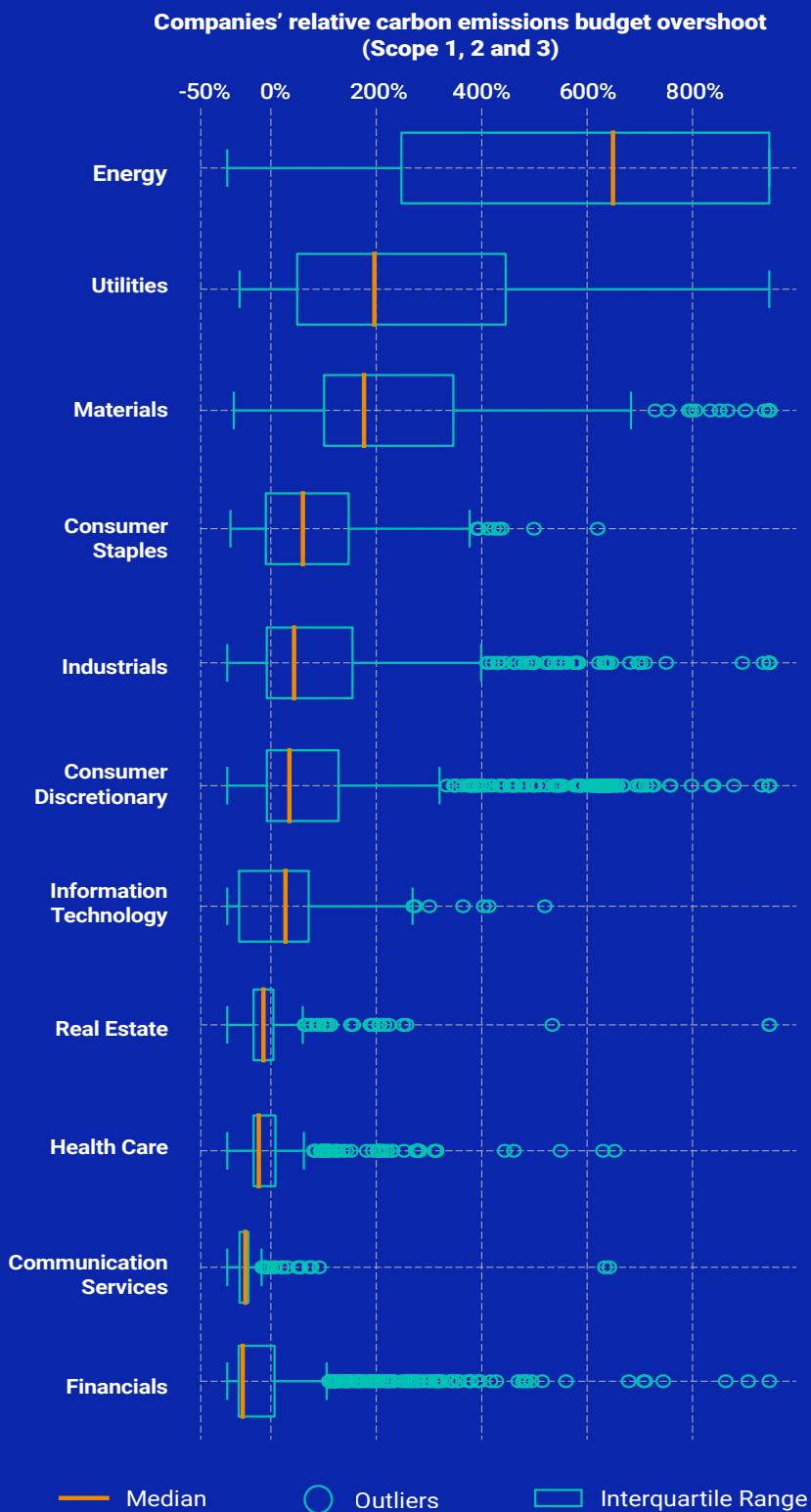
Explaining listed companies' emissions budget overshoot or undershoot:

- » For each listed company, MSCI estimates a company-specific remaining carbon emissions budget that is in line with reaching a well-below 2°C scenario.
- » This budget is then compared to the projected carbon emissions for each listed company, using its current emissions levels (company reported for Scope 1 and 2, or estimated when not reported; estimated for Scope 3*) and including any reported decarbonization targets.
- » The absolute emissions budget overshoot or undershoot is defined as the company's projected future emissions minus its remaining 2°C carbon emissions budget.
- » The relative emissions budget overshoot or undershoot shown in the chart is the absolute overshoot as a percentage of its remaining 2°C carbon emissions budget.

Explaining the graph

The chart shows the distribution of the relative overshoot or undershoot of each company's budget in percent across 11 GICS® sectors.

