

## Corporate Commitments and Emissions Explorer Technical Documentation

**Updated: July 13, 2023**

### Explorer Components

#### Preset Outlooks

The Corporate Commitments and Emissions Explorer contains five preset outlooks. Outlooks are portfolios of toggle settings that generate a scenario of emission pathways.

1. **Current Outlook:** This scenario will apply current public commitments. Where companies do not have commitments, the baseline multiplier (in this case revenue growth rates) will be applied. For companies that do not report emissions to CDP, we apply the median emission intensity for their respective sectors to their 2022 revenue to obtain a start year emissions value.
2. **Climate-Aligned Action:** This scenario applies more ambitious climate commitments than the current outlook. We apply a 2050 net-zero emissions target and an interim target of 50% reduction from 2022 levels by 2030. For companies that do not report emissions to CDP, we apply the median emission intensity for their respective sectors to their 2022 revenue to obtain a start year emissions value.
3. **Herd Catches Leaders:** In our data, we have categorized companies into laggard, herd, and leader groups based on their emission intensities and climate commitments (more detail on categorization can be found below). In this scenario, we initially set companies to the median sector intensity for companies that do not report emissions to CDP. We then allow a “ramping” of intensity to the minimum. This ramping is specified in a script and is differentiated across companies. More on ramping can be found in Start Year Emissions, below.
4. **Laggards Catch Herd:** In this scenario, we apply a net-zero by 2050 target to any company that does not have a publicly announced commitment.
5. **No Further Action:** This scenario illustrates what happens if companies do not take action beyond currently published targets.

#### Estimated Data

##### Baseline Scenario

This scenario estimates annual emissions based on the following formula:

$$emissions_{cy} = emissions_{cy_0} \times revenuegrowth_{ry}$$

where  $c$  is company,  $y$  is year,  $y_0$  is the start year (2022), and  $r$  is the selected measure of revenue growth relative to the start year. Users can select a revenue growth measure based on the industry’s S&P Global Index or historic growth rates compiled by NYU.

## Target Scenarios

Each target scenario is based on this expanded formula, based on the baseline scenario

$$emissions_{cy} = emissions_{cy_0} \times revenuegrowth_{ry} \times endtargets_{cy} \times interimgrowth_{cy} \times partialtargets \times offsets$$

where  $c$  is company,  $y$  is year,  $y_0$  is the start year (2022), and  $r$  is the selected measure of revenue growth relative to the start year. Each of the variables following  $revenuegrowth_{ry}$  are multipliers that are applied when the user selects respective toggles (see below).

## Start Year Emissions

The base for both baseline and target scenarios is the start year emissions ( $emissions_{cy_0}$ ).

Where companies have disclosed emissions to CDP,  $emissions_{cy_0}$  will equal the disclosed emissions in the start year (2022).

Where companies have not disclosed emissions to CDP,  $emissions_{cy_0}$  will equal the product of that company's start year revenue and the emissions intensity for its respective sector. Users can select among minimum, median, and maximum intensities for this estimation.

In the **Herd Catches Leaders** scenario, we apply a separate intensity column that begins at the median sectoral intensity and ramps down to the minimum intensity (i.e., the leader's intensity) over a specified number of years. Companies are first categorized into 3 groups that determine the order in which they begin to catch up. A company will begin to ramp down to the minimum intensity in the specified year for its group, over the specified number of years for its group.

## Explore Toggles

### Scope

Users can select between Scope 1 and Scope 2 emissions, or a combination of the two. Scope 1 emissions are emissions associated with a company's direct activity. Scope 2 emissions are those associated with a company's energy use. While CDP includes information on Scope 3, most companies do not disclose this information so we do not include it in our dashboard.

### Sector emission intensity

Users can select between minimum, median, and maximum sectoral emission intensities for respective emission scopes. The selected intensity is used in estimating the start year emissions where companies do not disclose to CDP. Because these values are based on companies that *do* disclose to CDP, we believe they will be underestimates (as disclosing companies are more likely to have lower emissions).

