Climate Related Portfolio Assessment

S&P Global Sustainable1

IVO Capital

Monday, January 31, 2023

ABOUT TRUCOST

Trucost is part of S&P Global.

A leader in carbon and environmental data and risk analysis, Trucost assesses risks relating to climate change, natural resource constraints, and broader environmental, social, and governance factors. Companies and financial institutions use Trucost intelligence to understand their ESG exposure to these factors, inform resilience and identify transformative solutions for a more sustainable global economy. S&P Global's commitment to environmental analysis and product innovation allows us to deliver essential ESG investment-related information to the global marketplace.

For more information, visit www.trucost.com.

ABOUT S&P GLOBAL

S&P Global (NYSE: SPGI) is a leading provider of transparent and independent ratings, benchmarks, analytics and data to the capital and commodity markets worldwide.

For more information, visit www.spglobal.com.

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INTRODUCTION TO CLIMATE-RELATED REPORTING

The effects of climate change pose considerable and far-reaching risks to the global economy. Among those most directly affecting businesses include physical risks posed by increased climate variability and more frequent extreme weather events, which may result in property damage, challenges linked to business continuity, and the disruption to global supply chains. Businesses also face risks associated with the transition to a low-carbon economy, including policy changes designed to discourage carbon-intensive energy use or favour more resource-efficient industries and operations.

At the request of the G20, the Financial Stability Board (FSB) reviewed how the reporting on climate-related issues in financial reporting could be improved in order to better reflect the risks and opportunities facing financial institutions and non-financial businesses alike. In June 2017, the FSB Taskforce for Climate-Related Financial Disclosure (TCFD) published recommendations on the disclosure of "information needed by investors, lenders, and insurance underwriters to appropriately assess and price climate-related risks and opportunities."

The TCFD provides a voluntary disclosure framework organized around four themes, designed to facilitate better disclosure. These are **governance**, **strategy**, **risk management**, and **metrics and targets**. In order for organizations to disclose in line with TCFD recommendations, they must be able to quantify or qualify the risks and opportunities facing them, linked to climate-related issues, and be able to describe policies, procedures and systems in place to monitor and address climate-related issues on an on-going basis.

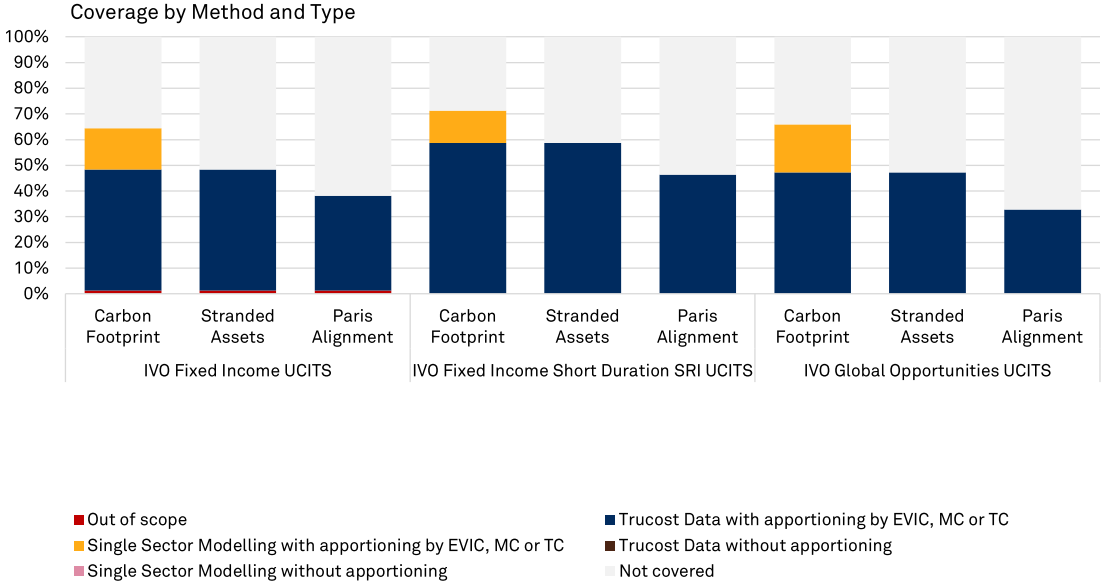
This report by Trucost provides both forward-looking and historical metrics that may be used by asset owners and/or asset managers to support their climate-related disclosures in line with TCFD recommendations, and inform internal processes for risk management and strategy development within an organization.

See Appendix 1 for more information on the TCFD recommended disclosures for asset owners and asset managers.

COVERAGE RATES

A Note on Mapping

- Equity instruments are mapped to the issuing entity. Debt instruments are mapped to the first publically listed entity in the instrument's parent chain (starting with a bond's issuer, then its immediate parent, and finally it's ultimate parent). Bonds with no public parent are mapped to the issuer.
- 'Out of Scope' indicates the portion of a portfolio relating to non-corporate equity, debt or loans.
- 'Trucost Data with [or without] apportioning' indicates the portion of a portfolio that was mapped to companies in the corresponding product dataset. For example, for the stranded assets module, the corresponding dataset is the Trucost Environmental Register (ER).
- 'Single Sector Modelling with [or without] apportioning' is applicable only to the carbon footprint module. Companies not in the Trucost ER may still have an emisisons profile generated and be included in the analysis if both the GICS subindustry and revenues are available.
- Companies without an apportioning factor available will be excluded from portfolio-level metrics that require apportioning - such as absolute footprint - but included in metrics that do not - such as weighted-average carbon intensity (WACI).



	Portfolio Size (mEUR)
IVO Fixed Income UCITS	476
IVO Fixed Income Short	92
IVO Global Opportunitie	23

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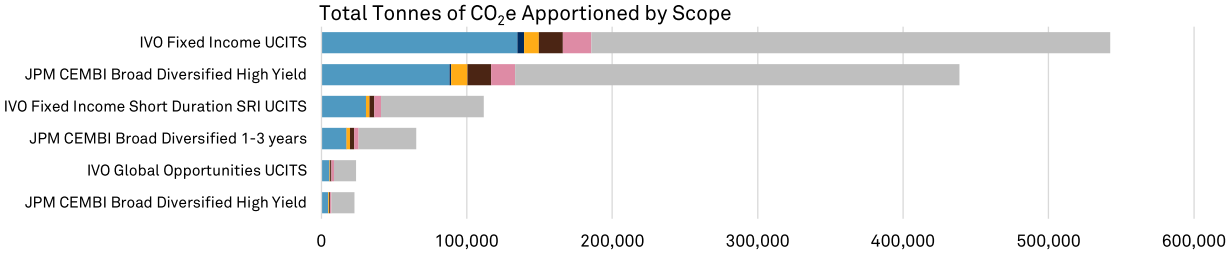
Carbon Apportioned by Scope

Carbon audits offer a systematic assessment of the carbon risks and opportunities within a portfolio or index at a given point in time. The first step of beginning an audit is to decide on the scope of the analysis. This may range from looking only at the operational emissions of investee companies - which avoids the risk of double counting - to looking at emissions throughout their entire supply chain for a more complete picture.

In the chart below, carbon has been apportioned to each of the portfolios analysed and broken out by the following scopes:

- **Direct (Scope 1):** CO_2e emissions based on the Kyoto Protocol, greenhouse gases generated by direct company operations.
- **Direct (Other):** Additional direct emissions, including those from CCl_4, $C_2H_3Cl_3$, $CBrF_3$, and CO_2 from Biomass.
- **Purchaced Electricity (Scope 2):** CO_2e emissions generated by purchased electricity, heat or steam.
- **Non-Electricity First Tier Supply Chain (Scope 3):** CO_2e emissions generated by companies providing goods and services in the first tier of the supply chain.
- **Other Supply Chain (Scope 3):** CO_2e emissions generated by companies providing goods and services in the second to final tier of the supply chain.
- **Downstream (Scope 3):** CO2e emissions generated by the distribution, processing and use of the goods and services provided by a company.

For more information on apportioning and scopes, please see Appendix 2 and 3 respectively.



	JPM CEMBI Broad Diversified High Yield	IVO Global Opportunities UCITS	JPM CEMBI Broad Diversified 1-3 years	IVO Fixed Income Short Duration SRI UCITS	JPM CEMBI Broad Diversified High Yield	IVO Fixed Income UCITS
Direct CO2e (Scope 1)	4,544	5,347	16,932	30,509	88,150	134,793
Direct CO2e (Other)	57	213	286	131	1,109	4,536
Purchased Electricity CO2e (Scope 2)	576	515	2,452	2,347	11,164	10,211
Non-Electricity First Tier Supply Chain CO2e (Scope 3)	846	922	2,899	3,310	16,416	16,527
Other Supply Chain CO2e (Scope 3)	846	1,484	2,965	4,736	16,406	19,547
Downstream CO2e (Scope 3)	15,753	15,423	39,685	70,534	305,585	356,686

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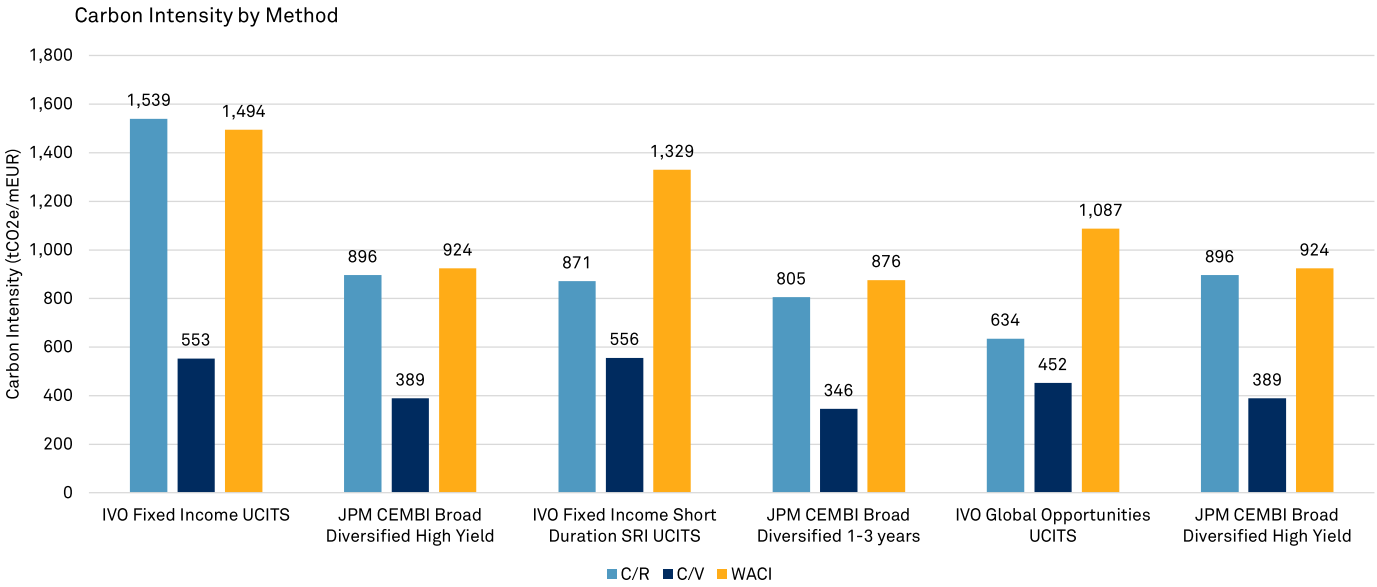
Carbon Intensity by Method

Portfolios with larger assets under management will typically also have larger absolute carbon footprints than smaller portfolios due to their size. In order to facilitate fair comparison between portfolios, benchmarks and across years, it is therefore important to normalize the totals, either by revenues or by value invested. The three most common approaches to normalization are:

1. **Carbon to Revenue (C/R):** Dividing the apportioned CO_2e by the apportioned annual revenues.
2. **Carbon to Value Invested (C/V)**: Dividing the apportioned CO_2e by the value invested.
3. **Weighted Average Carbon Intensity (WACI)**: Summing the product of each holding's weight in the portfolio with the company level C/R intensity (no apportioning).

The charts below show the intensity for all portfolios using all three calculation methods. The scopes used for the intensity were **Direct** and **First Tier Indirect Emissions.**



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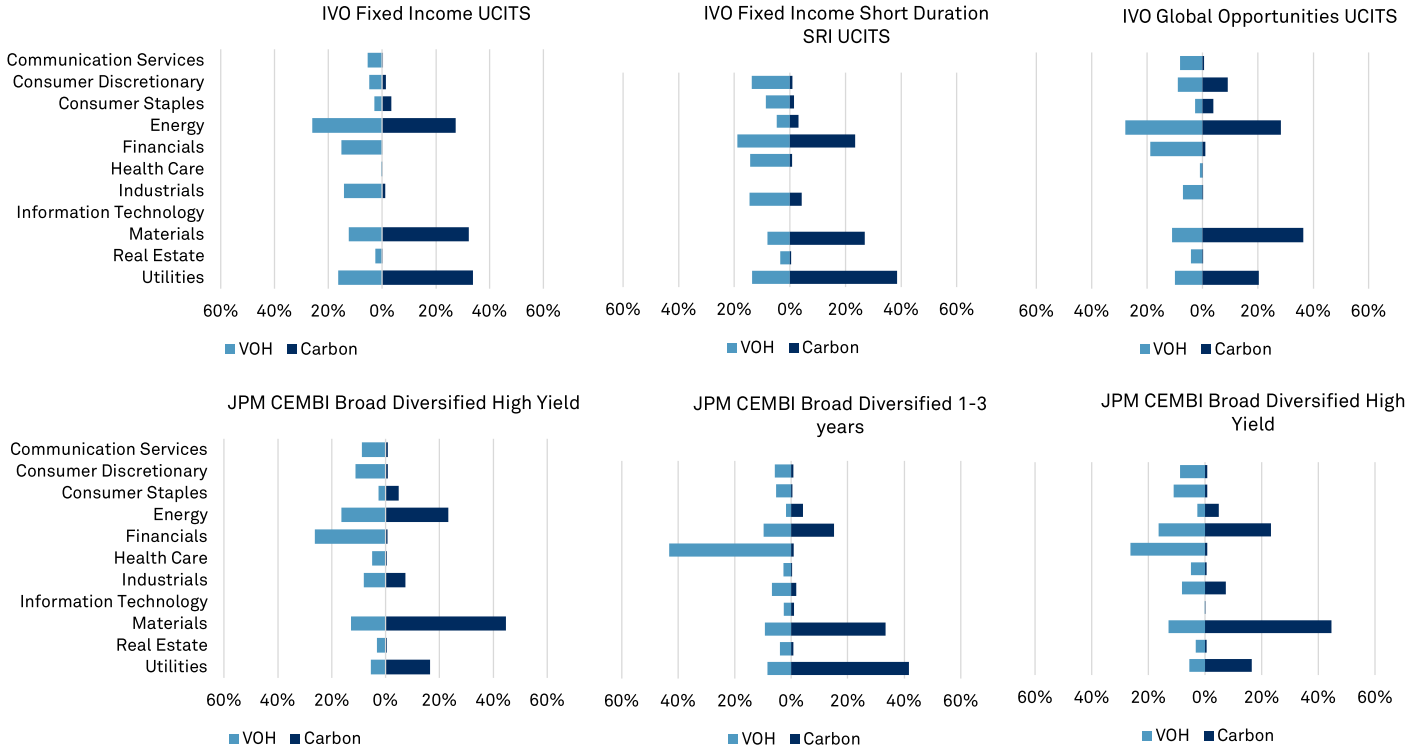
Sector VOH Share vs. Carbon Share

The charts below compares each sector's value-based weight in a portfolio or benchmark to its share of the total apportined carbon emissions.



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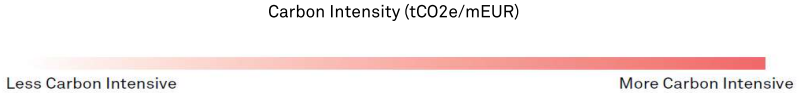
Sector Carbon Intensities

The table below shows the C/R intensities of the portfolios and benchmarks at the GICS sector level.

	Communication Services	Consumer Discretionary	Consumer Staples	Energy	Financials	Health Care	Industrials	Information Technology	Materials	Real Estate	Utilities
IVO Fixed Income UCITS	79	244	757	1,562	14	43	257		2,770	172	4,083
JPM CEMBI Broad Diversified High Y	103	139	780	1,387	19	82	1,106	28	2,744	191	3,971
IVO Fixed Income Short Duration SR	85	298	275	1,817	16		667		3,073	340	4,206
JPM CEMBI Broad Diversified 1-3 ye	106	82	792	1,094	16	79	348	112	2,748	245	5,033
IVO Global Opportunities UCITS	73	328	1,063	1,093	15	43	106		3,015	94	2,358
JPM CEMBI Broad Diversified High Y	103	139	780	1,387	19	82	1,106	28	2,744	191	3,971



CARBON

Top C/R Contributors

The tables below shows the top contributors to the carbon intensity of the portfolios analysed. Note that if the method used is C/R or C/V, then a company may appear due to the proportion owned/financed, rather than because it is the most carbon intensive held. The 'Contribution' is the percentage change in the portfolio's intensity that would be caused by excluding the holding referenced. In other words, it is a measurement of how much a specific holding affects the carbon performance of the portfolio.