- » The median value in each sector is shown in orange.
- » The box plots show the two middle quarters of the distribution in each sector.
- » Outliers are indicated by circles.

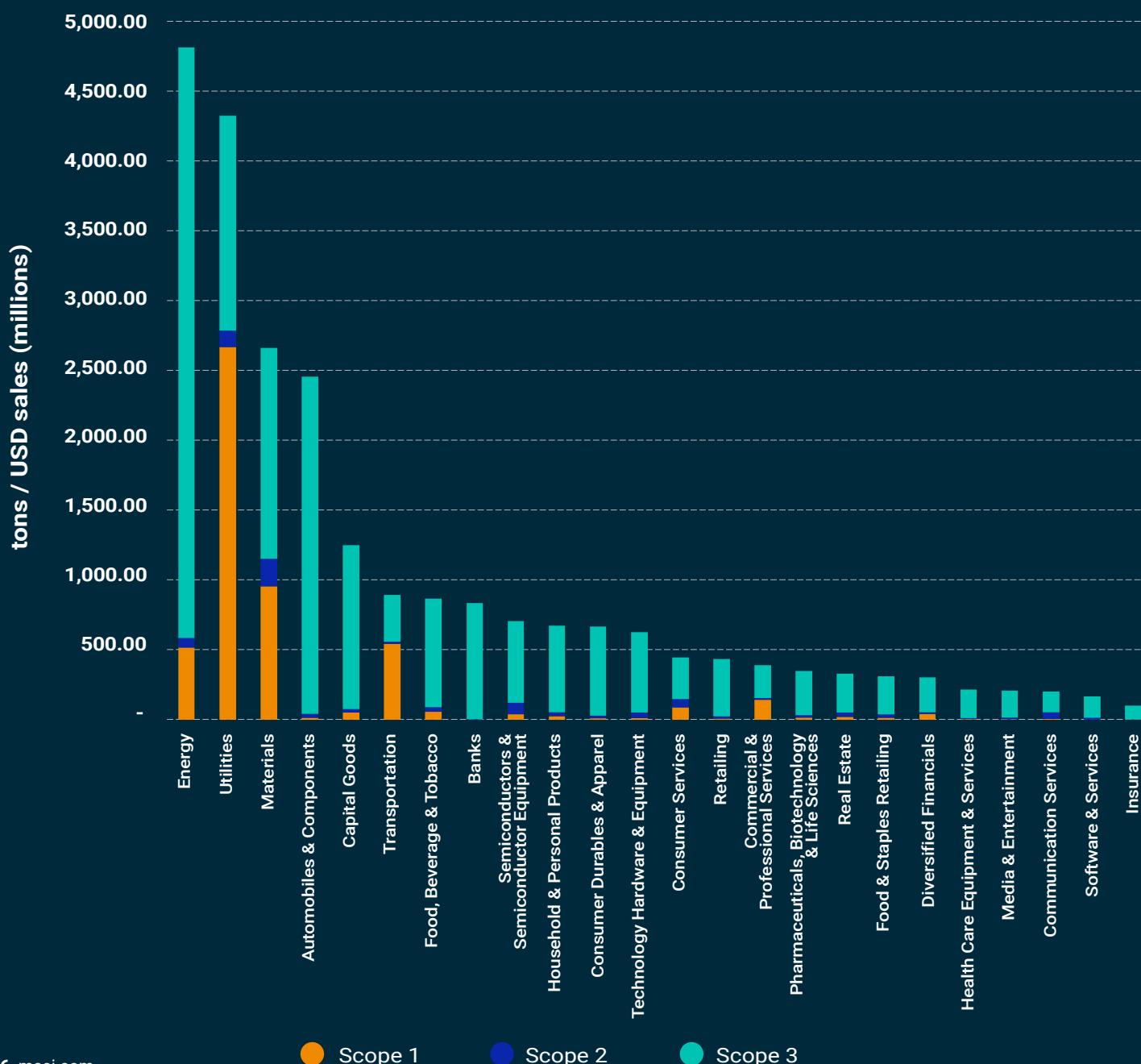


* Companies' reported emissions for Scope 3 are sparse and highly inconsistent at present. To improve comparability, MSCI uses a company-specific model to estimate emissions for all 15 Scope 3 categories.

MSCI ACWI IMI Scope 1, 2 and 3 emissions intensity by GICS® industry groups

Energy, utilities and materials were the most carbon-intensive industry groups. Communications services, software and insurance were the least carbon-intensive industry groups.

The chart below shows total emissions intensity by industry group as of May 31, 2021.