### Annual revenue growth

Users can select between growth rates from a constant GDP growth rate, revenue from the S&P Global Index, or from a database on historical annual revenue growth rates compiled at New York University. These growth rates will be applied to calculate the baseline trajectory. These growth rates are included as  $revenuegrowth_{ry}$  in the formula above. Or users can select a constant across all sectors and industries, which is set to 2019 GDP Growth from World Bank data.

### End targets

End targets are the long-term commitments companies make. For this dashboard, we use commitments tracked by the Net Zero Tracker. We translate end targets into percent reduction from the start year. The percentage reduction is the  $endtargets_{cy}$  multiplier in the formula above. Where a company does not have a long-term commitment,  $endtargets_{cy}$  is effectively set to 1.

### Interim targets

Interim targets are the medium-term commitments companies make, typically by 2030. For this dashboard, we use commitments tracked by the Net Zero Tracker. We translate interim targets into percent reduction from the start year. The percentage reduction is the  $interimtargets_{cy}$  multiplier in the formula above. Where a company does not have a long-term commitment,  $interimtargets_{cy}$  is effectively set to 1.

### Slowdown

If a user selects a slowdown, they postpone corporate action to a later year (2030 or 2040). We apply the baseline trajectory until the postponed year and then apply the end and/or interim target multipliers. While companies will ultimately meet their end and/or interim target (if the user selects these toggles), the cumulative emissions will be significantly higher.

### Percentage of targets met

Users can select whether companies meet the targets they set. If a company meets only 30% of its targets, the dashboard will increase the emissions in the target trajectory by 70%. This is included as a constant ( $partialtargets$ ) in the formula above.

### Targets met with offset

Users can select whether a company meets its target with carbon offsets, and how much of the target it meets using offsets. Offsets will increase a company's emissions pathway. For example, if a company meets 60% of its target with offsets, its emission pathway will increase by 40%. This is included as a constant ( $offsets$ ) in the formula above.

### Herd catches up to the frontrunners

If a user selects "yes" for this toggle, herd companies catch up to leader companies in terms of both commitment and intensity. Climate commitments for herd companies are set to net-zero by 2050, 50% reduction by 2030. Emission intensities are set to ramp down to the minimum

intensity for that sector. See “Start Year Emissions” above for a description on how this ramping is estimated.

### Categorizing targets

Company targets are categorized into three groups: ambitious, somewhat ambitious, and least ambitious. We categorize targets based on a company’s climate commitments, emission intensity, and whether they disclose emissions to CDP.

Companies that have **the least ambitious targets** are companies:

- ... that disclose to CDP, with emission intensities greater than the sector median, and no long-term climate commitments
- ... that do not disclose to CDP and have no long-term climate commitments

Companies that have **somewhat ambitious targets** are companies:

- ... that do not disclose to CDP but do have long-term climate commitments
- ... that disclose to CDP, have intensities greater than the median, and have long-term climate commitments
- ... that disclose to CDP, have intensities less than the median, and do not have long-term climate commitments

Companies that have **ambitious targets** are companies:

- ... that disclose to CDP, have intensities less than the median, include scope 3 in commitments, and have the most ambitious climate commitments (e.g., zero emissions, rather than net-zero emissions).

## Additional Notes

### Emissions

This tool includes scope 1 and 2 emissions values, in MTCO<sub>2</sub>e which includes the greenhouse gases as defined by the company submitting data.

### Scope 3 Emissions

This tool does not include scope 3, supply chain, embodied, or lifecycle emissions for the companies that are included in the dataset.

Although some companies did report scope 3 and other emissions, these values are not included in the current version of this tool for two reasons:

1. The quality and consistency of scope 3 data is low
2. Due to the number of companies in this dataset, there is a high risk of double counting emissions

## Sectors and Industries List

Below is a list of sectors and industries used in the Corporate Commitments and Emissions Explorer. The sectors are aligned with The Global Industry Classification Standard (GICS).