IVO Fixed Income UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
YPF SA	Energy	2.43%	6.33%	2,423	-2.40%	Partial Disclosure	No
Pampa Energia S.A.	Utilities	2.79%	7.84%	7,911	-6.41%	Full Disclosure	No
Petro Rio S.A.	Energy	0.06%	0.00%	616	0.00%	Modelled	No
PT Kawasan Industri Jababeka Tbk	Real Estate	0.10%	0.08%	1,823	-0.01%	Modelled	No
Gran Tierra Energy Inc.	Energy	0.26%	0.16%	1,502	0.00%	Partial Disclosure	No
Unifin Financiera, S. A. B. de C. V.	Financials	0.01%	0.00%	15	0.00%	Modelled	No
Tullow Oil plc	Energy	2.19%	2.08%	1,827	-0.33%	Partial Disclosure	No
Bristow Group Inc.	Energy	0.12%	0.24%	1,488	0.01%	Modelled	No
Credivalores - Crediservicios S.A.	Financials	0.04%	0.00%	15	0.00%	Modelled	No

IVO Fixed Income Short Duration SRI UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
YPF SA	Energy	2.70%	6.98%	2,423	-4.59%	Partial Disclosure	No
Sasol Limited	Materials	1.63%	11.90%	6,315	-10.43%	Full Disclosure	Yes
JSW Energy Limited	Utilities	0.44%	2.09%	16,850	-1.98%	Partial Disclosure	No
PT Cikarang Listrindo Tbk	Utilities	0.55%	2.42%	7,525	-2.14%	Full Disclosure	No
The AES Corporation	Utilities	2.18%	4.23%	5,726	-3.61%	Full Disclosure	Yes
Public Joint Stock Company 'Novolipetsk Steel'	Materials	0.44%	4.06%	4,904	-3.36%	Full Disclosure	No
Pampa Energia S.A.	Utilities	0.52%	1.46%	7,911	-1.30%	Full Disclosure	No

*Climate Action 100+ is an investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. The companies include 100 'systemically important emitters', accounting for two-thirds of annual global industrial emissions, alongside more than 60 others with significant opportunity to drive the clean energy transition. For more information see http://www.climateaction100.org.

CARBON

Top C/R Contributors

The tables below shows the top contributors to the carbon intensity of the portfolios analysed. Note that if the method used is C/R or C/V, then a company may appear due to the proportion owned/financed, rather than because it is the most carbon intensive held. The 'Contribution' is the percentage change in the portfolio's intensity that would be caused by excluding the holding referenced. In other words, it is a measurement of how much a specific holding affects the carbon performance of the portfolio.

IVO Global Opportunities UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
Adecoagro S.A.	Consumer Staples	0.85%	0.98%	1,638	-0.60%	Partial Disclosure	No
Cementos Pacasmayo S.A.A.	Materials	0.29%	1.13%	4,691	-0.98%	Partial Disclosure	No
MHP SE	Consumer Staples	1.89%	2.93%	952	-1.00%	Partial Disclosure	No
GCC, S.A.B. de C.V.	Materials	0.27%	0.93%	5,297	-0.82%	Partial Disclosure	No
The AES Corporation	Utilities	2.09%	4.99%	5,726	-4.46%	Full Disclosure	Yes
Empresa Electrica Guacolda S.A.	Utilities	0.40%	3.83%	6,650	-3.47%	Modelled	No
Credito Real S.A.B. de C.V.	Financials	0.03%	0.00%	16	0.00%	Modelled	No
Shelf Drilling, Ltd.	Energy	2.76%	1.36%	788	-0.27%	Full Disclosure	No

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CARBON

Attribution Analysis

The principal reasons for the carbon intensity of a portfolio to differ from the benchmark are a) **sector allocation** decisions and b) **company selection** decisions. Sector allocation decisions can cause the carbon intensity of a portfolio to diverge from its benchmark when it is over or underweight markedly high or markedly low carbon sectors. For example, if a portfolio is overweight a high carbon sector, then it is more likely to have a higher overall intensity than the benchmark. However, if the companies selected within a high carbon sector are the most carbon efficient, then it is still possible that the portfolio may have a lower overall intensity.

The chart below shows the relative contribution of **sector allocation** and **company selection** effects towards the 'Total Effect' of each portfolio versus their respective benchmark. Sector allocation effects are determined using the 11 GICS Sector classifications, and the analysis uses the Carbon-to-Revenue intensity metric.

IVO Fixed Income UCITS
JPM CEMBI Broad Diversified High Yield

	C/R Intensity		Attribution Effect		Total
	Portfolio	Bench.	Sector	Investee	
Communication Service	79	103	-0.52%	0.19%	-0.33%
Consumer Discretionary	244	139	3.33%	-1.06%	2.27%
Consumer Staples	757	780	0.18%	0.18%	0.36%
Energy	1,562	1,387	-6.55%	-5.25%	-11.81%
Financials	14	19	-23.93%	0.06%	-23.87%
Health Care	43	82	-3.93%	0.04%	-3.89%
Industrials	257	1,106	-0.21%	6.47%	6.26%
Information Technology		28	-0.51%		-0.51%
Materials	2,770	2,744	-6.84%	-0.51%	-7.35%
Real Estate	172	191	-0.47%	0.04%	-0.43%
Utilities	4,083	3,971	-30.91%	-1.58%	-32.50%
	1,539	896	-70.37%	-1.44%	-71.81%

IVO Fixed Income Short Duration SRI UCITS
JPM CEMBI Broad Diversified 1-3 years

	C/R Intensity		Attribution Effect		Total
	Portfolio	Bench.	Sector	Investee	
Communication Service	85	106	2.87%	0.24%	3.11%
Consumer Discretionar	298	82	0.18%	-1.22%	-1.04%
Consumer Staples	275	792	0.09%	6.23%	6.32%
Energy	1,817	1,094	-0.04%	-10.09%	-10.13%
Financials	16	16	1.49%	0.03%	1.52%
Health Care		79	-2.69%		-2.69%
Industrials	667	348	0.88%	-2.21%	-1.34%
Information Technology		112	-6.17%		-6.17%
Materials	3,073	2,748	5.08%	-3.09%	1.99%
Real Estate	340	245	-0.90%	-0.14%	-1.03%
Utilities	4,206	5,033	-6.99%	8.21%	1.22%
	871	805	-6.20%	-2.03%	-8.23%

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Attribution Analysis

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IVO Global Opportunities UCITS
JPM CEMBI Broad Diversified High Yield

	C/R Intensity		Attribution Effect		Total
	Portfolio	Bench.	Sector	Investee	
Communication Service	73	103	-2.46%	0.16%	-2.30%
Consumer Discretionary	328	139	10.54%	-3.70%	6.83%
Consumer Staples	1,063	780	-0.42%	-0.74%	-1.16%
Energy	1,093	1,387	-0.77%	5.40%	4.63%
Financials	15	19	7.01%	0.18%	7.19%
Health Care	43	82	-3.68%	0.05%	-3.63%
Industrials	106	1,106	1.09%	1.41%	2.50%
Information Technology		28	-0.51%		-0.51%
Materials	3,015	2,744	14.30%	-2.31%	11.99%
Real Estate	94	191	-0.42%	0.19%	-0.23%
Utilities	2,358	3,971	-5.94%	9.82%	3.88%
	634	896	18.73%	10.46%	29.19%

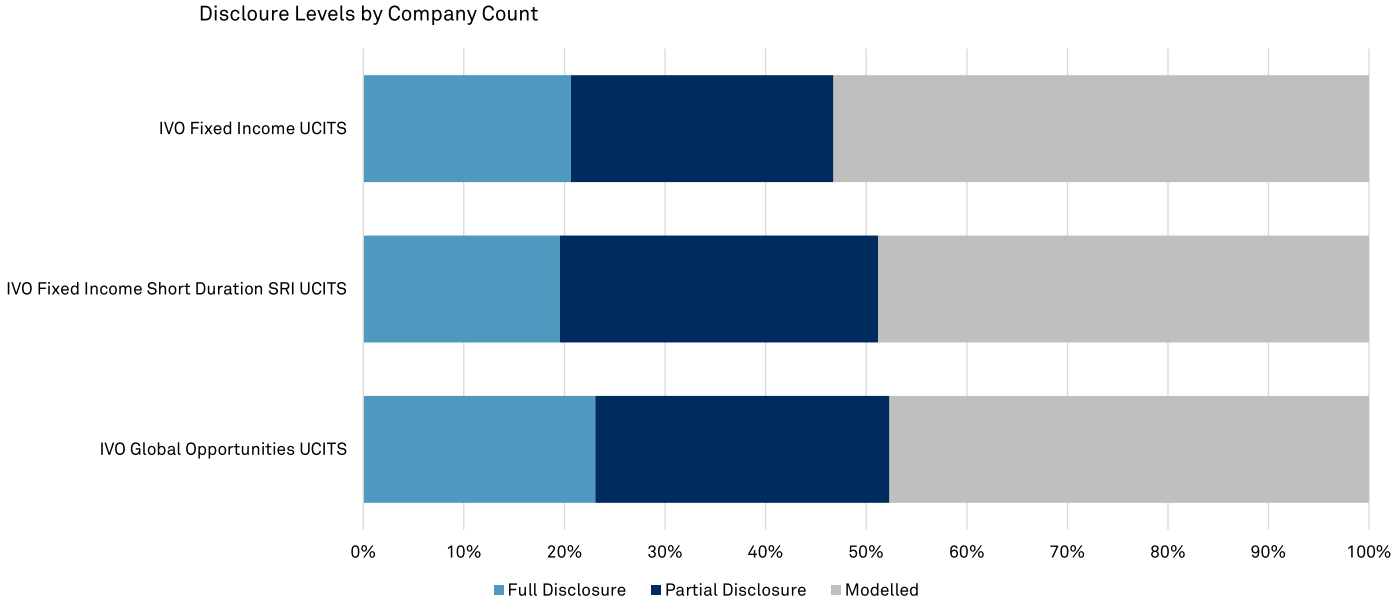
CARBON DISCLOSURE

Disclosure Analysis

In the charts below, the overall level of disclosure in each portfolio is assessed using the following three methods:

1. **VOH**: The sum of the weights of each holding within each of the three disclosure categories.
2. **GHG**: The sum of each holding's share of the total apportioned Scope 1 CO_2e within each of the three disclosure categories.
3. **Companies**: The number of companies, shown as a percent of all companies analysed, within each of the three disclosure categories.

For more information on data collection and disclosure categories, please refer to Appendix 4.



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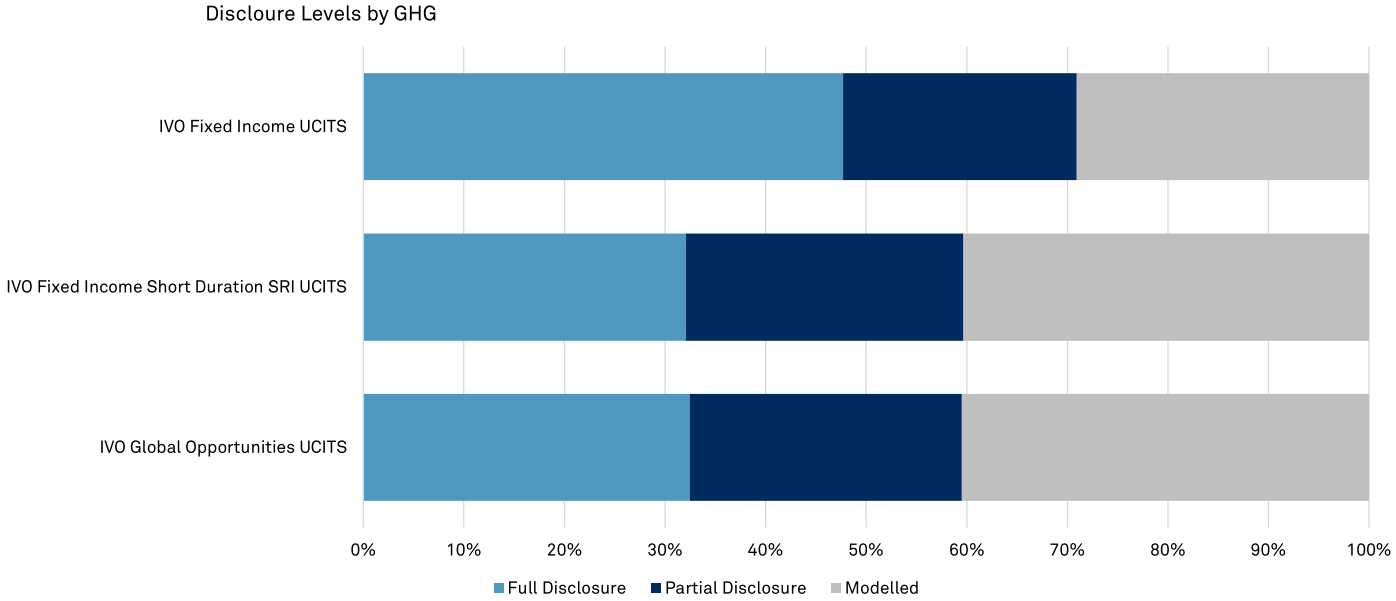

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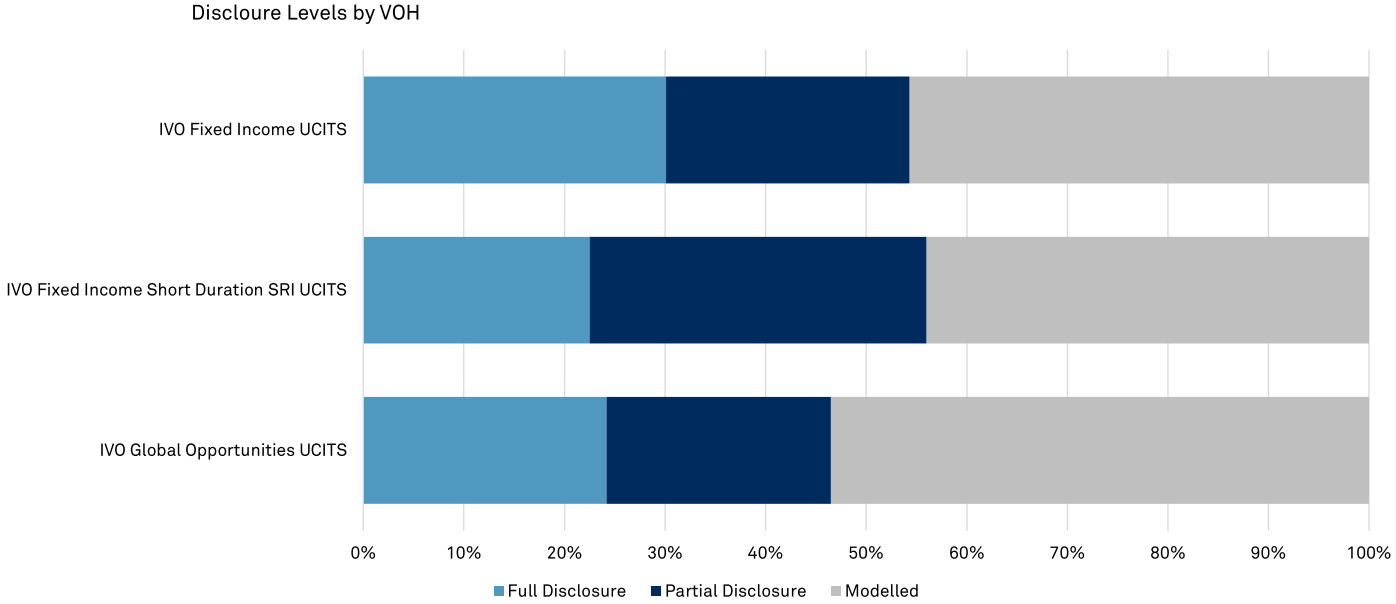

CARBON DISCLOSURE

Top Modelled C/R Contributors

The level of carbon disclosure is based on each company's Scope 1 emissions, which can be classified as **fully disclosed**, **partially disclosed**, or **modelled**. The table below shows the top contributors to each portfolio's C/R intensity whose Scope 1 carbon is classified as **modelled**. These may be prime candidates for company engagement.

