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Net Zero Webinar

Who is ready for net zero?

Thematic Intelligence

February 29, 2024

Meet today's presenters

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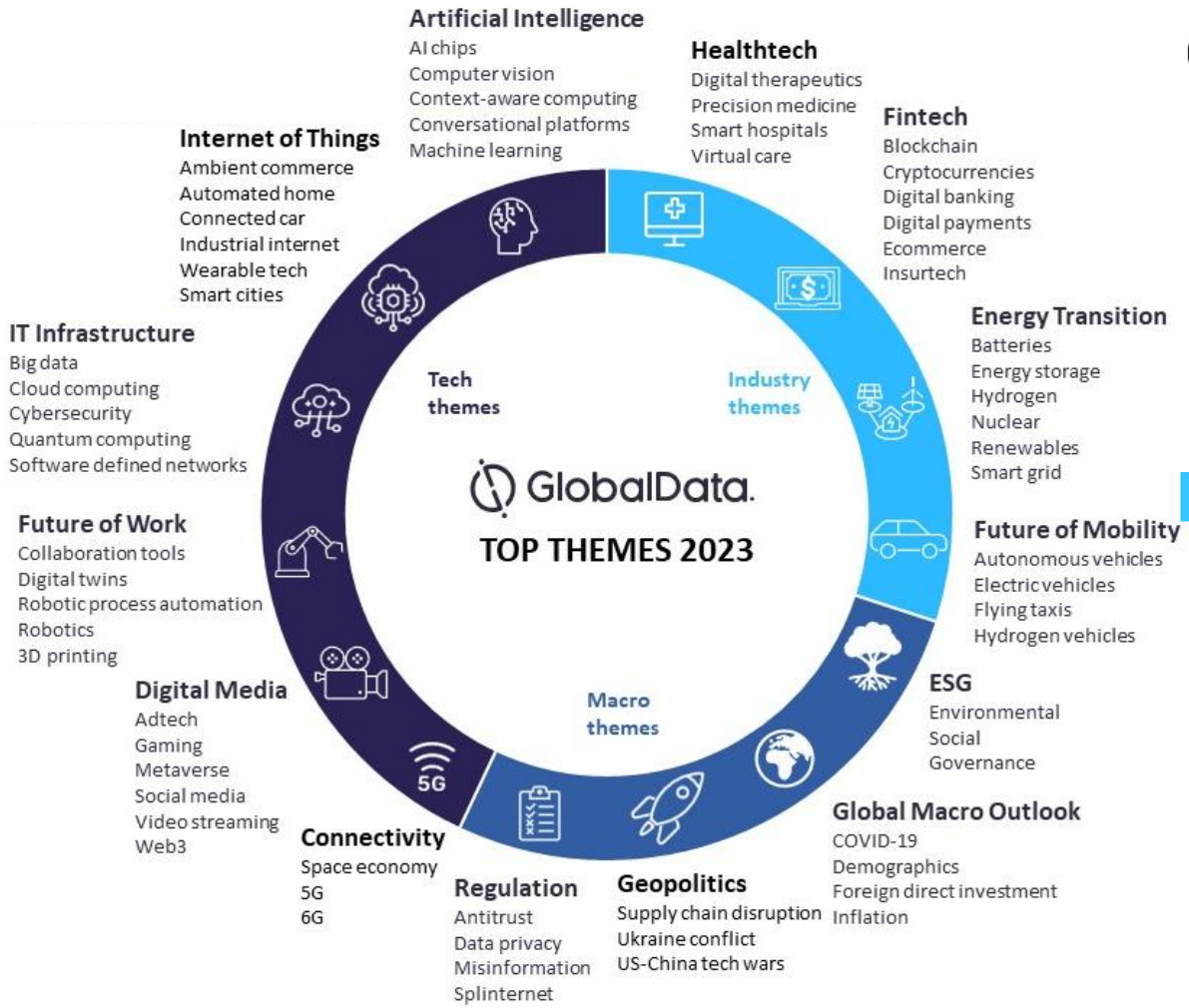
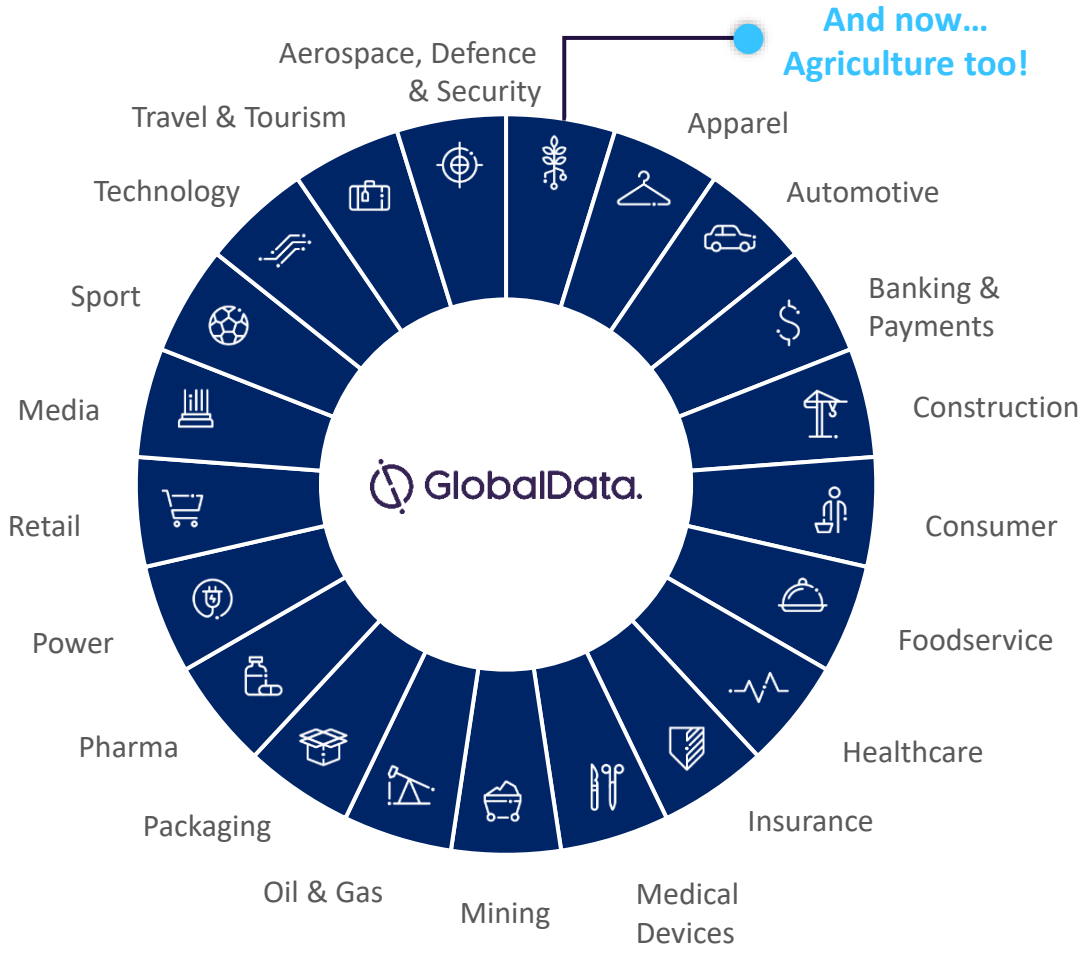
GlobalData Thematic Intelligence covers all themes impacting 20 sectors