SECTOR	INDUSTRY	SECTOR	INDUSTRY
Basic Materials	Specialty Chemicals	Healthcare	Healthcare Services
Basic Materials	Building Materials	Healthcare	Biotechnology
Basic Materials	Chemicals	Healthcare	Healthcare Distribution & Retailers
Basic Materials	Gold	Healthcare	Diagnostics & Research
Basic Materials	Other Industrial Metals & Mining	Healthcare	Drug Manufacturers—Specialty & Generic
Basic Materials	Copper	Healthcare	Drug Manufacturers—General
Basic Materials	Steel	Healthcare	Medical Devices
Basic Materials	Agricultural Inputs	Healthcare	Medical Care Facilities
Basic Materials	Other Precious Metals & Mining	Healthcare	Medical Instruments & Supplies
Basic Materials	Paper, Lumber, Wood Products	Industrials	Conglomerates
Communication Services	Electronic Gaming & Multimedia	Industrials	Specialty Industrial Machinery
Communication Services	Telecom Services	Industrials	Building Products & Equipment
Communication Services	Internet Content & Information	Industrials	Engineering & Construction
Communication Services	Advertising Agencies	Industrials	Specialty Business Services
Communication Services	Entertainment	Industrials	Tools & Accessories
Communication Services	Publishing	Industrials	Infrastructure Operations
Consumer Cyclical	Retail	Industrials	Farm & Heavy Construction Machinery
Consumer Cyclical	Gambling	Industrials	Electrical Equipment & Parts
Consumer Cyclical	Lodging	Industrials	Marine Shipping
Consumer Cyclical	Leisure	Industrials	Staffing & Employment Services
Consumer Cyclical	Apparel Manufacturing	Industrials	Airports & Air Services
Consumer Cyclical	Auto Parts	Industrials	Waste Management
Consumer Cyclical	Department Stores	Industrials	Rental & Leasing Services
Consumer Cyclical	Services	Industrials	Aerospace & Defense
Consumer Cyclical	Internet Retail	Industrials	Integrated Freight & Logistics
Consumer Cyclical	Textile Manufacturing	Industrials	Airlines
Consumer Cyclical	Furnishings, Fixtures & Appliances	Industrials	Metal Fabrication
Consumer Cyclical	Packaging & Containers	Industrials	Security & Protection Services
Consumer Cyclical	Auto Manufacturers	Industrials	Railroads

Consumer Cyclical	Restaurants	Industrials	Industrial Distribution
Consumer Cyclical	Residential Construction	Industrials	Trucking
Consumer Cyclical	Luxury Goods	Industrials	Consulting Services
Consumer Defensive	Tobacco	Real Estate	REIT—Retail
Consumer Defensive	Education & Training Services	Real Estate	REIT—Other
Consumer Defensive	Packaged Foods	Real Estate	Real Estate Services
Consumer Defensive	Farm Products	Real Estate	Real Estate—Development
Consumer Defensive	Grocery Stores	Real Estate	Diversified Real Estate & REIT
Consumer Defensive	Beverages—Non-Alcoholic	Real Estate	REIT—Office
Consumer Defensive	Beverages—Brewers	Real Estate	REIT—Industrial
Consumer Defensive	Household & Personal Products	Real Estate	REIT—Healthcare Facilities
Consumer Defensive	Food Goods	Technology	Computer Hardware
Consumer Defensive	Beverages—Wineries & Distilleries	Technology	Information Technology Services
Consumer Defensive	Discount Stores	Technology	Software—Application
Energy	Oil & Gas E&P	Technology	Software—Infrastructure
Energy	Thermal Coal	Technology	Semiconductor Equipment & Materials
Energy	Oil & Gas Refining & Marketing	Technology	Communication Equipment
Energy	Oil & Gas Midstream	Technology	Consumer Electronics
Energy	Oil & Gas Equipment & Services	Technology	Semiconductors
Energy	Oil & Gas Integrated	Technology	Electronic Components
Financial Services	Banks—Regional	Technology	Solar
Financial Services	Credit Services	Technology	Electronics & Computer Distribution
Financial Services	Asset Management	Technology	Scientific & Technical Instruments
Financial Services	Banks—Diversified	Utilities	Utilities—Diversified
Financial Services	Insurance	Utilities	Utilities—Independent Power Producers
Financial Services	Shell Companies	Utilities	Utilities—Renewable
Financial Services	Capital Markets	Utilities	Utilities—Regulated Gas
Financial Services	Financial Data & Stock Exchanges	Utilities	Utilities—Regulated Electric

## Sector and Industry Reclassification

The following sectors and industries were reclassified to maintain a minimum of 5 companies that report to CDP in each group.