IVO Fixed Income UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
PT Kawasan Industri Jababeka Tbk	Real Estate	0.10%	0.08%	1,823	-0.01%	Modelled	No
Petro Rio S.A.	Energy	0.06%	0.00%	616	0.00%	Modelled	No
Empresa Generadora de Electricidad Haina, S.A	Utilities	0.64%	2.76%	5,036	-1.93%	Modelled	-
Bristow Group Inc.	Energy	0.12%	0.24%	1,488	0.01%	Modelled	No
Credivalores - Crediservicios S.A.	Financials	0.04%	0.00%	15	0.00%	Modelled	No
China Fortune Land Development Co., Ltd.	Real Estate	0.08%	0.00%	94	0.04%	Modelled	No
Autopistas del Sol, S.A.	Industrials	1.37%	0.00%	80	0.01%	Modelled	No

IVO Fixed Income Short Duration SRI UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
West China Cement Limited	Materials	0.62%	4.07%	8,953	-3.69%	Modelled	No
Empresa Generadora de Electricidad Haina, S.A	Utilities	0.51%	2.20%	5,036	-1.82%	Modelled	-
Metinvest B.V.	Materials	0.15%	0.26%	1,102	-0.06%	Modelled	No
ACI Airport Sudamerica S.A.	Industrials	1.27%	0.00%	125	0.00%	Modelled	-
Autopistas del Sol, S.A.	Industrials	0.86%	0.00%	80	0.00%	Modelled	No
Operadora de Servicios Mega, S.A. de C.V., SOFO	Financials	0.30%	0.00%	15	0.01%	Modelled	No
National Enterprises Limited	Financials	0.99%	0.00%	40	0.02%	Modelled	-
Mexarrend, S.A.P.I. de C.V.	Financials	0.15%	0.00%	15	0.04%	Modelled	No

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IVO Global Opportunities UCITS

Name	Sector	VOH Weight	Carbon Weight	Company C/R (tCO2e/mEUR)	Portfolio C/R Contribution	Disclosure	Climate 100+*
Unifin Financiera, S. A. B. de C. V.	Financials	0.05%	0.00%	15	0.00%	Modelled	No
Credito Real S.A.B. de C.V.	Financials	0.03%	0.00%	16	0.00%	Modelled	No
Metinvest B.V.	Materials	0.64%	1.37%	1,102	-0.59%	Modelled	No
ShaMaran Petroleum Corp.	Energy	3.66%	2.47%	866	-0.67%	Modelled	-
China Fortune Land Development Co., Ltd.	Real Estate	0.26%	0.01%	94	0.06%	Modelled	No
ACI Airport Sudamerica S.A.	Industrials	2.33%	0.00%	125	0.00%	Modelled	-
Corporacion America Airports S.A.	Industrials	0.36%	0.01%	85	0.08%	Modelled	No

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STRANDED ASSETS & ENERGY TRANSITION

Financial Exposure to Fossil Fuel Activities

Future emissions from fossil fuel reserves far outweigh the allowable carbon budget that will limit global warming to 2 degrees Celsius above pre-industrial levels. Industry experts refer to assets that may suffer from unanticipated or premature write-downs, devaluations or conversion to liabilities as 'stranded assets'.

Trucost assesses exposure to such assets by showing the combined weight of holdings with business activities in either fossil fuel extraction or fossil fuel energy generation industries. This helps to identify potentially stranded assets that would become more apparent as economies move towards a low carbon economy.

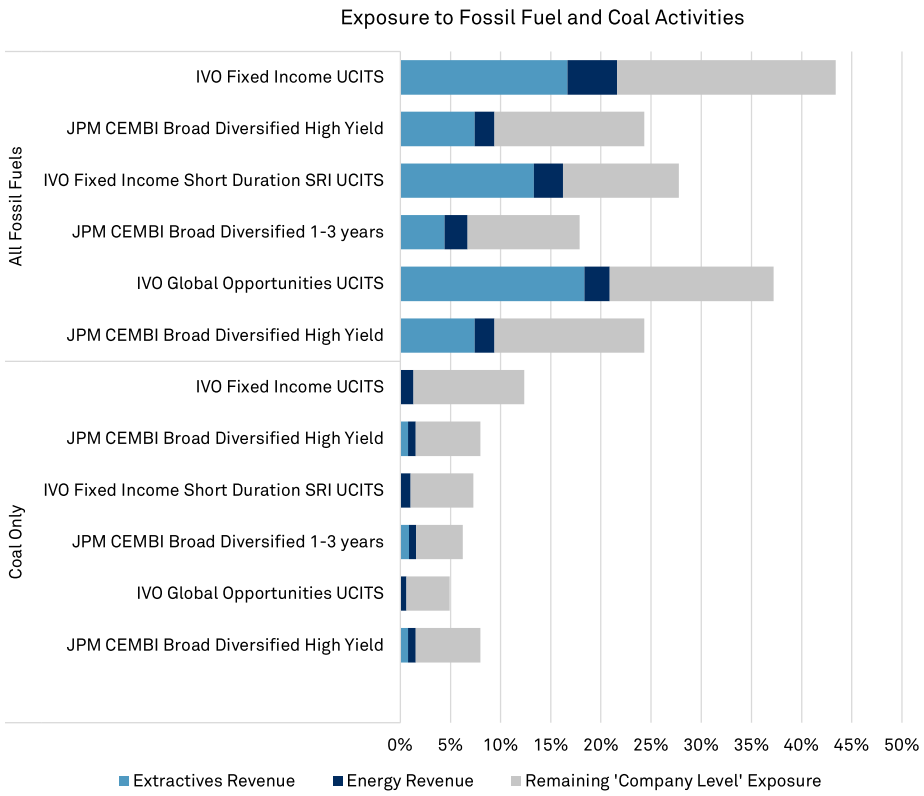
Extraction-related activities include the following:

- **Crude petroleum and natural gas extraction**
- **Tar sands extraction**
- **Natural gas liquid extraction**
- **Bituminous coal underground mining**
- **Bituminous coal and lignite surface mining**
- **Drilling oil and gas wells**
- **Support activities for oil and gas operations**

Energy-related activities include the following:

- **Coal power generation**
- **Petroleum power generation**
- **Natural gas power generation**

The right-hand chart gives an indication of exposure to companies engaged in any fossil fuel activities (top), as well as coal only (bottom). The total bar size represents the combined weight in the portfolio or benchmark of companies deriving any revenues from fossil fuel related activities, while the blue segments indicate the weighted average exposure to the revenues themselves.

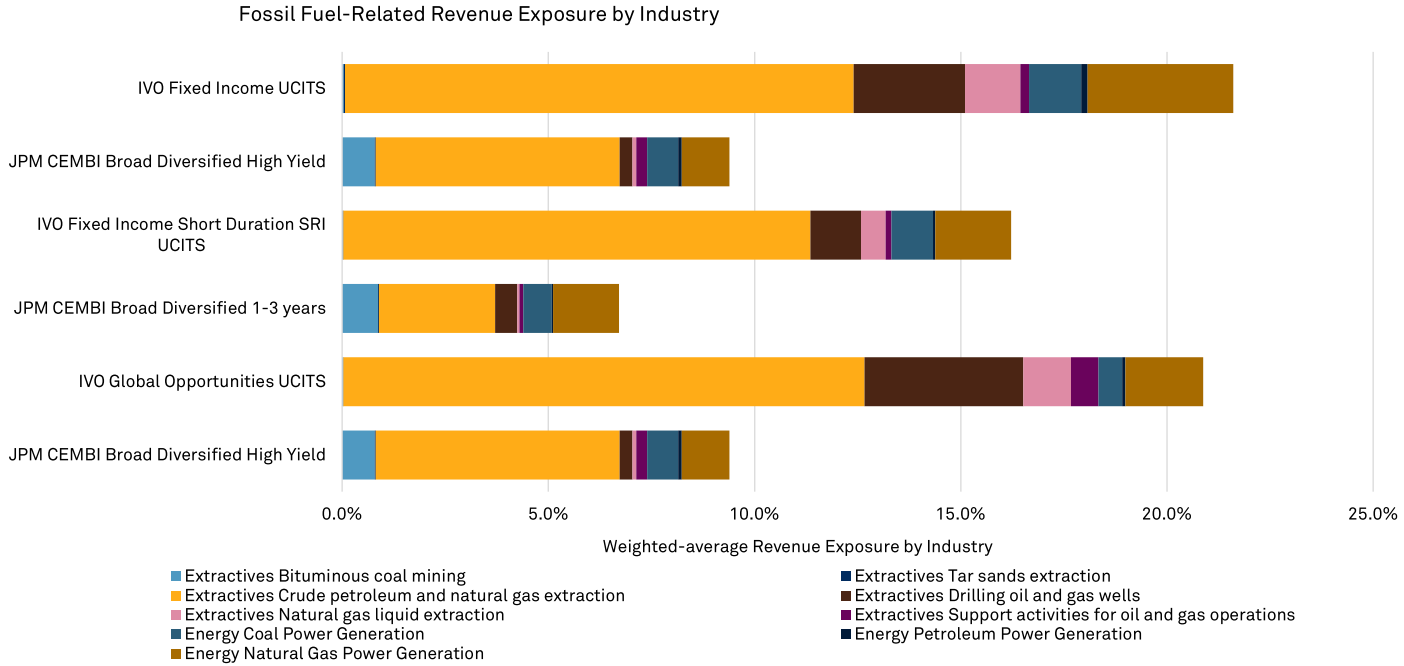


STRANDED ASSETS & ENERGY TRANSITION

Fossil Fuel Activities Breakdown by Sector

The chart below breaks down the 'extractives' and 'energy' revenue exposure into specific industry exposures.

Given coal's status as a highly substitutable energy source, while also a major contibutor global GHG emissions, investors may see divestment from these companies as a 'quick-win' on the path to meeting the goals of the Paris Agreement.



STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Fossil Fuel Revenues

The tables below show the top 10 contributors to the portfolio's weighted average fossil fuel revenues exposure.

IVO Fixed Income UCITS

Name	Sector	VOH Weight	Company Level Fossil Fuel Extractives Rev.	Company Level Fossil Fuel Energy Rev.	Company Level Total Fossil Fuel Rev.	Portfolio Level Weighted Avg. Fossil Fuel Rev.	Climate 100+*
Tullow Oil plc	Energy	2.93%	100.00%		100.00%	2.929%	No
Shelf Drilling, Ltd.	Energy	2.65%	100.00%		100.00%	2.646%	No
Seplat Energy Plc	Energy	2.70%	100.00%		100.00%	2.701%	No
Kosmos Energy Ltd.	Energy	2.59%	100.00%		100.00%	2.587%	No
Pampa Energia S.A.	Utilities	3.74%	21.20%	44.57%	65.77%	2.458%	No
Ecopetrol S.A.	Energy	3.93%	50.61%		50.61%	1.987%	Yes
Shell plc	Energy	7.06%	22.19%		22.19%	1.567%	Yes
DNO ASA	Energy	0.79%	100.00%		100.00%	0.794%	No

IVO Fixed Income Short Duration SRI UCITS

Name	Sector	VOH Weight	Company Level Fossil Fuel Extractives Rev.	Company Level Fossil Fuel Energy Rev.	Company Level Total Fossil Fuel Rev.	Portfolio Level Weighted Avg. Fossil Fuel Rev.	Climate 100+*
Kosmos Energy Ltd.	Energy	3.48%	100.00%		100.00%	3.482%	No
DNO ASA	Energy	2.35%	100.00%		100.00%	2.350%	No
Ecopetrol S.A.	Energy	2.74%	50.61%		50.61%	1.385%	Yes
Tullow Oil plc	Energy	1.29%	100.00%		100.00%	1.288%	No
Shelf Drilling, Ltd.	Energy	1.22%	100.00%		100.00%	1.224%	No
Shell plc	Energy	2.80%	22.19%		22.19%	0.622%	Yes
YPF SA	Energy	3.27%	2.45%	16.29%	18.74%	0.613%	No

*Climate Action 100+ is an investor initiative to ensure the world's largest corporate greenhouse gas emitters take necessary action on climate change. The companies include 100 'systemically important emitters', accounting for two-thirds of annual global industrial emissions, alongside more than 60 others with significant opportunity to drive the clean energy transition. For more information see http://www.climateaction100.org.

STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Fossil Fuel Revenues

The tables below show the top 10 contributors to the portfolio's weighted average fossil fuel revenues exposure.

IVO Global Opportunities UCITS

Name	Sector	VOH Weight	Company Level Fossil Fuel Extractives Rev.	Company Level Fossil Fuel Energy Rev.	Company Level Total Fossil Fuel Rev.	Portfolio Level Weighted Avg. Fossil Fuel Rev.	Climate 100+*
Shelf Drilling, Ltd.	Energy	3.85%	100.00%		100.00%	3.845%	No
Kosmos Energy Ltd.	Energy	2.94%	100.00%		100.00%	2.941%	No
Ecopetrol S.A.	Energy	5.09%	50.61%		50.61%	2.577%	Yes
Seplat Energy Plc	Energy	1.39%	100.00%		100.00%	1.390%	No
The AES Corporation	Utilities	2.92%		45.57%	45.57%	1.330%	Yes
DNO ASA	Energy	1.20%	100.00%		100.00%	1.197%	No
Pampa Energia S.A.	Utilities	1.53%	21.20%	44.57%	65.77%	1.007%	No
YPF SA	Energy	2.76%	2.45%	16.29%	18.74%	0.517%	No

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STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Coal Revenues

The tables below show the top 10 contributors to the portfolio's weighted average coal revenues exposure.

IVO Fixed Income UCITS

Name	Sector	VOH Weight	Company Level Coal Extractives Rev.	Company Level Coal Energy Rev.	Company Level Total Coal Rev.	Portfolio Level Weighted Avg. Coal Rev.	Climate 100+*
The AES Corporation	Utilities	5.43%		19.63%	19.63%	1.067%	Yes
Adani Transmission Limited	Utilities	1.07%		19.07%	19.07%	0.205%	No
Sasol Limited	Materials	3.31%	0.71%		0.71%	0.023%	Yes
Vale S.A.	Materials	0.92%	1.18%		1.18%	0.011%	Yes
GMR Airports Infrastructure Limited	Industrials	1.62%		0.01%	0.01%	0.000%	No

IVO Fixed Income Short Duration SRI UCITS

Name	Sector	VOH Weight	Company Level Coal Extractives Rev.	Company Level Coal Energy Rev.	Company Level Total Coal Rev.	Portfolio Level Weighted Avg. Coal Rev.	Climate 100+*
The AES Corporation	Utilities	2.65%		19.63%	19.63%	0.519%	Yes
JSW Energy Limited	Utilities	0.53%		69.04%	69.04%	0.365%	No
PT Cikarang Listrindo Tbk	Utilities	0.67%		19.17%	19.17%	0.128%	No
Sasol Limited	Materials	1.97%	0.71%		0.71%	0.014%	Yes
GMR Airports Infrastructure Limited	Industrials	1.46%		0.01%	0.01%	0.000%	No

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STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Coal Revenues

The tables below show the top 10 contributors to the portfolio's weighted average coal revenues exposure.

IVO Global Opportunities UCITS

Name	Sector	VOH Weight	Company Level Coal Extractives Rev.	Company Level Coal Energy Rev.	Company Level Total Coal Rev.	Portfolio Level Weighted Avg. Coal Rev.	Climate 100+*
The AES Corporation	Utilities	2.92%		19.63%	19.63%	0.573%	Yes
Sasol Limited	Materials	1.43%	0.71%		0.71%	0.010%	Yes
Vale S.A.	Materials	0.58%	1.18%		1.18%	0.007%	Yes

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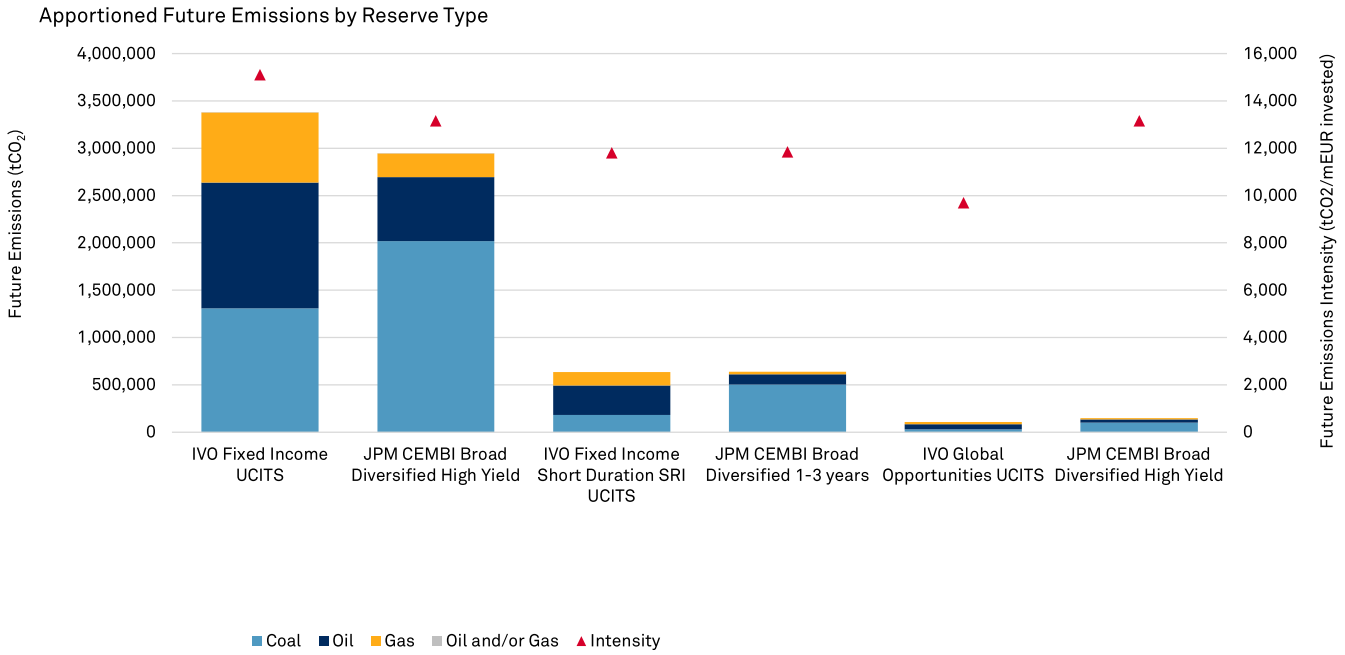
STRANDED ASSETS & ENERGY TRANSITION

Emissions from Reserves

Trucost is able to analyse two additional metrics that provide additional insights relevant to stranded asset risk. First, are the carbon emissions embedded within company owned fossil fuel reserves which can be considered 'unburnable' if 2°C targets are to be achieved. Second, are the capital expenditures set aside for future fossil fuel related activities such as further exploration and extraction. Both metrics are based on disclosures published by investees.