We define a theme as any issue that keeps business leaders awake at night

100+ themes…



…across 20+ sectors



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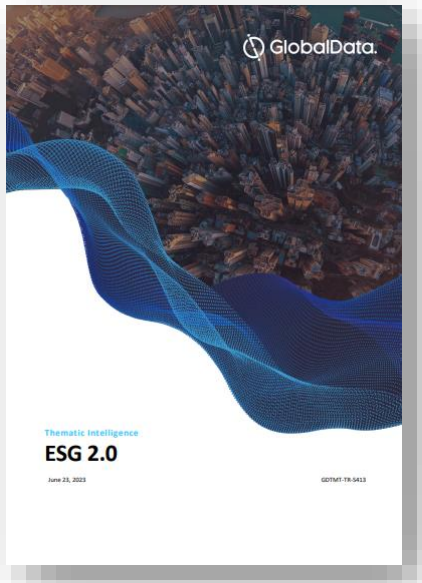
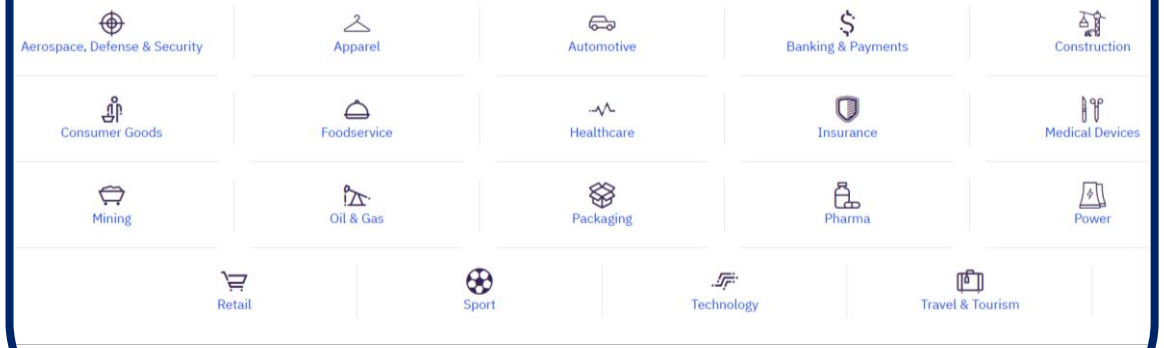
ESG offerings