Global and MSCI ACWI IMI Scope 1 emissions



The table below shows the total MSCI ACWI IMI Scope 1 emissions (sum of Scope 1 emissions of all constituents without index weighting) and total emissions of the world (Global) as of May 31, 2021.

	2019 emissions [Gt CO ₂ e]	1 year change [%]	3 years change [%]	5 years change [%]	2020 estimate [Gt CO ₂ e]	2021 forecast [Gt CO ₂ e]
Global*	59.1	6.9	13.9	18.6	55.3	57.4
MSCI ACWI IMI**	11.3	-1.0	17.9	9.0	10.3	10.9

* Global emissions through the end of 2019 are based on annual U.N. Environment Programme reports. Global emissions forecasts for 2020 and 2021 are estimated using changes in emissions as reported by Carbon Monitor (www.carbonmonitor.org).

** ACWI IMI emissions for 2019 as reported by companies or estimated by MSCI where not reported. For 2020/2021, MSCI used company emissions data where available. Where unavailable, MSCI forecasted emissions based on company sales figures to estimate emissions.



Public companies with improved emissions reporting



The table below shows the 15 largest public companies by market capitalization¹ in the MSCI ACWI IMI that reported additional scopes or categories of greenhouse gas emissions in the 12 months up to May 31, 2021.

Issuer	Previously reported, newly reported and unreported scopes and categories ² (as of May 31, 2021)	Total reported emissions [tons CO ₂ e] (as of May 31, 2021)	Total emissions (reported and estimated) [tons CO ₂ e] (as of May 31, 2021)	Sum of reported emissions vs. MSCI estimated total emissions [%] ³	Comments
PROCTER & GAMBLE	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	252,024,430	252,024,430	100%	Reports fully across all emissions scopes and categories
ASML HOLDING	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	8,555,200	8,555,200	100%	Reports fully across all emissions scopes and categories
ANHEUSER-BUSCH INBEV	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	30,393,747	43,031,538	71%	Majority of value chain (Scope 3) emissions reported
HERMES INTERNATIONAL	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	520,996	2,824,119	18%	Has yet to report some value chain (Scope 3) emissions; missing downstream
COMMONWEALTH BANK OF AUSTRALIA	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	161,519	35,285,004	<1%	Has yet to report most value chain (Scope 3) emissions; missing financed emissions as a large component
AIRBUS	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1,090,929	31,523,885	3%	Has yet to report most value chain (Scope 3) emissions

¹ = Previously reported scopes and categories

² = Newly reported scopes and categories

³ = Unreported scopes and categories (as of May 31, 2021)

1 The list of companies is sorted by their free-float market cap weight in MSCI ACWI IMI as of May 31, 2021.

2 The Scope 1, 2 and 3 categories are defined in the glossary.

3 Companies report emissions for Scope 3 categories they consider to be material. MSCI combines reported and estimated emissions data to calculate a company's total emissions footprint, using a company-specific model to estimate emissions for all 15 Scope 3 categories.

Issuer	Previously reported, newly reported and unreported scopes and categories ² (as of May 31, 2021)	Total reported emissions [tons CO ₂ e] (as of May 31, 2021)	Total emissions (reported and estimated) [tons CO ₂ e] (as of May 31, 2021)	Sum of reported emissions vs. MSCI estimated total emissions [%] ³	Comments
BYD	(Scope 1) (Scope 2) Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	4,145,179	26,719,055	16%	Has yet to report most value chain (Scope 3) emissions
BOOKING HOLDINGS	(Scope 1) (Scope 2) (Scope 3) Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	55,923	15,725,516	<1%	Has yet to report most value chain (Scope 3) emissions
BRITISH AMERICAN TOBACCO	Scope 1 Scope 2 (Scope 3) Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	8,306,684	8,485,050	98%	Majority of value chain (Scope 3) emissions reported
WESTPAC BANKING	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	199,520	11,966,470	2%	Has yet to report most value chain (Scope 3) emissions; missing financed emissions as a large component
ATLAS COPCO	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	427,651	5,524,112	8%	Has yet to report most value chain (Scope 3) emissions
INVESTOR AB	Scope 1 Scope 2 (Scope 3) Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	284,722	325,806	87%	Majority of value chain (Scope 3) emissions reported
EQUINOR	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	272,495,398	277,995,760	98%	Majority of value chain (Scope 3) emissions reported
BAIDU	Scope 1 Scope 2 (Scope 3) Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	490,537	1,944,163	25%	Has yet to report most value chain (Scope 3) emissions beyond employee commuting, business travel
BAYER	Scope 1 Scope 2 Scope 3 Scope 3 Category 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	12,620,000	24,320,199	52%	Has yet to report some value chain (Scope 3) emissions beyond employee commuting, business travel.