The chart below shows the total tonnes of apportioned "future" CO_2 from reserves, broken down by reserve type.

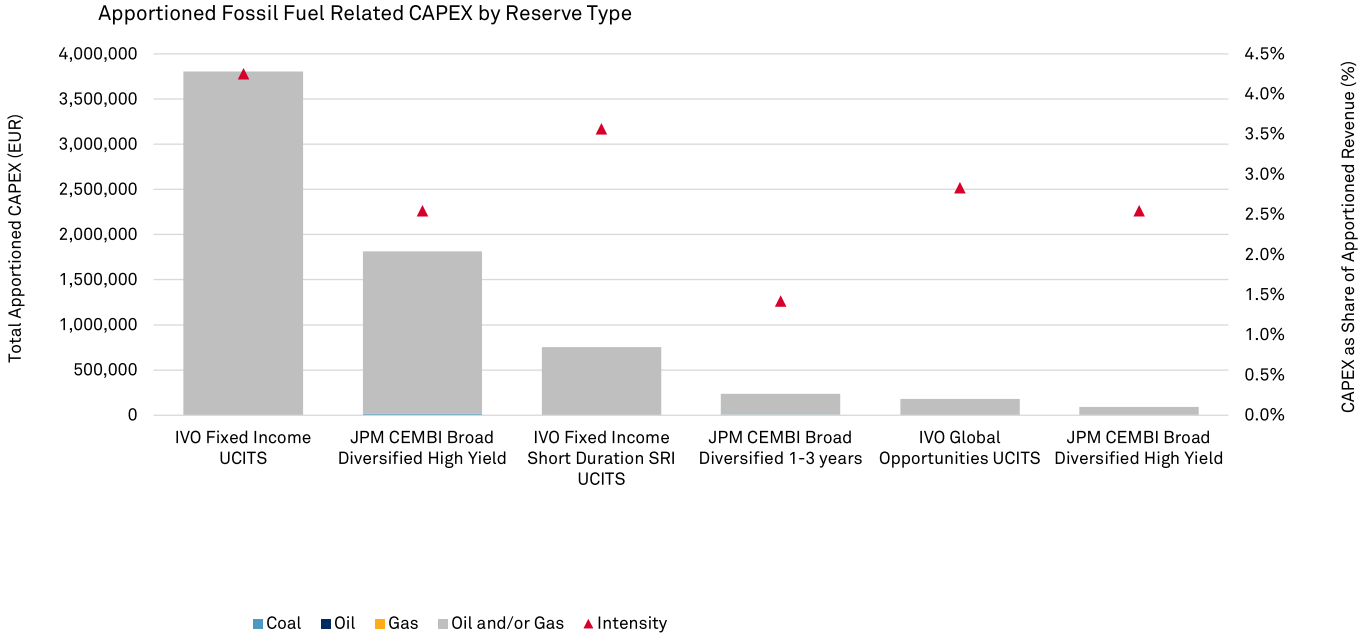


STRANDED ASSETS & ENERGY TRANSITION

CAPEX

Trucost is able to analyse two additional metrics that provide additional insights relevant to stranded asset risk. First, are the carbon emissions embedded within company owned fossil fuel reserves which can be considered 'unburnable' if 2°C targets are to be achieved. Second, are the capital expenditures set aside for future fossil fuel related activities such as further exploration and extraction. Both metrics are based on disclosures published by investees.

The chart below shows the total apportioned capital expenditure on fossil fuel related activites, again broken out by reserve type.



STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Future Emissions from Reserves

The tables below show the top contributors to the portfolio's apportioned emissions from reserves.

IVO Fixed Income UCITS

Name	Sector	VOH Weight	Company Level Future Emissions Coal Reserves (m tonnes CO_2)	Company Level Future Emissions Oil&Gas Reserves (m tonnes CO_2)	Company Level Future Emissions Total Reserves (m tonnes CO_2)	Portfolio Level Apportioned CO_2 from Reserves (m tonnes CO_2)	Climate 100+*
Sasol Limited	Materials	3.31%	2,873	541	3,414	1.509	Yes
Seplat Energy Plc	Energy	2.70%		187	187	0.901	No
YPF SA	Energy	3.26%		341	341	0.191	No
Tullow Oil plc	Energy	2.93%		107	107	0.177	No
DNO ASA	Energy	0.79%		137	137	0.141	No
Ecopetrol S.A.	Energy	3.93%		657	657	0.127	Yes
Shell plc	Energy	7.06%		1,708	1,708	0.100	Yes
Pampa Energia S.A.	Utilities	3.74%		50	50	0.093	No

IVO Fixed Income Short Duration SRI UCITS

Name	Sector	VOH Weight	Company Level Future Emissions Coal Reserves (m tonnes CO_2)	Company Level Future Emissions Oil&Gas Reserves (m tonnes CO_2)	Company Level Future Emissions Total Reserves (m tonnes CO_2)	Portfolio Level Apportioned CO_2 from Reserves (m tonnes CO_2)	Climate 100+*
Seplat Energy Plc	Energy	2.72%		187	187	0.218	No
Sasol Limited	Materials	1.97%	2,873	541	3,414	0.216	Yes
DNO ASA	Energy	2.35%		137	137	0.100	No
YPF SA	Energy	3.27%		341	341	0.046	No
Ecopetrol S.A.	Energy	2.74%		657	657	0.021	Yes
Tullow Oil plc	Energy	1.29%		107	107	0.019	No
Shell plc	Energy	2.80%		1,708	1,708	0.010	Yes
Pampa Energia S.A.	Utilities	0.63%		50	50	0.004	No

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STRANDED ASSETS & ENERGY TRANSITION

Top Contributors to Future Emissions from Reserves

The tables below show the top contributors to the portfolio's apportioned emissions from reserves.

IVO Global Opportunities UCITS

Name	Sector	VOH Weight	Company Level Future Emissions Coal Reserves (m tonnes CO_2)	Company Level Future Emissions Oil&Gas Reserves (m tonnes CO_2)	Company Level Future Emissions Total Reserves (m tonnes CO_2)	Portfolio Level Apportioned CO_2 from Reserves (m tonnes CO_2)	Climate 100+*
Sasol Limited	Materials	1.43%	2,873	541	3,414	0.032	Yes
Seplat Energy Plc	Energy	1.39%		187	187	0.023	No
Tullow Oil plc	Energy	4.19%		107	107	0.013	No
DNO ASA	Energy	1.20%		137	137	0.011	No
Ecopetrol S.A.	Energy	5.09%		657	657	0.008	Yes
YPF SA	Energy	2.76%		341	341	0.008	No
Petrobras SA	Energy	1.59%		3,588	3,588	0.006	Yes
Shell plc	Energy	6.03%		1,708	1,708	0.004	Yes

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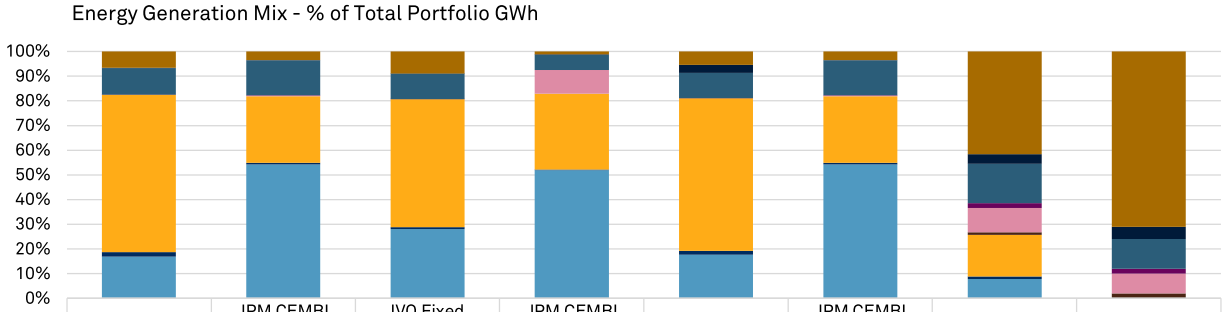
STRANDED ASSETS & ENERGY TRANSITION

Energy Mix

In addition to the emissions alignment analysis above, Trucost is also able to assess the portfolio's energy mix alignment to a 2 degree scenario. The chart below shows the share, by energy type, of the total GWh apportioned to the portfolio and benchmark. This can be compared to the energy mix required at different reference years for the low carbon economy of the future, as suggested by the International Energy Agency's (IEA) 2 degree scenario*.



	IVO Fixed Income UCITS	JPM CEMBI Broad Diversified High Yield	IVO Fixed Income Short Duration SRI UCITS	JPM CEMBI Broad Diversified 1-3 years	IVO Global Opportunities UCITS	JPM CEMBI Broad Diversified High Yield	IEA 1.5C 2030	IEA 1.5C 2050
Other Renewables	6.65%	3.53%	8.97%	1.22%	5.54%	3.53%	42%	71%
Biomass	0.01%	0.15%	0.01%	0.25%	3.17%	0.15%	4%	5%
Hydroelectric	10.78%	14.06%	10.35%	5.96%	10.25%	14.06%	16%	12%
Other sources	0.01%	0.00%	0.01%	0.08%	0.01%	0.00%	2%	2%
Nuclear	0.00%	0.43%	0.00%	9.69%	0.00%	0.43%	10%	8%
Fossil energy with CCS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1%	2%
Natural Gas	63.84%	26.95%	51.91%	30.54%	61.80%	26.95%	17%	0%
Petroleum	1.83%	0.69%	0.73%	0.44%	1.55%	0.69%	1%	0%
Coal	16.88%	54.18%	28.02%	51.82%	17.68%	54.18%	8%	0%

* Based on data from the International Energy Agency (2021) Net Zero by 2050: Net Zero by 2050 Scenario - Data product - IEA; as modified by S&P Sustainable1.

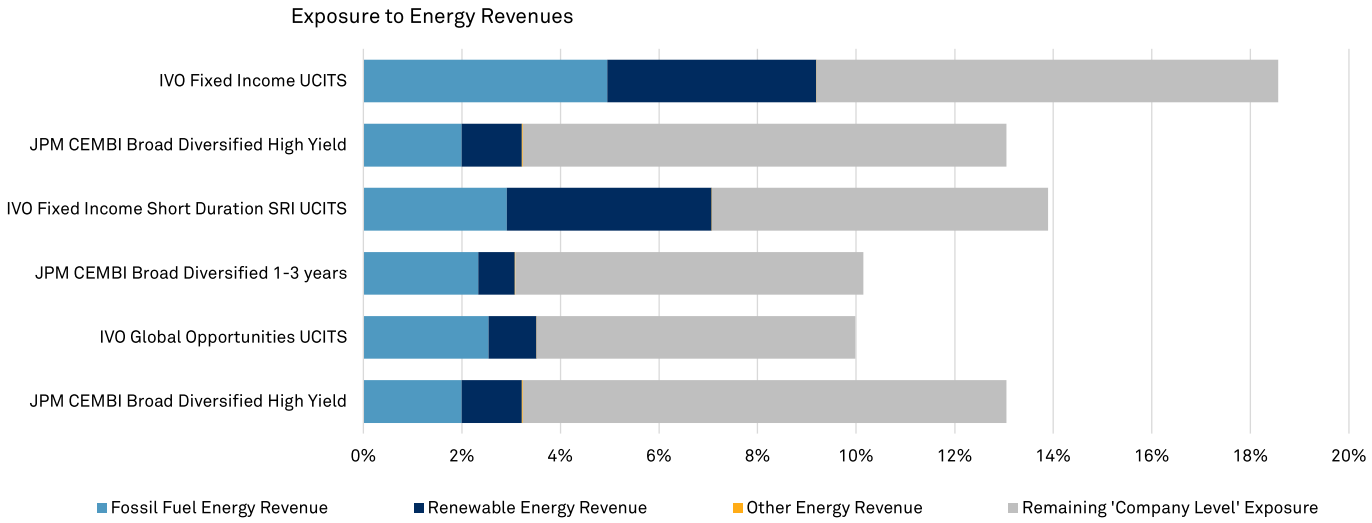
STRANDED ASSETS & ENERGY TRANSITION

Financial Exposure to Energy Revenues

As not all energy companies disclose GWh produced, it is also useful to determine exposure to energy 'aggravators' (fossil fuels) and 'mitigators' (renewables) based on sources of revenue. The full list of energy types considered is shown below:

- **Fossil Fuels:** coal, petroleum, natural gas
- **Renewables:** solar, wind, wave & tidal, geothermal, hydroelectric, biomass
- **Other:** nuclear, landfill gas, any other unclassified power generation

The chart below shows total exposure to companies with any energy revenues (total bar size), while the light blue, dark blue and yellow segments represent the weighted-average revenue exposure to Fossil Fuels, Renewables, and Other energy revenues respectively.



PARIS ALIGNMENT

Transition Pathways

Trucost's 'Transition Pathway Assessment' enables investors to track their portfolios against the goal of limiting global warming to 1.5°C or 2°C above pre-industrial levels. The assessment examines the adequacy of emissions reductions made over time, by investees, in meeting these targets. It incorporates both historical performance as well as forward-looking indicators (over a medium-term time horizon). This avoids the uncertainties of using only forward-looking data, and is of a sufficient time horizon to make the effect of any year-on-year volatility less significant. Historical data on greenhouse gas emissions and company activity levels is incorporated from a base year of 2012. Forward-looking data sources are used to track likely future transition pathways from the most recent year of disclosed data through to 2030.

Trucost's approach is adapted from two methodologies highlighted by the Science Based Targets Initiative (SBTi), these being the Sectoral Decarbonization Approach (SDA) and the Greenhouse gas Emissions per unit of Value Added (GEVA) approach. The SDA is applied to companies with high-emitting, homogeneous business activities, while GEVA is applied to those with lower emitting, heterogeneous business activities. For more information on the methodology please refer to Appendix 5.

The boxes below show the level of warming that each portfolio is aligned with, while the chart shows each portfolio's trajectory and compares that to its own 2°C aligned trajectory.