13 Net Zero in sector reports

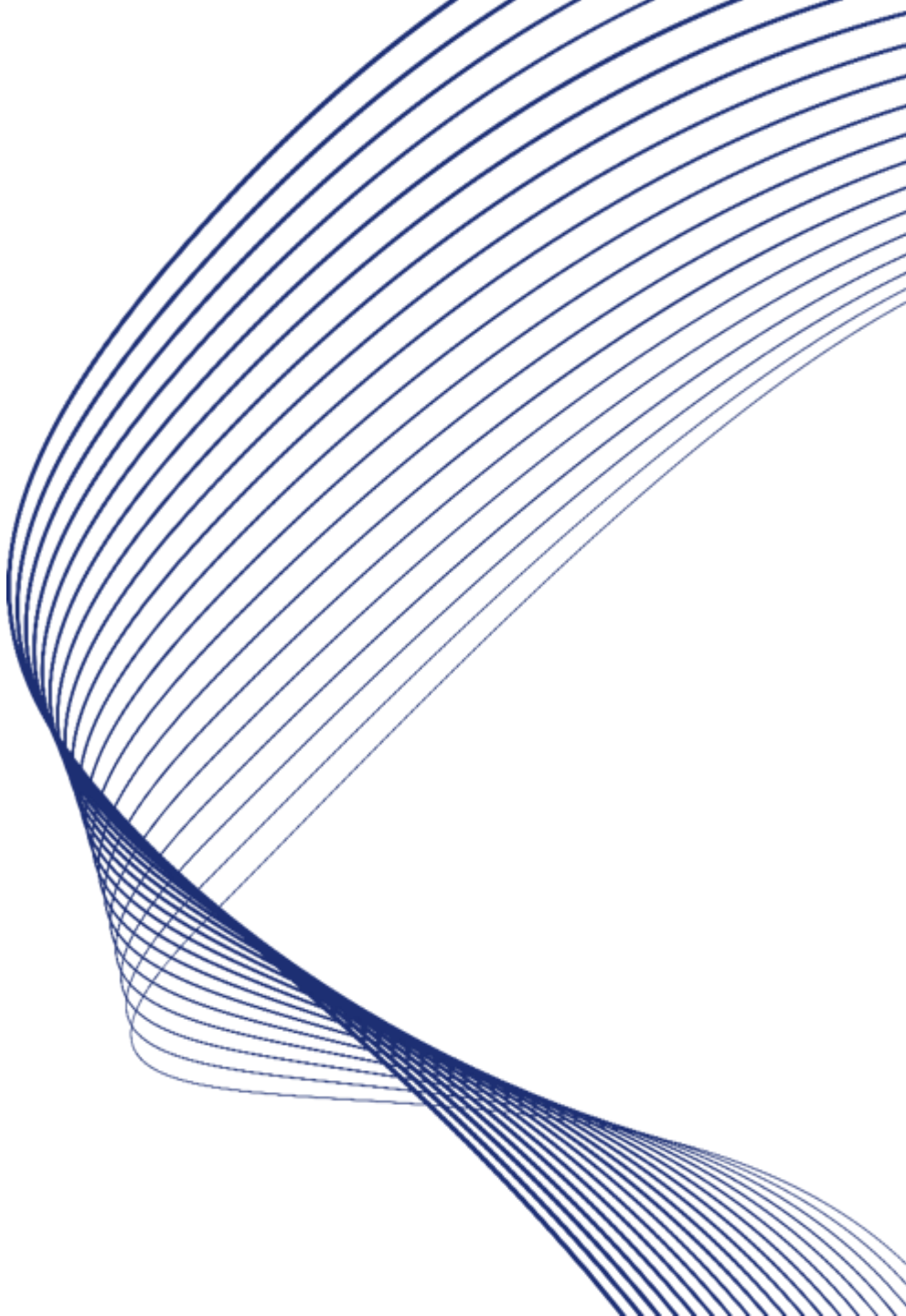
Net Zero in….