OLD INDUSTRY	OLD SECTOR	NEW INDUSTRY	NEW SECTOR
Aluminum	Basic Materials	Other Industrial Metals & Mining	Basic Materials
Coking Coal	Basic Materials	Other Industrial Metals & Mining	Basic Materials
Lumber & Wood Production	Basic Materials	Paper, Lumber, Wood Products	Basic Materials
Paper & Paper Products	Basic Materials	Paper, Lumber, Wood Products	Basic Materials
Silver	Basic Materials	Other Precious Metals & Mining	Basic Materials
Broadcasting	Communication Services	Entertainment	Communication Services
Auto & Truck Dealerships	Consumer Cyclical	Retail	Consumer Cyclical
Footwear & Accessories	Consumer Cyclical	Apparel Manufacturing	Consumer Cyclical
Home Improvement Retail	Consumer Cyclical	Retail	Consumer Cyclical
Apparel Retail	Consumer Cyclical	Retail	Consumer Cyclical
Specialty Retail	Consumer Cyclical	Retail	Consumer Cyclical
Travel Services	Consumer Cyclical	Services	Consumer Cyclical
Personal Services	Consumer Cyclical	Services	Consumer Cyclical
Recreational Vehicles	Consumer Cyclical	Auto Manufacturers	Consumer Cyclical
Resorts & Casinos	Consumer Cyclical	Leisure	Consumer Cyclical
Confectioners	Consumer Defensive	Food Goods	Consumer Defensive
Food Distribution	Consumer Defensive	Food Goods	Consumer Defensive
Auto Manufacturers - Major	Consumer Goods	Auto Manufacturers	Consumer Cyclical
Oil & Gas Drilling	Energy	Oil & Gas E&P	Energy
Thermal Coal	Energy	Thermal Coal	Energy
Uranium	Energy	Other Industrial Metals & Mining	Basic Materials
Financial Conglomerates	Financial Services	Insurance	Financial Services
Insurance Brokers	Financial Services	Insurance	Financial Services
Insurance—Diversified	Financial Services	Insurance	Financial Services
Insurance—Life	Financial Services	Insurance	Financial Services
Insurance—Property & Casualty	Financial Services	Insurance	Financial Services
Insurance—Reinsurance	Financial Services	Insurance	Financial Services
Insurance—Specialty	Financial Services	Insurance	Financial Services
Mortgage Finance	Financial Services	Credit Services	Financial Services
Health Information Services	Healthcare	Healthcare Services	Healthcare
Healthcare Plans	Healthcare	Healthcare Services	Healthcare



Medical Distribution	Healthcare	Healthcare Distribution & Retailers	Healthcare
Pharmaceutical Retailers	Healthcare	Healthcare Distribution & Retailers	Healthcare
General Building Materials	Industrial Goods	Building Materials	Basic Materials
Waste Management	Industrial Goods	Waste Management	Industrials
Business Equipment & Supplies	Industrials	Tools & Accessories	Industrials
Pollution & Treatment Controls	Industrials	Waste Management	Industrials
REIT—Hotel & Motel	Real Estate	REIT—Other	Real Estate
REIT—Mortgage	Real Estate	REIT—Other	Real Estate
REIT—Specialty	Real Estate	REIT—Other	Real Estate
REIT—Residential	Real Estate	REIT—Other	Real Estate
REIT—Diversified	Real Estate	Diversified Real Estate & REIT	Real Estate
Real Estate—Diversified	Real Estate	Diversified Real Estate & REIT	Real Estate
Building Materials Wholesale	Services	Building Materials	Basic Materials
Electric Utilities	Utilities	Utilities—Regulated Electric	Utilities
Utilities—Regulated Water	Utilities		