IVO Fixed Income UCITS

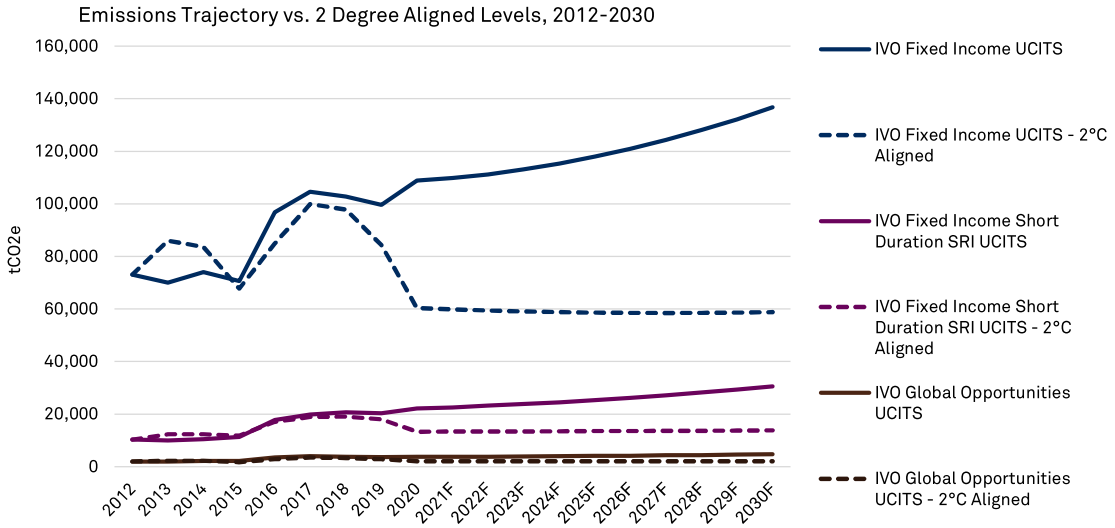
>3	°C

IVO Fixed Income Short Duration SRI I

>3	°C

IVO Global Opportunities UCITS

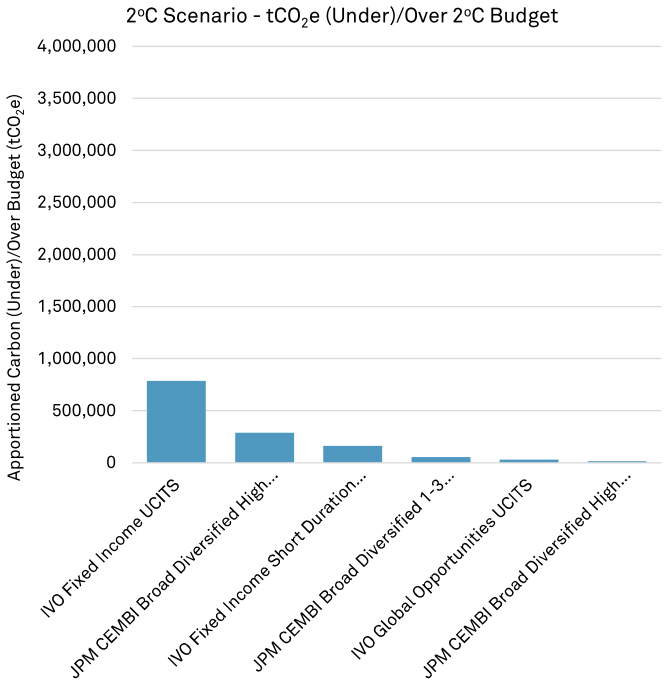
>3	°C

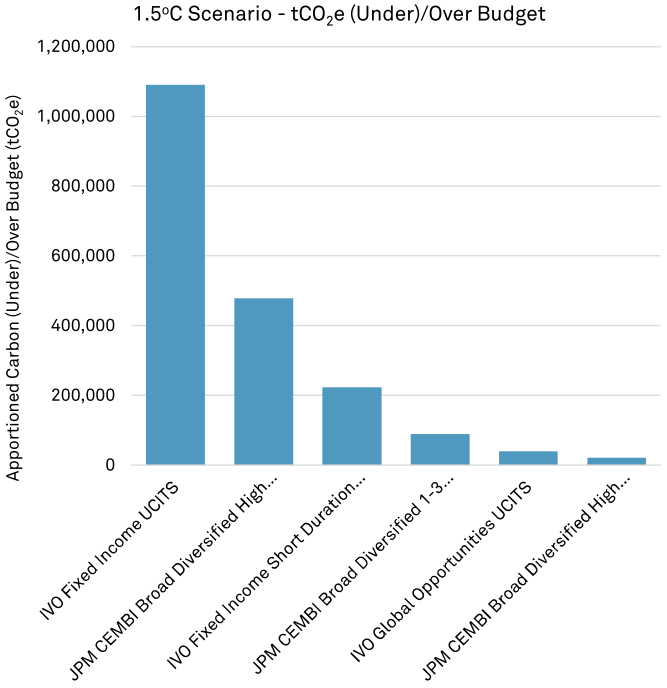


PARIS ALIGNMENT

Carbon Budget Assessment

The charts below show each portfolio's performance against their own 2°C and 1.5°C carbon budgets. The chart on this page shows this in absolute tonnes of carbon. A positive number indicates weaker performance, as it means the portfolio is over budget, whereas a negative number indicates stronger performance, as in means the portfolio is under budget.

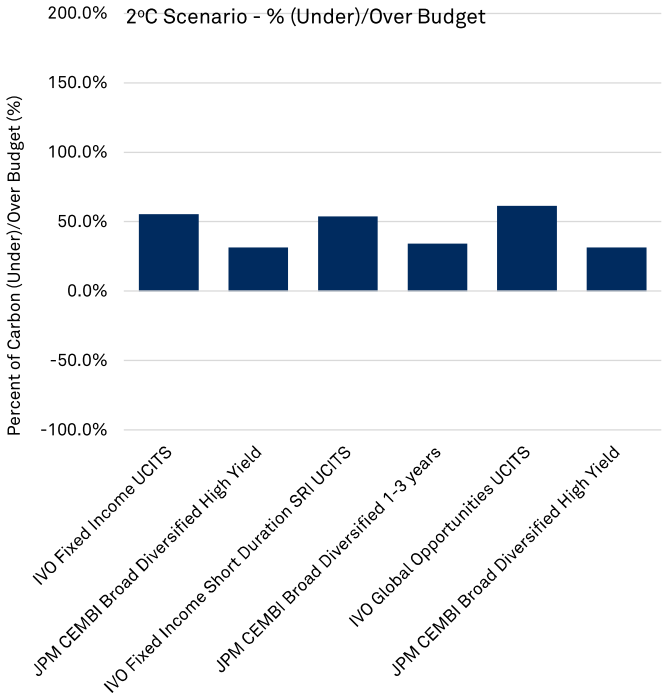


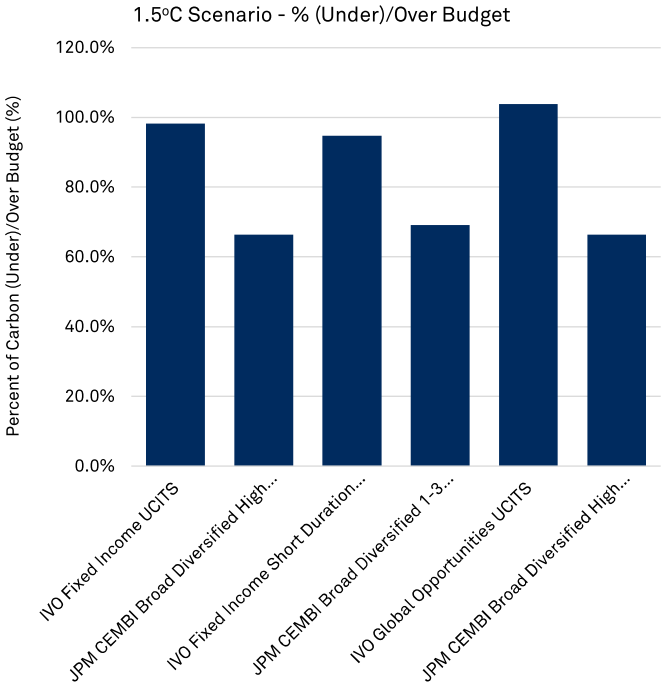


PARIS ALIGNMENT

Carbon Budget Assessment

The charts below show each portfolio's performance against their own 2°C and 1.5°C carbon budgets. The chart on this page shows this as a percent of the total portfolio level budget. A positive number indicates weaker performance, as it means the portfolio is over budget, whereas a negative number indicates stronger performance, as in means the portfolio is under budget.

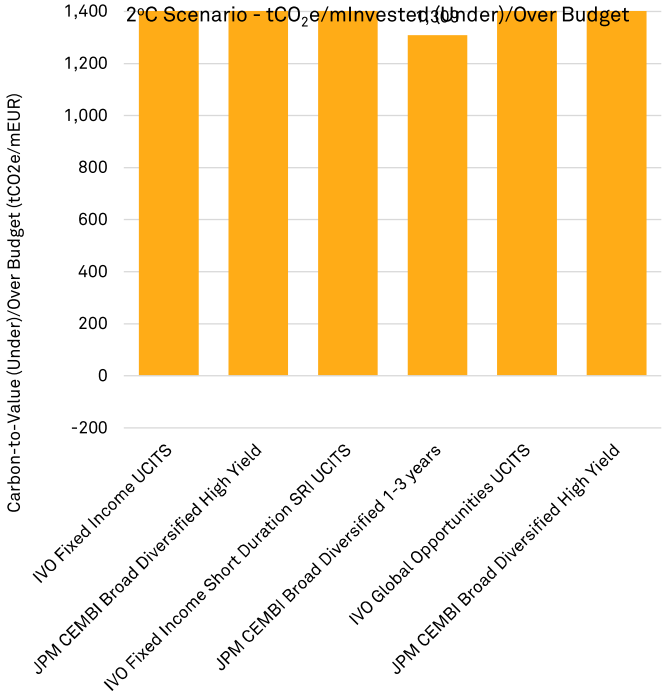


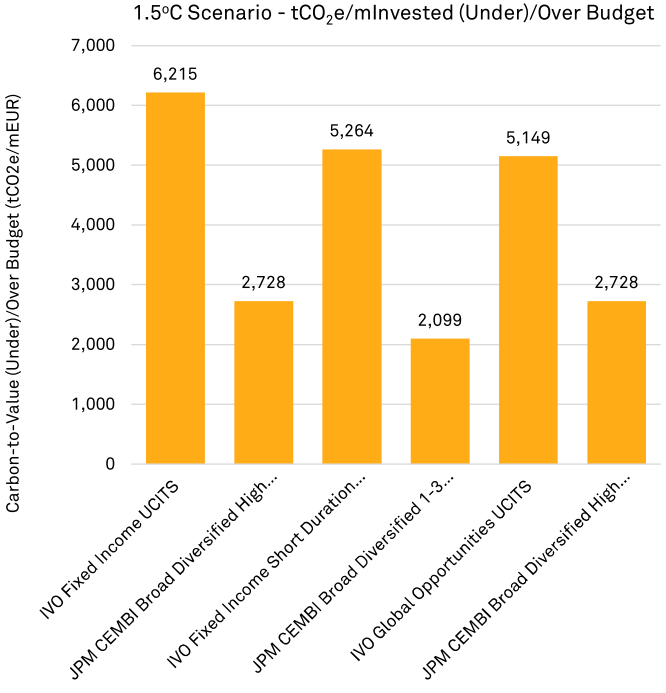


PARIS ALIGNMENT

Carbon Budget Assessment

The charts below show each portfolio's performance against their own 2°C and 1.5°C carbon budgets. The chart on this page shows this in absolute tonnes of carbon. A positive number indicates weaker performance, as it means the portfolio is over budget, whereas a negative number indicates stronger performance, as in means the portfolio is under budget.





PARIS ALIGNMENT

Sector Contributions

Companies with predominantly homogenous business activities that fall into one of the 5 sectors in the table below were assessed using the SDA approach. This means that the required carbon intensity reductions were calculated in sector specific units of production (for example tonnes of steel produced, or number of passenger miles flown), and each company's share of the overall sector budget is calculated relative to its market share.

Companies with low emitting or heterogeneous business activities were assessed using the GEVA approach. This means that required carbon intensity reductions were calculated in carbon-per-dollar of value added (gross profit), and each company's share of the overall sector budget is calculated using its progress against required reduction rates. For more information, please refer to Appendix 5.

		IVO Fixed Income UCITS d Income Short Duration SRI UCITS				IVO Global Opportunities UCITS	
Method	Sector	Contribution ($MtCO_2e$)	Pathway (°C)	Contribution ($MtCO_2e$)	Pathway (°C)	Contribution ($MtCO_2e$)	Pathway (°C)
SDA	Power Generation	0		-76	1.5 to 2	0	
	Cement	0		0		0	
	Steel	0		1,244	>2.7	0	
	Airlines	0		0		0	
	Aluminum	0		0		0	
GEVA	Communication Services	3,706	>5	1,863	>5	220	>5
	Consumer Discretionary	-627	1.5 to 2	1,767	>5	44	>5
	Consumer Staples	14,223	>5	3,793	>5	796	>5
	Energy	509,975	>5	112,871	>5	19,230	>5
	Financials	-1,040	<1.5	-96	<1.5	-106	<1.5
	Health Care	0		0		0	
	Industrials	31,350	>5	13,126	>5	-30	1.5 to 2
	Information Technology	0		0		0	
	Materials	150,089	4 to 5	2,622	2 to 3	7,456	>5
	Real Estate	-1,774	1.5 to 2	861	>5	-78	1.5 to 2
	Utilities	79,472	3 to 4	22,663	>5	2,076	3 to 4

PARIS ALIGNMENT

Worst Performers

The table below shows those companies contributing the most to each portfolio being over a 2°C aligned carbon budget.

IVO Fixed Income UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
Seplat Energy Plc	Energy	1,898	21,795	m$ VA	Sub-Industry Trend	57,152,234	276,140	>5°C
Sasol Limited	Materials	12,430	14,527	m$ VA	Sub-Industry Trend	338,504,930	149,663	>5°C
YPF SA	Energy	5,208	38,282	m$ VA	Sub-Industry Trend	243,650,913	136,492	>5°C
The AES Corporation	Utilities	22,518	17,661	m$ VA	Sub-Industry Trend	278,524,836	80,897	>5°C

IVO Fixed Income Short Duration SRI UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
Seplat Energy Plc	Energy	1,898	21,795	m$ VA	Sub-Industry Trend	57,152,234	66,837	>5°C
YPF SA	Energy	5,208	38,282	m$ VA	Sub-Industry Trend	243,650,913	32,918	>5°C
Sasol Limited	Materials	12,430	14,527	m$ VA	Sub-Industry Trend	338,504,930	21,412	>5°C
The AES Corporation	Utilities	22,518	17,661	m$ VA	Sub-Industry Trend	278,524,836	9,468	>5°C

IVO Global Opportunities UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
Seplat Energy Plc	Energy	1,898	21,795	m$ VA	Sub-Industry Trend	57,152,234	7,035	>5°C
YPF SA	Energy	5,208	38,282	m$ VA	Sub-Industry Trend	243,650,913	5,720	>5°C
Methanex Corporation	Materials	4,522	14,306	m$ VA	Sub-Industry Trend	74,023,290	3,770	>5°C
Sasol Limited	Materials	12,430	14,527	m$ VA	Sub-Industry Trend	338,504,930	3,201	>5°C

PARIS ALIGNMENT

Best Performers

The table below shows those companies contributing the most to each portfolio being under a 2ºC aligned carbon budget.

IVO Fixed Income UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
Braskem S.A.	Materials	7,223.278	2,959.742	m$ VA	Company Target	-43,481,813	-19,713	1.5-2°C
Sibanye Stillwater Limit	Materials	######	2,217.704	m$ VA	Company Target	-152,645,538	-12,879	<1.5°C
Kosmos Energy Ltd.	Energy	1,032.169	5.160	m$ VA	Company Target	-7,823,671	-9,921	<1.5°C
Aris Mining Corporation	Materials	1,102.773	146.660	m$ VA	Sub-Industry Trend	-2,717,956	-8,273	<1.5°C

IVO Fixed Income Short Duration SRI UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
West China Cement Limi	Materials	######	######	m$ VA	Sub-Industry Trend	-84,584,931	-16,531	<1.5°C
Braskem S.A.	Materials	7,223.278	2,959.742	m$ VA	Company Target	-43,481,813	-3,951	1.5-2°C
Kosmos Energy Ltd.	Energy	1,032.169	5.160	m$ VA	Company Target	-7,823,671	-3,210	<1.5°C
JSW Steel Limited	Materials	######	######	m$ VA	Sub-Industry Trend	-39,317,099	-604	1.5-2°C

IVO Global Opportunities UCITS		GHG Emissions Intensity				GHG emissions (under)/over 2°C carbon budget: '12-'30		
Name	GICS Sub-industry	(tCO_2e/Unit) Start	2030F	Unit	Forecast Source	Total Carbon (tCO_2e)	Apportioned Carbon (tCO_2e)	Alignment (°C)
Kosmos Energy Ltd.	Energy	1,032.169	5.160	m$ VA	Company Target	-7,823,671	-559	<1.5°C
Braskem S.A.	Materials	7,223.278	2,959.742	m$ VA	Company Target	-43,481,813	-499	1.5-2°C
GCC, S.A.B. de C.V.	Materials	######	######	m$ VA	Sub-Industry Trend	-15,163,228	-243	1.5-2°C
Sino-Ocean Group Holdi	Real Estate	372.594	49.324	m$ VA	Sub-Industry Trend	-11,518,306	-118	<1.5°C

APPENDIX

1. TCFD Recommended Disclosures and Supplementary Guidance for Asset Owners and Managers

	Governance	Strategy	Risk Management	Metrics & Targets
Recommended Disclosures for All Sectors	a) Describe the board's oversight of climate-related risks and opportunities. b) Describe management's role in assessing and managing climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term. b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	a) Describe the organization's processes for identifying and assessing climate-related risks. b) Describe the organization's processes for managing climate-related risks. c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process. b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.
Supplemental Guidance for Asset Owners / Asset Managers		Asset owners should describe how climate-related risks and opportunities are factored into relevant investment strategies. This could be described from the perspective of the total fund or investment strategy or individual investment strategies for various asset classes. Asset managers should describe how climate-related risks and opportunities are factored into relevant products or investment strategies. Asset managers should also describe how each product or investment strategy might be affected by the transition to a lower-carbon economy. Asset owners that perform scenario analysis should consider providing a discussion of how climate-related scenarios are used, such as to inform investments in specific assets.	Asset owners / managers should describe, where appropriate, engagement activity with investee companies to encourage better disclosure and practices related to climate-related risks to improve data availability and asset owners' / managers' ability to assess climate-related risks. Asset owners should describe how they consider the positioning of their total portfolio with respect to the transition to a lower-carbon energy supply, production, and use. This could include explaining how asset owners actively manage their portfolios' positioning in relation to this transition. Asset managers should describe how they manage material climate-related risks for each product or investment strategy.	Asset owners / managers should describe metrics used to assess climate-related risks and opportunities in each fund / product or investment strategy. Where relevant, asset owners / managers should also describe how these metrics have changed over time. Where appropriate, asset owners / managers should provide metrics considered in investment decisions and monitoring. Asset owners / managers should provide the weighted average carbon intensity, where data are available or can be reasonably estimated, for each fund / product or investment strategy. In addition, asset owners / managers should provide other metrics they believe are useful for decision making along with a description of the methodology used. Source: TCFD

APPENDIX

2. Apportioning

Apportioning, as an approach, began with the principle of ownership. That is, if an investor owns 1% of a company, then they also 'own' 1% of the company's emissions. This concept has since been extended to cover all sources of financing, whether equity, bonds or loans in order to calculate an investor or lender's share of 'financed emissions'.