ESG THEMES

- ESG - Environmental
- ESG - Social
- ESG - Governance

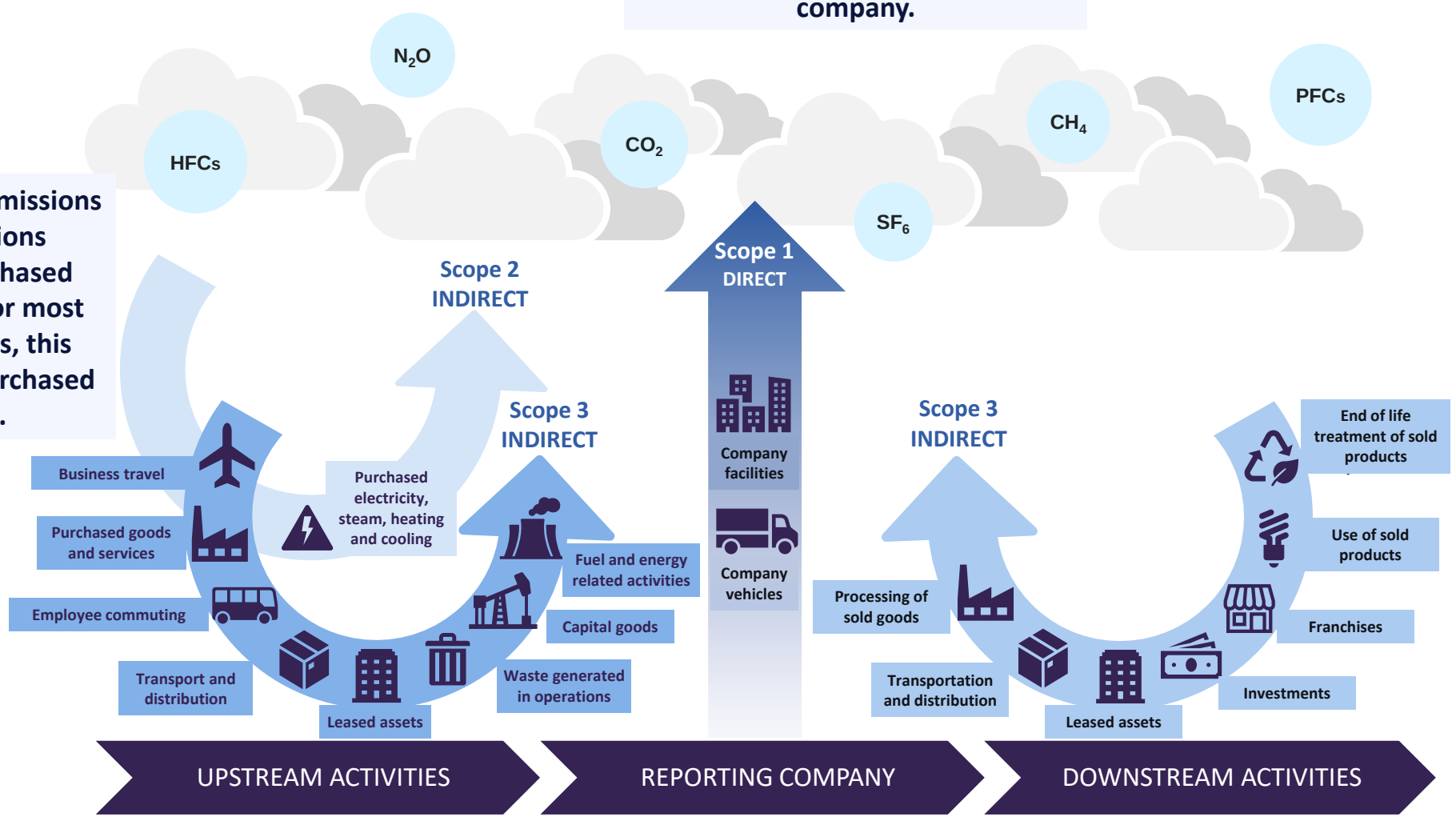
Why companies need a Net Zero strategy



Where do corporate greenhouse gas emissions come from?