1 = Previously reported scopes and categories

1 = Newly reported scopes and categories

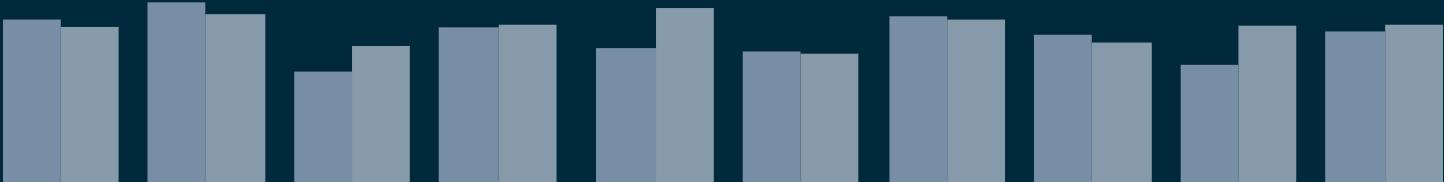
1 = Unreported scopes and categories (as of May 31, 2021)

1 The list of companies is sorted by their free-float market cap weight in MSCI ACWI IMI as of May 31, 2021.

2 The Scope 1, 2 and 3 categories are defined in the glossary.

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The largest emitters that have not disclosed their greenhouse gas emissions



The table below shows the 10 largest emitters based on MSCI emissions estimates* that had not reported any of their greenhouse gas emissions as of May 31, 2021.

Issuer	Emissions Reference Year	GICS® Sector	Total emissions (estimated) [t CO2e]
COAL INDIA**	2019	Energy	1,020,007,692
SURGUTNEfteGAZ PAO	2019	Energy	206,485,930
SHAANXI COAL INDUSTRY	2019	Energy	200,839,903
CHINA STATE CONSTRUCTION ENGINEERING	2019	Industrials	92,647,675
SHAANXI COKING COAL GROUP	2019	Energy	82,534,966
SDIC POWER HOLDINGS	2019	Utilities	80,799,088
PBF ENERGY	2019	Energy	77,406,962
SHAANXI LUAN	2019	Energy	73,668,239
GREENLAND HOLDINGS	2019	Real Estate	21,133,414
ZHEJIANG CENTURY HUATONG GROUP	2019	Communication Services	5,384,905

* Sum of MSCI's Scope 1, Scope 2 and Scope 3 emissions estimates.

** Coal India's total emissions consisted primarily of Scope 3 emissions (1,003,930,316 tons).

The company's Scope 1 and 2 emissions totaled 16,077,375 tons.



Glossary

Comprehensiveness (of emission reporting or target setting): Percentage of companies' Scope 1, 2 and 3 emissions covered by emissions reporting or target setting.

Carbon dioxide equivalent (CO₂e): Greenhouse gas emissions with the same global warming potential as one metric ton of carbon.

Emissions intensity: Greenhouse gas emissions in CO₂-equivalent tons per million USD of company sales.

Megaton [Mt]: One million tons (of emissions).

GICS®: The global industry classification standard jointly developed by MSCI Inc. and S&P Global.

Gigaton [Gt]: One billion tons (of emissions).

MSCI ACWI Investable Market Index (IMI): Captures large, mid and small cap publicly listed companies across Developed and Emerging Markets countries. With 9,300 constituents, this index covers approximately 99% of the global equity investment opportunity set.

Remaining emissions budget: A company's remaining future emissions budget in tons of CO₂e to stay within a 1.5°C or 2°C warming scenario. (Please contact esgclientservice@msci.com for full methodology.)

Scope 1 emissions: Companies' direct greenhouse gas emissions in tons of CO₂ equivalent (CO₂e).

Scope 2 emissions: Companies' greenhouse gas emissions from electricity use in tons of CO₂ equivalent (CO₂e).

Scope 3 emissions: Companies' indirect greenhouse gas emissions in tons of CO₂ equivalent (CO₂e) from upstream supply chain and emissions inherent in products and services (downstream). Scope 3 covers 15 categories of upstream and downstream emissions as defined by the Greenhouse Gas Protocol.¹

Cat 1	Purchased goods and services
Cat 2	Capital goods
Cat 3	Fuel-and-energy-related activities (not included in Scope 1 or 2)
Cat 4	Upstream transportation and distribution
Cat 5	Waste generated in operations
Cat 6	Business travel
Cat 7	Employee commuting
Cat 8	Upstream leased assets
Cat 9	Downstream transportation and distribution
Cat 10	Processing of sold products
Cat 11	Use of sold products
Cat 12	End of life treatment of sold products
Cat 13	Downstream leased assets
Cat 14	Franchises
Cat 15	Investments

¹ Corporate Value Chain (Scope 3) Standard," Greenhouse Gas Protocol

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