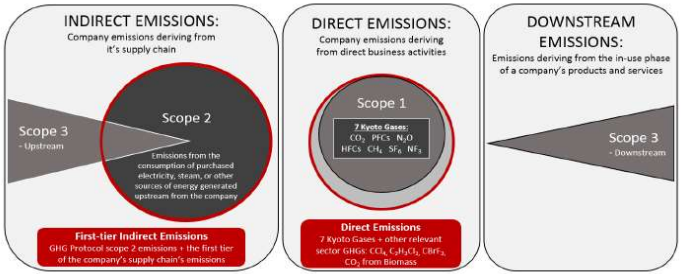
At Sustainable1 we select apportioning denominators in line with the recommendations of the Partnership for Carbon Accounting Financials (PCAF). For listed companies we use Enterprise Value including Cash (EVIC). For unlisted companies we use Total Capital, i.e. the sum of all balance sheet equity and debt, or if this is unavailable then Total Assets. For debt instruments of unlisted companies reporting negative equity, Total Debt is used as the apportioning denominator.

The company level emissions are then multiplied by the apportioning factor to arrive at emissions quantities specific to each holding. The portfolio level emissions are the sum of all of these quantities.

3. Scopes

The right scope of emissions to include in footprint calculations is dependent on the breadth of view that the analyst wishes to take. Restricting the scope to direct operational emissions only (scope 1) removes the risk of double counting carbon, but also limits the level of insight provided as much of what can be considered exposure to 'carbon risks' may exist in the supply chain of investees. Trucost recommends widening the scope of analysis to uncover more of these potential risks. The full list of scopes available is shown below:

- **Direct (Scope 1)** = CO_2e emissions based on the Kyoto Protocol, greenhouse gases generated by direct company operations.
- **Direct (Other)** = Additional direct emissions, including those from CCl_4, $C_2H_3Cl_3$, $CBrF_3$, and CO_2 from Biomass.
- **Purchased Electricity (Scope 2)** = CO_2e emissions generated by purchased electricity, heat or steam.
- **Non-Electricity First Tier Supply Chain (Scope 3)** = CO_2e emissions generated by companies providing goods and services in the first tier of the supply chain.
- **Other Supply Chain (Scope 3)** = CO_2e emissions generated by companies providing goods and services in the second to final tier of the supply chain.
- **Downstream (Scope 3)** = CO_2e emissions generated by the distribution, processing and use of the goods and services provided by a company.



APPENDIX

4. Data Collection & Disclosure

Trucost's unique approach to environmental data collection and modelling enables near complete coverage of most investment universes, despite often low levels of reporting among investees. A four step process is used as part of our data gathering exercise.

1. **Analyse Financial and Sector Data** - A company's financials are analysed, collecting consolidated revenues for all companies and specifying their reporting scopes and operational boundaries.

2. **Map Activities to Trucost's Environmentally Extended Input-Output (EE-IO) Model** - Trucost's EE-IO model uses 450+ business activities (broadly aligned to the NAICS, with some additional sectors included to distinguish key activities with materially different physical impacts) to model a company's environmental impacts by assigning portions of each company's revenues to one or more of these activities. The EE-IO model then estimates the pollutant emissions and resource use associated with each business activity, both directly (for a company's own operations) and across the supply chain, using the revenue sector breakdown.

3. **Incorporate Disclosures and Public Registry Data** - Trucost searches all publicly disclosed data sources of companies to find usable environmental data that will be used to overwrite Trucost's modelled estimates. Trucost ensures the scope and time horizon of any environmental data found matches that of its financials.

4. **Company Engagement and Data Verification** - Trucost analysts quality check the entire research process internally, then share the results with each company directly via a secure online portal. Companies are given one month to respond to Trucost to verify its data or directly engage to provide either refined, additional or non-public information. If appropriate and applicable data is provided, Trucost will integrate this into its analysis before publishing the data to our subscribers.

All data collected as part of the process described above will be assigned a 'disclosure flag', indicating the source of each specific data-point. These flags will fall into one of three possible 'disclosure categories', Full Disclosure, Partial Disclosure or Modelled.

- **Full Disclosure** - Trucost has used data disclosed by a company in an un-edited form as it matches the reporting scope and accuracy required by the research process.

- **Partial Disclosure** - Trucost has used data disclosed by a company but has made adjustments to match the reporting scope required by its research process (e.g. where a company discloses its emissions deriving from 85% of its operational sites, this data is used to model 100% of its emissions). Values may also be derived from a previous year's disclosed data using changes in business activities and consolidated revenues.

- **Modelled** - In the absence of usable disclosures, the data has been modelled using Trucost's EE-IO model.

At the portfolio level, disclosure may be evaluated using the following three methods:

- **VOH**: The sum of the weights of each holding within each of the three disclosure categories.

- **GHG**: The sum of each holding's share of the total apportioned Scope 1 CO2e within each of the three disclosure categories.

- **Companies**: The number of companies, shown as a percent of all companies analysed, within each of the three disclosure categories.

APPENDIX

5. Paris Alignment

Trucost's transition pathway analysis adapts two approaches prominent in literature produced and referenced by the Science-Based Targets Initiative (SBTi). These are the Sectoral Decarbonization Approach (SDA), and the Greenhouse Gas Emissions per unit of Value Added (GEVA) approach.

SDA Approach

The SDA is applied to companies with high-emitting, homogeneous business activities. Its core principle is that companies in each industry must converge toward emissions intensities consistent with a Paris aligned scenario by 2050 from their unique starting points. It uses industry-specific scenario pathways, with companies measured using industry-specific emissions intensities and physical production levels (eg. tCO2e per GWh or per tonne of steel). Industry-specific transition pathways may be faster (eg. power), or slower (eg. cement) depending on an industry's available technologies, specific mitigation potential and costs of mitigation. Within a given industry, companies with low base year emissions and low production growth can reduce emissions at a gradual rate. Companies with high emissions or high production growth must make faster reductions.

The scenarios used in SDA assessments are International Energy Agency (IEA) scenarios from the IEA Net Zero Scenario and Energy Technology Perspectives 2017. These provide SDA assessment parameters consistent with 1.5°,1.75°, 2°, and 2.7°C of warming.

GEVA Approach

GEVA is applied to companies with lower emitting or heterogeneous business activities. It recognizes that many companies have diverse business activities, most of which do not have distinct transition pathways defined in climate scenarios. For these companies, GEVA entails applying a contraction of carbon intensity principle under which a company should make emissions reductions consistent with rates required for the overall economy, from each company's unique base year emissions intensity. It uses a non-industry specific, economy-wide 2°C scenario, and emissions intensities with a financial, not physical or production denominator. Each company's transition pathway is measured as its GHG per unit of inflation-adjusted gross profit, representing its contribution to total global emissions and emissions intensity. This is compared with a global economy-wide emissions intensity pathway required for achieving below 2°C of warming.

The scenarios used in GEVA assessments are Representative Concentration Pathway (RCP) scenarios used in the AR5 report from the IPCC, as well as the scenario benchmark requirement set out in the EU Paris Aligned Benchmark regulation for the 1.5°C scenario. These provide GEVA assessment parameters consistent with 1.5°, 2°, 3°, 4°, and 5°C of warming.

Assessment horizon and data sources

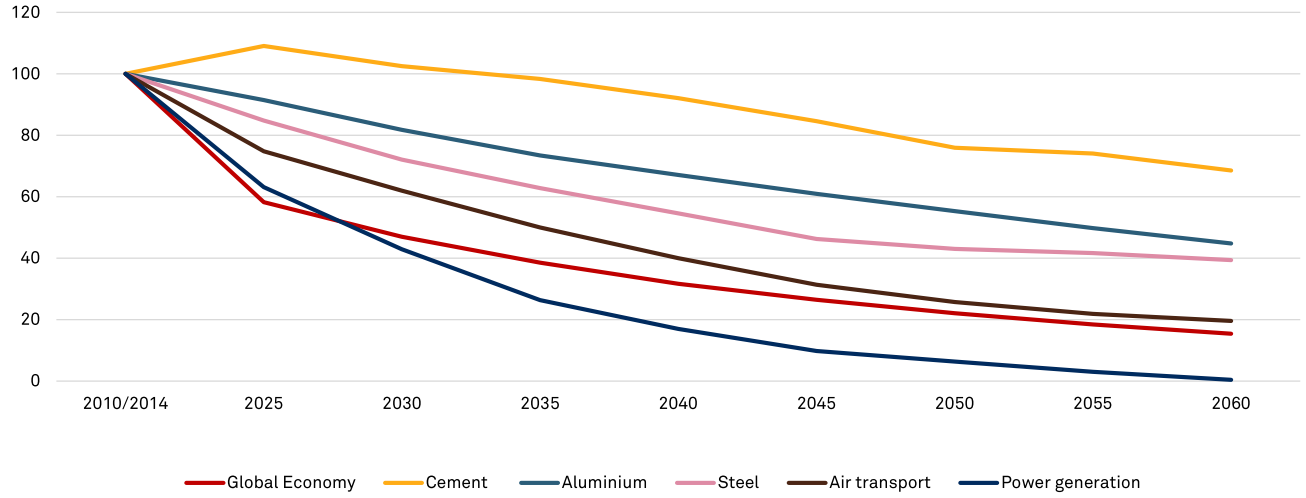
Transition pathways assessed incorporate both historical and forward-looking data in order to provide an assessment that has a medium term outlook. This minimizes the uncertainties involved in using only forward-looking data, and is of a sufficient time horizon to make the effect of any year-to-year volatility less significant. Historical data on greenhouse gas emissions and company activity levels is incorporated from a base year of 2012. Forward-looking data sources are used to track likely future transition pathways beyond the most recent year of disclosed data through to 2030. Forward-looking data is incorporated based on an established data hierarchy made up of the following sources:

1. Disclosed emissions reduction targets.
2. Asset-level data sources that provide signals of potential future changes in production from high-emitting sources.
3. Company-specific historical emissions trends for companies assessed on the basis of homogeneous business activities.
4. Subindustry-specific average historical emissions trends for companies assessed on the basis of heterogeneous business activities.
5. No change in emissions intensity beyond the latest year.

APPENDIX

The chart below illustrates the different decarbonization pathways for the five sectors covered in the SDA approach, as well as that used for the remaining sectors in the GEVA approach ('Global Economy' in the legend). Each sector's unique intensity unit has been indexed to 100 to allow for easy comparison. Sectors in which carbon saving technologies and/or processes are most cost effective are expected to decarbonize more rapidly, and terminate on a lower overall intensity, than sectors where such measures are not. For example, carbon intensity reductions are expected to be greater in the field of power generation than cement production.

2 Degree Aligned Decarbonization Pathways per Sector



APPENDIX

6. Unpriced Carbon Costs

Trucost has assembled a database of publicly available information on current carbon prices across over 44 jurisdictions as of January 2022. The Unpriced Cost of Carbon (UCC) is the estimated additional financial cost per tonne of greenhouse gas emissions in a future year. It is the difference between current carbon prices and possible future carbon prices for a given sector, geography and year.

Rising carbon prices entail direct financial implications for businesses where regulations impose a higher price on greenhouse gas emissions from the direct operations of the business. Companies also face indirect financial risks associated with the pass-through of rising carbon prices applied to the emissions of suppliers who in-turn seek to recover the additional regulatory costs in part or in full through increased prices. Pass-through factors are used to estimate the proportion of the increased carbon prices on scope 2 emissions that are passed through from suppliers to companies.

The Carbon Price Risk Premium varies by geography due to government policy differences, and by sector due to the differential treatment of sectors in many climate change policies. The sectors are based on OECD's research and include:

1. Agriculture and Fisheries
2. Electricity
3. Industry
4. Air Transportation
5. Offroad Transport
6. Residential and Commercial Real Estate
7. Road Transport

Each of Trucost's 464 business activities have been mapped to one of these seven categories.

SCENARIOS:

High Carbon Price Scenario
This scenario represents the implementation of policies that are considered sufficient to reduce greenhouse gas emissions in line with the goal of limiting climate change to 2°C by 2100 (the Paris Agreement). This scenario is based on research by OECD and IEA.

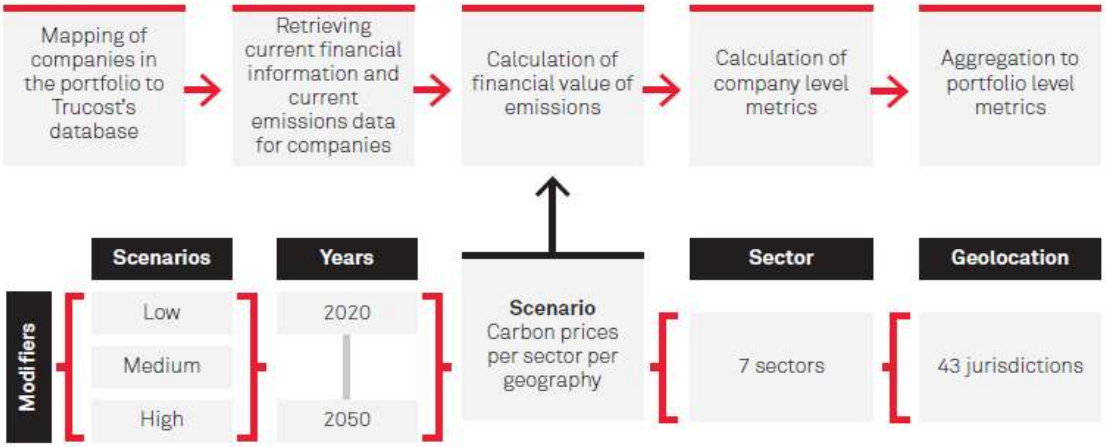
Moderate Carbon Price Scenario
This scenario assumes that policies will be implemented to reduce greenhouse gas emissions and limit climate change to 2 degrees Celsius in the long term, but with action delayed in the short term. This scenario draws on research by OECD and IEA along with assessments of the sufficiency of country Nationally Determined Contributions by Climate Action Tracker by Ecofys, Climate Analytics and New Climate Team. Countries with Nationally Determined Contributions that are not aligned to the 2°C goal in the short term are assumed to increase their climate mitigation efforts in the medium and long term.

Low Carbon Price Scenario
This scenario represents the full implementation of country Nationally Determined Contributions under the Paris Agreement, based on research by OECD and IEA.

APPENDIX

Which Carbon Price Risk Premium is applicable for individual companies will depend on the choice of scenario, companies' sector of operations as well as their geographical exposure. The analysis covers Trucost's standard 464 sectors used for classification of companies that were mapped to the sectors based on OECD's classification for carbon pricing. The geographical exposure to different Carbon Price Risk Premiums is derived based on companies' geographical emissions as reported through the Carbon Disclosure Project (CDP). In case companies do not report to the CDP, Trucost uses the geographical breakdown of companies' revenues as a proxy for emissions' distribution. Together the sector exposure and country level emissions profiles allow for a very granular level bottom up calculation of carbon price risk exposure.

Schema for the Application of UCC to a Portfolio:



APPENDIX

7. Unpriced Carbon Costs - Financial Impacts

Below is a description of the different financial metrics provided:

- **Apportioned UCC:** The total additional costs arising (in)directly for a given scenario/year at the portfolio level.
- **EBIT at Risk:** The percentage of Earnings at Risk due to UCC. This highlights areas of risk across the portfolios and can be fed into financial analysis.
- **EBIT Margin Reduction:** Implied change in EBIT margins based on a scenario/year compared to the current margins. The metric allows for signaling of red flags in the portfolio where the deterioration of margin is significant.
- **VOH with EBIT at Risk:** Total value of holdings where EBIT at risk is above a certain threshold (e.g. 10%). Identifies companies that are facing the most significant carbon price risk across the portfolio.
- **VOH with Negative Margins:** Companies who's EBIT margin becomes negative after incorporating the UCC. This is used to flag companies that would potentially no longer operate profitably.

APPENDIX

8. Physical Risk

The release of the TCFD recommendations highlighted the importance of climate change as a driver of material financial risks for companies and investors that should be assessed, disclosed and managed. The Taskforce divided these risks into two major categories, the first being Transitional Risks (including policy and legal risk, technology risk, market risk and reputational risk), and the second being Physical Risk. In response, Trucost has developed physical risk assessment datasets and analytics to complement the existing suite of transition-focused products. Key features include:

- A robust and science-based climate change physical hazard characterization methodology drawing on both public and private datasets.
- Coverage of seven key indicators including: water stress, wildfire, flood, heatwave, coldwave, hurricane, and sea level rise.
- Coverage of three climate change scenarios (high, moderate, low) and three reference years (2020 (baseline), 2030 and 2050).
- Built upon a proprietary database of almost 2.8m built assets linked to corporate entities and ultimate parent entities – based on S&P Market Intelligence, and Trucost assembled datasets.
- An estimation methodology for companies without asset level information, enabling coverage of Trucost's CorePlus Universe of over 15,000 companies.

Companies are scored 1-100 across all individual risk types, as well as for a composite score which provides an evaluation as to each company's overall level of risk. The scoring framework is based on four key analytical steps:

1. Climate Hazard Mapping
2. Assets Locations Overlay and Risk Assessment
3. Physical Risk Exposure Scoring
4. Sensitivity Adjustment

Details of each of these steps is outlined below.

1. CLIMATE HAZARD MAPPING
Trucost has assembled models and datasets representing the forecasted absolute risk of seven discrete climate change hazards globally across three climate change scenarios and three time periods, to produce global hazard maps specific to each issue. These maps form the foundation of the Trucost physical risk assessment framework and draw on climate change models from leading research groups, data providers, academic research papers and Trucost datasets. The three scenarios used are based on IPCC Representative Concentration Pathways (RCP) and informed by the TCFD technical guidelines. They include:

- **High (RCP 8.5):** Continuation of business as usual with emissions at current rates. This scenario is expected to result in warming in excess of 4 degrees Celsius by 2100.
- **Moderate (RCP 4.5):** Strong mitigation actions to reduce emissions to half of current levels by 2080. This scenario is likely to result in warming of over 2 degrees Celsius by 2100.
- **Low (RCP 2.6):** Aggressive mitigation actions to halve emissions by 2050. This scenario is likely to result in warming of less than 2 degree Celsius by 2100.

Input data for all indicators under all scenarios and years was not always available. The table below highlights the current state of data availability:

APPENDIX

Indicator	Low: RCP 2.6			Moderate: RCP 4.5			High: RCP 8.5			Historic Only	Note
	Base	2030	2050	Base	2030	2050	Base	2030	2050		
Water Stress											Base Year = 2020. 2040 not 2050.
Flood											Base Year = 2020. 2040 not 2050.
Heatwave											Base Year = 2010-2020 Average
Coldwave											Base Year = 2010-2020 Average
Hurricane											Historical only
Wildfire											Base Year = 2010-2020 Average
Sea Level Rise											Base Year = 2020

Data used in the assessment framework was taken from general circulation models (GCMs) from the CMIP5 project. The table below presents the sources and models used by Trucost for each of the individual risk types.

Risk Type	Risk Description	Hazard Indicator	Indicator Description	Model Provider	Spatial Resolution
Water Stress	Expected future ratio of water withdrawals to total renewable water supply in a given area.	Baseline Water Stress Index	Baseline water stress is the ratio of total water extraction within an area to the surface and ground water available. The analysis covers water consumptive and non-consumptive withdrawals for domestic, industrial, irrigation and livestock use. Higher values indicate more competition among users for available water resources.	World Resource Institute Trucost Analysis	River Basin
Flood	Index representing the population weighted exposure to flooding from rivers in river basin.	Riverine Flood Risk	Riverine flood risk indicates the proportion of the population in each river basin that are expected to be affected by riverine flooding in an average year. The metric is focused on inundation caused by river overflow and accounts for existing flood protection measures.	World Resource Institute Trucost Analysis	1x1 km

APPENDIX

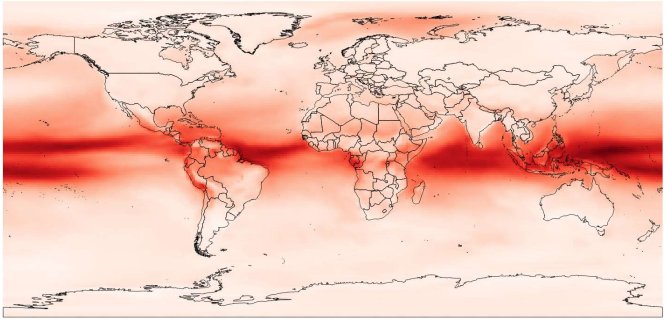
Risk Type	Risk Description	Hazard Indicator	Indicator Description	Model Provider	Spatial Resolution
Heatwave	The occurrence and severity of periods of extreme heat relative to local climatic conditions, measured based on the Excess Heat Factor.	Excess Heat Factor (EHF)	The EHF index measures heatwave occurrence and intensity based on two factors: 1) if the daily mean temperature over a three day period is higher than the historical 95th percentile, and 2) how hot the daily mean temperature is with respect to the previous 30 days.	1. NOAA 2. Met Office Hadley Centre 3. Institut Pierre-Simon Laplace 4. Max Planck Institute for Meteorology 5. Meteorological Research Institute	100x100km to 200x200km
Coldwave	The occurrence and severity of extreme cold relative to local climatic conditions, measured based on the Excess Cold Factor.	Excess Cold Factor ECF)	The ECF index measures coldwave occurrence and intensity based on two factors: 1) if the daily mean temperature over a three day period is lower than the historical 5th percentile and 2) how cold the daily mean temperature is with respect to the previous 30 days.	1. NOAA 2. Met Office Hadley Centre 3. Institut Pierre-Simon Laplace 4. Max Planck Institute for Meteorology 5. Meteorological Research Institute	100x100km to 200x200km
Hurricane	Composite index representing the historical incidence and severity / strength of hurricane, typhoon or cyclone activity at a given location.	Hurricane Index	The index is based on historical hurricane data compiled by NOAA between 2000 and 2019. It is calculated by multiplying the number of hurricanes transiting a given point on the globe by the intensity (category) of each hurricane. A weight-adjustment based on date of occurence is also applied in order to overweight the importance of more recent hurricanes.	Trucost	Approx. 110x110km

APPENDIX

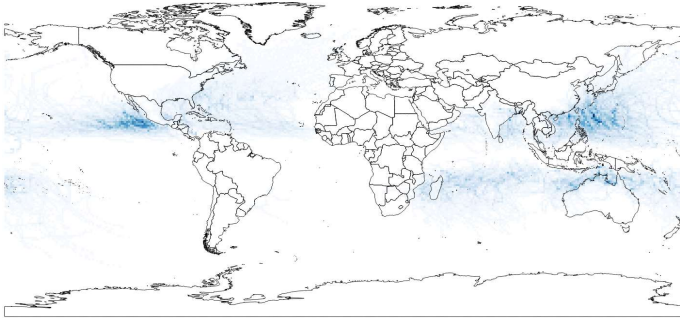
Risk Type	Risk Description	Hazard Indicator	Indicator Description	Model Provider	Spatial Resolution
Wildfire	Risk of wildfire occurrence by location based modelled area of burnt vegetation.	Burnt Area	The fraction of entire grid cells that is covered by burnt vegetation.	Max Planck Institute for Meteorology	100x100km to 200x200km
Sea Level Rise	The metric offers a measure of forecast coastal inundation associated with rising sea levels, combining modelled sea level rise projections from CMIP5 and the CoastalDEM global ground elevation model.	Inundation Depth	The extent and depth of coastal inundation due to sea level rise at a given location in a given year	Climate Central	30x30m

The result is a set of climate hazard maps such as those shown below.

Heatwave hazard map under a 'High' scenario in 2050.



Hurricane hazard map under a 'High' scenario in 2050.



APPENDIX

2. ASSET LOCATIONS OVERLAY
Trucost has established a database of almost 2.8m physical asset locations - including asset descriptions - which have been mapped to a universe of over 15,000 listed and private corporate entities. Assets are overlaid on the climate hazard maps to characterise the level of risk in each time period under each scenario. Data sources used include S&P MI Real Estate, S&P MI Metals & Mining, S&P MI Power Plants, S&P MI Bank Branches, as well as data compiled by Trucost from government regulatory databases.

3. PHYSICAL RISK EXPOSURE SCORING
- **Asset Level**: Each asset in the database is assigned a physical risk score from 1 (lowest risk) to 100 (highest risk), for each of the seven risk categories, based on their location on the climate hazard maps. The score is intended to represent the relative level of risk for each indicator at each location relative to global conditions across all scenarios and time periods.
- **Company Level**: If asset data is available for the company, then the company-level score for each risk type represents the average of the asset-level scores. If only HQ location is available then the company-level score is a combination of the physical risk score for the company headquarters and a revenue weighted average of the average physical risk score in the countries in which the company generates revenue. The latter is calculated by multiplying the company's revenue share by country (as a percent of total revenues) with the average physical risk score for each country. The HQ physical risk score is weighted at 20% and the revenue share based score is weighted at 80% of the final company score.
- **Portfolio Level**: Portfolio-level scores are calculated on a weighted-average basis. This is calculated by summing each company's physical risk score multiplied by their weight in the portfolio.

4. SENSITIVITY ADJUSTMENT
The 'raw' Physical Risk Exposure Score described above speaks to the relative exposure of an asset, company or portfolio to each risk indicator relative to global conditions, but it does not speak to the degree to which the manifestation of each risk may be consequential to the operation of the asset or company. Alongside these scores, Trucost also provides a 'sensitivity adjusted' physical risk score in order to adjust for the potential materiality of the events to the asset owners' business.

Raw scores were adjusted using 'sensitivity factors' calculated by Trucost by linking each physical risk indicator to a set of tangible business impacts and a metric that can be measured at the company level to reflect the relative sensitivity of each company to each risk indicator and its impacts. The table below describes the three company-level sensitivity factors included in the sensitivity weighted physical risk score calculation.

Sensitivity Indicator	Risk Type	Business Impact	Rationale
Water Intensity (Direct or Indirect)	Drought	Input Scarcity Increased Operating Expenses Stranded Assets	Businesses with high water dependency are more likely to be impacted by water scarcity.
Capital Intensity	Flood Sea Level Rise Wildfire Hurricane	Asset Impairment Lost Inventory Production Disruption Critical Infrastructure Damage	Businesses with high capital intensity are more likely to be impacted by risk types that cause physical damage.
Labour Intensity	Heatwave Coldwave	Productivity Losses	Businesses with high labour intensity are more likely to be impacted by the impairment of optimal working conditions.

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In addition to the individual risk scores, Trucost provides company-level composite risk scores which are intended to provide a combined measure of exposure to all seven risk indicators. The final composite score is calculated based on a logarithmic curve, designed to highlight companies with high exposure or sensitivity on any single indicator, which might otherwise be hidden when averaging across the seven physical risk indicators. In practice, this means that high exposure and sensitivity to each additional indicator diminishes in importance when calculating the final composite score.

Key limitations of Trucost's physical risk analytics include:

- **Modelling Uncertainty:** The climate models underpinning the physical risk analysis are complex and subject to uncertainty. Trucost has sought to mitigate this uncertainty by basing the physical risk assessment on averages of the output of multiple CMIP5 GCMs.
- **Asset Location Uncertainty:** The Trucost physical risk assessment incorporates a range of asset location datasets, some of which are actively managed and updated regularly, whereas others are updated less frequently. Consequently it is possible that the database does not reflect changes in asset ownership and activity that have occurred in the recent past. Trucost has sought to mitigate this uncertainty by limiting data sourced from historical datasets to the past three years.
- **Spatial Resolution:** Trucost has sought to integrate climate modelling at sufficient spatial resolution to enable a robust estimation of the physical risk exposure, however this analysis could be enhanced in the future through the integration of regional downscaled climate models where available.
- **Company Score Aggregation:** Due to data limitations, it is not currently possible to reliably assign weights to each asset based on the economic value or activity level of each asset when calculating the company average physical risk score. Consequently, all assets owned by a company are equal weighted in the calculation of the company physical risk score. This may result in the over or under weighting of assets within a company portfolio relative to the true value or significance of each asset to the operations of the company.
- **Sensitivity Framework:** The sensitivity weighting framework is designed to weight the seven physical risk indicators based on the expected sensitivity of individual companies to each indicator. The framework will be enhanced in the future to better reflect the financial materiality of different forms of physical risk to companies across sectors and regions.

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9. EU Taxonomy

The S&P Global EU Taxonomy Data Solution is based on the first delegated act on sustainable activities for climate change adaptation and mitigation objectives. The Taxonomy outlines 96 business activities that fall into one of the 13 Nomenclature of Economic Activities (NACE) macro sectors that are eligible under the Taxonomy. The business activities include those that have a direct carbon mitigation potential (for example, renewable energy), as well as those that are relatively carbon intensive but have the potential to significantly reduce their carbon emissions (for example, steel manufacturing). It also includes business activities that enable climate change adaptation.

The 13 NACE macro sectors covered by the Taxonomy are:

- Forestry
- Environmental protection and restoration activities
- Manufacturing
- Energy
- Water supply, sewerage, waste management and remediation
- Transport
- Information and communication technologies (ICT)
- Buildings (construction and real estate activities)
- Professional, scientific and technical activities
- Financial and insurance activities
- Education
- Human health and social work activities
- Arts, entertainment and recreation

The S&P Global EU Taxonomy Data Solution includes both S&P Global Sustainable1's assessment of the alignment of each company's revenues with the Taxonomy requirements, either at the individual business activity or aggregated at company level, and the underlying data points utilized to inform that assessment. We take a conservative approach in only assigning the Aligned classification where sufficient data and information are available to demonstrate that an activity or company has met the SC, DNSH and MSS requirements.

We identify business activities as Transitional, Enabling or General, and map these to the Taxonomy objectives of climate change mitigation and/or climate change adaptation. For adaptation activities, expenditure is used as the assessment metric since companies incur costs to implement measures to mitigate physical climate risk. The current dataset only has total Capex and Opex data at the company level. An activity-specific breakdown is not currently available.

Activities associated with other Taxonomy environmental objectives will be added to the dataset as the relevant regulations are released. The dataset covers the 20,000 companies in the Trucost Core Plus Universe, of which approximately 15,000 are publicly listed companies and 5,000 are private companies issuing fixed income securities.

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The following sections provide an overview of how S&P Global Sustainable1 assesses Taxonomy alignment. Figure 1 below provides a high-level overview of the approach, and Figure 2 provides a summary of the data sources used within the dataset.

Figure 1: Overview of S&P Global Sustainable1's approach to assessing EU Taxonomy Alignment

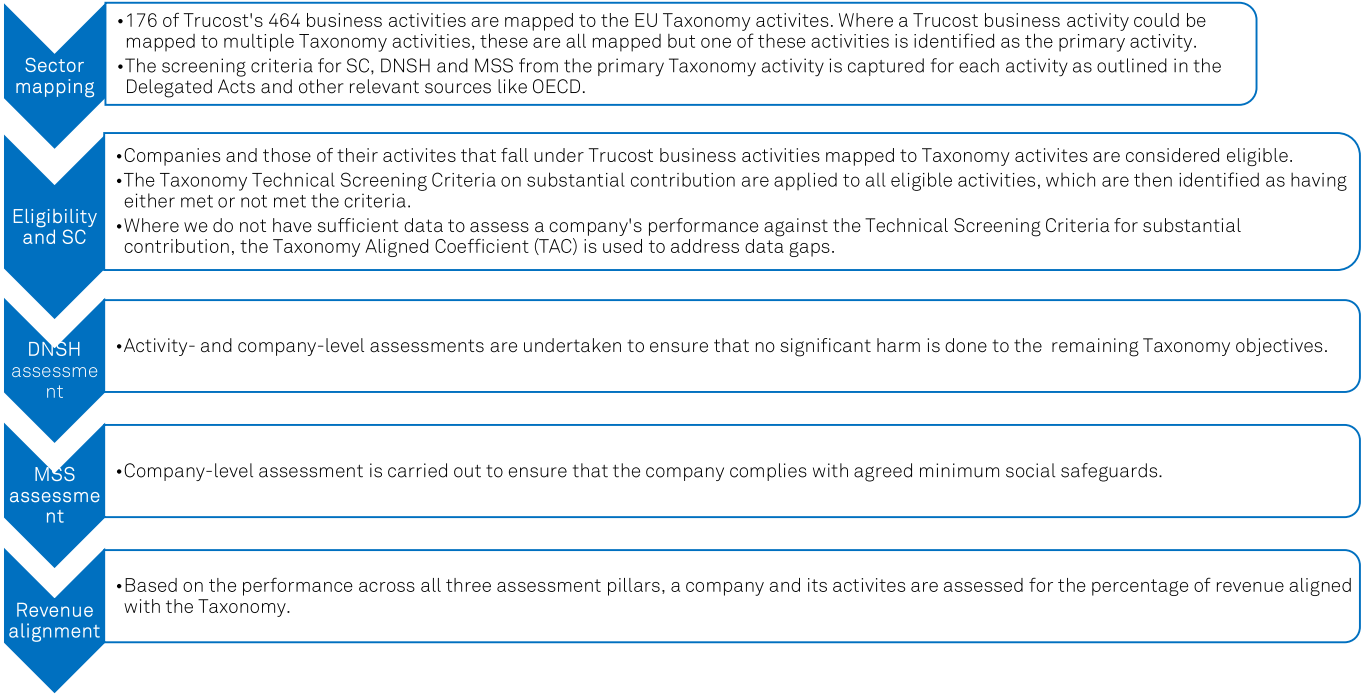

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Figure 2: Data sources used within the dataset

Section	Data point	Description	Data source	Scope
Revenue Eligibility	Sector revenue	Sector-level revenue data is used to identify revenues generated from eligible activities.	Trucost Sector Revenue dataset	Activity Level
Substantial Contribution	Emission intensity	Sector-level emission intensity data for selected companies present in core plus universe (e.g., tCO2e/tonnes of cement).	Trucost Paris Alignment dataset	Activity level
	Capital IQ topic tags	Company-level flags indicating involvement in key business activities. Based on Capital IQ's business description.	S&P Capital IQ	Company Level
	Power plant performance	Market Intelligence dataset on power plants contains details such as capacity of the power plant, energy source used and cogeneration status. This was used for assessing the Taxonomy activity "Electricity generation from bioenergy."	MI Power Plants	Activity level
	Taxonomy Aligned Coefficient	Activity-level revenue alignment score.	European Commission Joint Research Centre	Activity level
Do No Significant Harm	Controversy screening and objective specific data points	DNSH is assessed at objective level and MSS is assessed for each criterion. Media and Stakeholder Assessment (MSA) data was used to screen for incidents that would impact the reputational risk of the company and negative impacts on the environment and society.	S&P Global Corporate Sustainability Assessment	Company level
Minimum Social Safeguards	Controversy screening and indicator-specific data points			

ASSESSING ELIGIBILITY

To assess revenue eligibility, a direct mapping is carried out between the 96 business activities covered by the Taxonomy and 176 of the 464 business activities in Trucost's proprietary sector classification system. The Trucost sector classification system is based on the North American Industry Classification System (NAICS), which is similar to the European NACE system. S&P Global reviews company reported revenues and emissions data from the Trucost Core+ Universe.

Once mapped, following the Taxonomy Delegated Act the 176 Trucost business activities are identified as General, Transitional, or Enabling, and are categorized against the Taxonomy objectives of climate change mitigation and/or climate change adaptation. General activities are directly mitigating the impacts of climate change. Transitional activities are those that are contributing to climate change mitigation based on their capacity to improve their emissions intensity in the future. Enabling activities are those that are providing products and services that improve emissions intensity of other activities and are indirectly mitigating the effects of climate change.

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Activities associated with other Taxonomy environmental objectives will be added to the dataset as the relevant regulations are released. Any business activities remaining after the mapping has been carried out are not considered to be eligible.

ASSESSING SUBSTANTIAL CONTRIBUTION

Once the eligible business activities and associated revenues have been identified, they must then also be shown to make a substantial contribution (SC) to one of the Taxonomy's environmental objectives. At present, SC screening criteria have been finalized only for two objectives: Climate Change Mitigation and Climate Change Adaptation. The regulations set forth a series of technical screening criteria for each eligible activity, identifying performance thresholds (which can be either quantitative or qualitative) that must be met in order for the contribution of a company's business activity to be considered substantial.

In many cases the technical screening criteria for a given activity will include multiple requirements that must be partially or fully satisfied to demonstrate SC. S&P Global Sustainable1 has disaggregated these requirements and presents an assessment against each sub-criterion separately in the dataset. S&P Global Sustainable1 has also identified activity-specific supplementary criteria that should be adopted in certain situations (for example, in the calculation of product carbon intensity metrics). These supplementary criteria are qualitative and relate to the specific frameworks of those situations.

As the Taxonomy regulations are new, many companies/issuers will not yet disclose publicly on the specific data points required to assess the technical screening criteria. Given this, S&P Global Sustainable1 has sought to utilize information from Capital IQ and other Trucost datasets to satisfy the requirements of SC. As the availability of Taxonomy-aligned data reported by companies increases, S&P Global will look to capture these metrics through its core environmental and ESG research processes.

The Capital IQ Topic Tags is one of the datasets used in the context of assessing SC. The topic tags are retrieved from the Capital IQ Business Description of a company. The business description is a description of the business of a company; it is made by the S&P Capital IQ analysts and fed into the Company Intelligence dataset. The topic tags may be helpful in the instances where the Trucost business activity is not granular enough (e.g., for electric vehicles). Trucost Paris Alignment is another dataset that is used to assess SC. This dataset uses company data on carbon emissions and production to calculate a ratio of carbon emissions per unit of production. Such a ratio is calculated for companies in key carbon intensive sectors (also called Sectoral Decarbonization Approach, or SDA, sectors) such as power, steel, cement, aluminum, airlines and automobiles. An S&P Global Market Intelligence dataset on power plants is also used, and it contains details such as the capacity of power plants, energy sources used and cogeneration status. This is used for assessing the Taxonomy activity on electricity generation from bioenergy.

Where relevant data is not currently available to assess the SC requirements for a given Taxonomy business activity, "No data available" will be shown and the analysis will default to a Taxonomy-aligned-coefficient (TAC) that has been assigned by the TEG to that activity. These coefficients reflect an estimate of the proportion of an activity/sector that is expected to meet the SC criteria. If all SC criteria are met, 100% of activity revenue is included; however, if data is insufficient or missing, the eligible revenue multiplied by the TAC is shown.

ASSESSING DO NO SIGNIFICANT HARM

Once an eligible activity has been identified as making a substantial contribution to one of the Taxonomy's environmental objectives, it must also show that it meets the DNSH requirements in relation to the other five environmental objectives.

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The Taxonomy delegated act provides specific activity-level requirements, alongside more generic company-level requirements. Both activity- and company-level requirements are assessed using data collected through the S&P Global Corporate Sustainability Assessment (CSA). It is important to emphasize that the CSA data is based on the company's reporting. This data does not involve the use of any estimates. The CSA process is conducted annually and covers approximately 10,000 companies globally, capturing data on a wide range of Environmental, Social and Governance (ESG) issues. This dataset is the basis for the S&P Global ESG Scores dataset. The S&P Global CSA uses a consistent, rule-based methodology to convert an average of 600 data points per company into a S&P Global ESG Score. These data points are aggregated into question-level, criteria-level and dimension-level scores. The total S&P Global ESG Score results from the sum of weighted dimension scores. Further information on the CSA is available on the S&P Global CSA website.

The DNSH assessment is based on CSA score and data point-level analysis, alongside the Media and Stakeholder Analysis (MSA). The activity and appendix DNSH requirements for each environmental objective are matched to data point and question-level information disclosed by companies assessed through the CSA and used to evaluate whether an activity or company has satisfied the requirements. It is important to note that if a company is identified as being engaged in any of the controversies covered by the MSA, the company would be assessed as not meeting the DNSH threshold irrespective of its performance on the DNSH criteria.

An assessment is provided for each of the individual DNSH objectives (e.g., "DNSH Pollution Assessment") alongside the complete DNSH Combined Assessment, which is a summary of all of the individual objectives. Below is a list of the outputs for the individual assessments of the DNSH objectives and the DNSH Combined Assessment.

- **Met**: The individual DNSH objective assessment will be considered Met if all of the underlying CSA scores or data points meet the thresholds of the Taxonomy requirements. The DNSH Combined Assessment is considered Met when one or more of the individual DNSH assessments are Met and the remaining assessments are not categorized as Not Met or Partially Met.
- **Partially Met**: The individual DNSH objective assessment will be considered Partially Met if at least one of the underlying CSA scores or data points meets the thresholds of the Taxonomy requirements. The DNSH Combined Assessment is considered Partially Met when at least one of individual DNSH assessments is categorized as Partially Met and the remaining assessments are not categorized as Not Met.
- **Not Met**: The individual DNSH assessment will be considered Not Met if none of the underlying CSA scores or data points meets the thresholds that are reflective of the Taxonomy requirements. The DNSH Combined Assessment is categorized as Not Met if one or more of the individual DNSH assessments is categorized as Not Met.
- **Not Required**: For some activities there are no requirements to meet specific DNSH objectives. These are marked as Not Required under the individual DNSH objectives. The DNSH Combined Assessment is categorized as Not Required if all six of the individual DNSH assessments are categorized as Not Required.
- **No Data Available**: The individual DNSH assessment will be considered No Data Available if there has not been sufficient data collected on a company or there was not substantial coverage of the Taxonomy delegated act within the CSA methodology. In these cases, the company has participated within the CSA data collection methodology, but insufficient data was collected due to one or both of the above reasons. The DNSH Combined Assessment will be categorized as No Data Available if all six of the individual DNSH assessments are categorized as No Data Available. The No Data Available output affects the Confidence Level score, which is discussed below.
- **No Coverage**: The individual DNSH assessments are considered No Coverage if the company did not participate in the CSA data collection methodology. The DNSH Combined Assessment will be considered No Coverage if one or more objectives are categorized as No Coverage and the remaining objectives are Not Required.

Where the CSA does not have sufficient data on a company, the Combined DNSH Assessment will be considered as Met if two or more individual DNSH objectives where sufficient data is available are Met and the remaining DNSH objectives are not categorized as either Not Met or Partially Met. Every activity is assessed against the Taxonomy Delegated Act requirements; however, if the MSA assessment identifies a relevant controversy, the DNSH Combined Assessment is automatically considered Not Met, even if the DNSH Combined Score is 100%.

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ASSESSING MINIMUM SOCIAL SAFEGUARDS

Adherence with Minimum Social Safeguards (MSS) is evaluated at the company level using data disclosed by companies in the CSA. S&P Global Sustainable1 reviewed the UN Guiding Principles on Business and Human Rights (UNGPs) and the OECD MNE Guidelines and selected the following themes to be used:

- Human Rights
- Employment and Industrial Relations
- Corruption and Bribery & Anti-Competitive Practices
- Consumer Interest
- Tax Strategy
- Supply Chain Management

The MSS criteria for individual themes are matched to data point and question-level information disclosed by companies assessed through the CSA in order to evaluate whether an activity or company has satisfied the criteria. Where no individual CSA data points/questions are matched or minimum score threshold was applied, the assessment is based on the negative screen through the MSA assessment only. Where a company is identified as being engaged in any of the controversies outlined under the MSA for MSS, the company would be assessed as not meeting the MSA threshold irrespective of the company performance on the individual MSS criteria.

Data points collected in the CSA are mapped to specific MSS Criteria and used to assess a company's performance. Where a company meets all data point level/minimum score threshold requirements, it would be considered to have met the MSS recommendations based on the OECD MNE Guidelines; where some recommendations are met but insufficient data is available on others, the company would be considered Partially Met; and where any of the recommendations are not met, the company would be assessed as Not Met for the relevant MSS Criteria. It is important to emphasize that the CSA data is based on the company's own reporting. Where the company has an MSA case, as explained above, the company fails the MSS check irrespective of the company's performance.

An MSS Metric column is provided for each of the individual MSS criteria that reference the OECD MNE Guidelines, which the MSS assessment is based upon. An individual assessment is provided for each of the MSS criteria, alongside one MSS Combined Assessment which is a summary of all of the individual MSS Criteria assessments. Below is a list of outputs for the individual MSS assessments, alongside the MSS Combined Assessment.

- Met: Individual MSS criteria are considered Met if all of the underlying CSA scores or data points meet the thresholds that are reflective of the recommendations of the OECD MNE Guidelines. The Combined MSS Assessment will be considered Met if two or more of the individual MSS criteria are Met and the remaining metrics are not categorized as Not Met or Partially Met.
- Partially Met: Individual MSS criteria are considered Partially Met if at least one of the underlying CSA scores and data points meets the thresholds that are reflective of the recommendations of the OECD Guidelines. The Combined MSS Assessment will be considered Partially Met if one or more of the individual MSS criteria assessments are categorized as Partially Met and the remaining metrics are not categorized as Not Met.
- Not Met: Individual MSS criteria are considered Not Met if none of the underlying CSA scores or data points meets the thresholds that are reflective of the recommendations of the OECD MNE Guidelines. The Combined MSS Assessment will be considered Not Met if at least one of the individual MSS criteria is categorized as Not Met.
- No Data Available: Individual MSS criteria are considered No Data Available if the company participated in the CSA but the data is not sufficient to conduct an assessment against MSS criteria.

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- No Coverage: The individual and combined MSS assessments will be considered No Coverage if the company did not participate in the CSA data collection process.

Every activity is assessed against the MSS criteria, which are based on the OECD MNE Guidelines. If the MSA assessment identifies a relevant controversy, the MSS Combined Assessment is automatically considered Not Met, although the MSS Combined Score is still available. Where the CSA does not have sufficient data on a company for individual MSS criteria, the Combined MSS Assessment is considered Met only if two or more of the individual MSS criteria are Met and the remaining criteria are not categorized as Not Met or Partially Met.

OVERALL ALIGNMENT ASSESSMENT

S&P Global Sustainable1 provides a final assessment of how companies and business activities align with the Taxonomy overall, incorporating all the assessments on eligibility, Substantial Contribution, Do No Significant Harm and Minimum Social Safeguards. We take a conservative approach in only assigning the Aligned classification where sufficient data and information are available to demonstrate that an eligible activity or company has met SC, DNSH and MSS requirements.

The table below explains the full alignment assessment output logic.

SC	DNSH	MSS	Overall Taxonomy Alignment
Met	Met / Not Required	Met	Aligned
Met	Partially met	No Data Available / Partially met / Met / No Coverage	Partially aligned
Met	No Data Available / Partially met / Met / Not Required / No Coverage	Partially met	Partially aligned
Met	No Data Available / No Coverage	No Data Available / Partially met / Met / No Coverage	Partially aligned
Met	No Data Available / Partially met / Met / Not Required / No Coverage	No Data Available / No Coverage	Partially aligned
Not met	Not met / Partially met / Met / Not Required / No Coverage	Not met / Partially met / Met / No Coverage	Not aligned
Met / Not met	Not met / No Coverage	Not met / Partially met / Met / No Coverage	Not aligned
Met / Not met	Not met / Partially met / Met / Not Required	Not met	Not aligned

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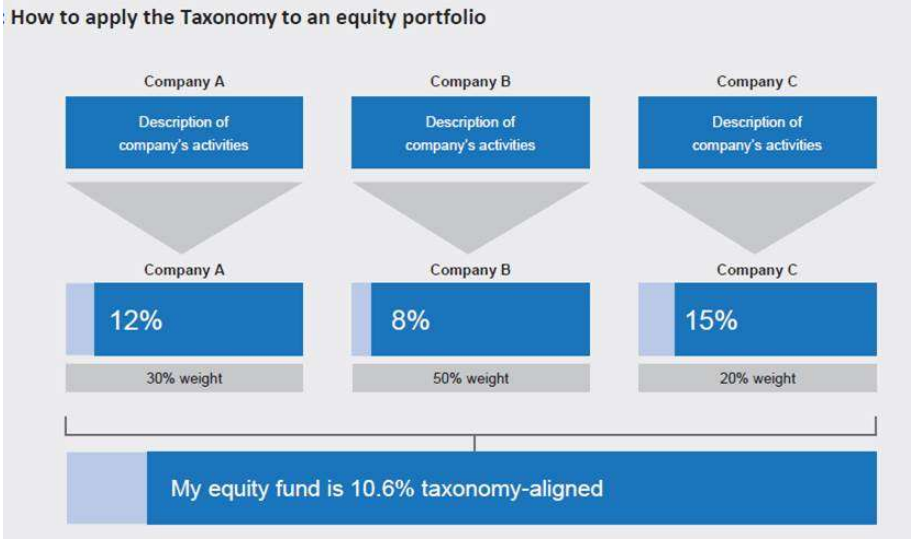
APPLICATION TO PORTFOLIO ANALYSIS

The S&P Global EU Taxonomy Data Solution can be used at the portfolio level to help financial institutions understand the alignment of their portfolio holdings with the Taxonomy, compare the alignment against their benchmark, and ensure their reporting is in line with the requirements.

For investors, this can be done using a weighted average approach by summing the product of each holding's weight in the portfolio with each holding's share of aligned revenues, as shown in the righthand graphic.

This approach can be applied to any portfolio of companies (equities, corporate bonds, convertible bonds, or even corporate loans covered by S&P Global Sustainable1) to provide the portfolio's overall exposure to revenues currently aligned with the Taxonomy.



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