Scope 1 emissions derive from sources owned or controlled by the company.

Scope 2 emissions are emissions from purchased energy. For most companies, this will be purchased electricity.



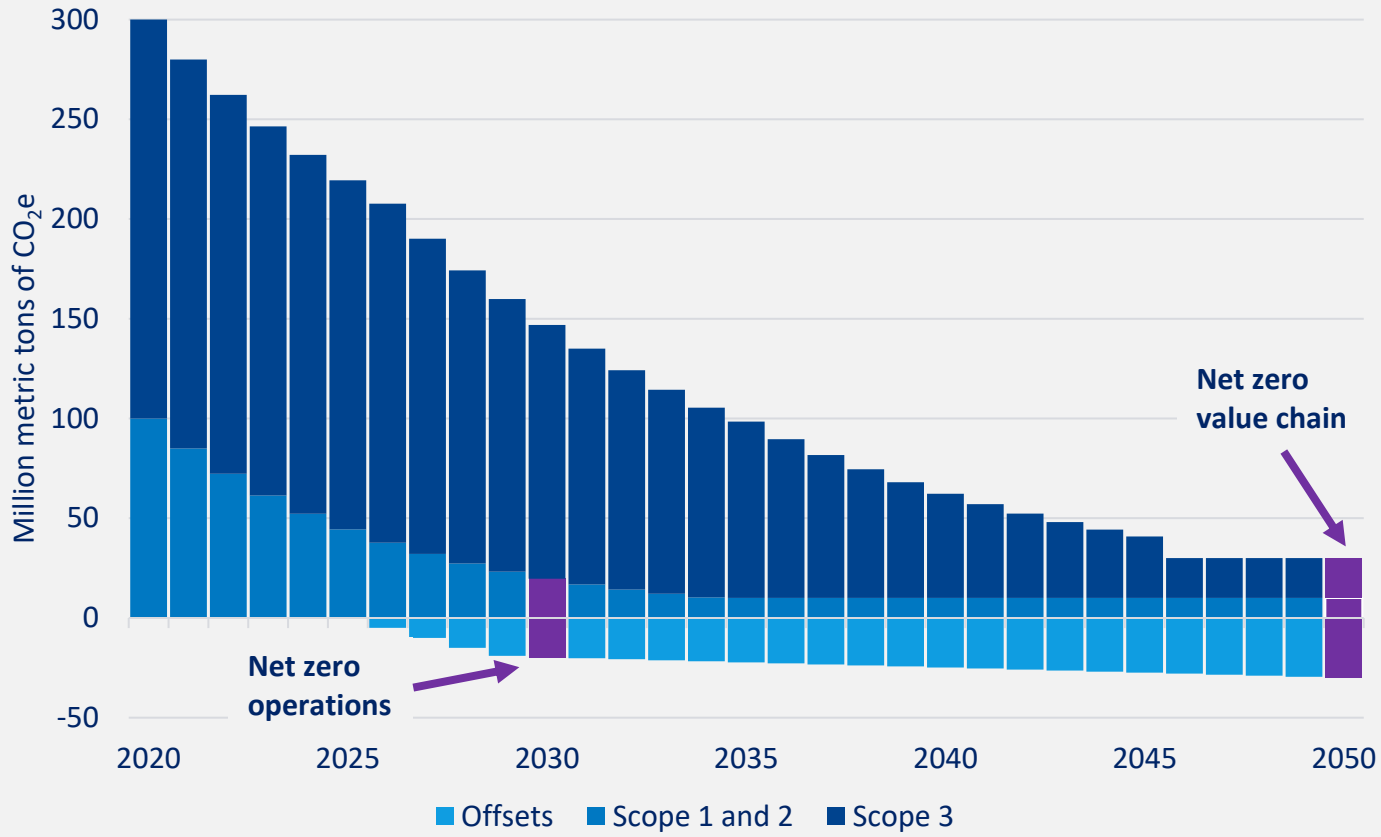
Scope 3 emissions are the most challenging to calculate for most businesses. It covers emissions a business is indirectly responsible for through its suppliers and customers. They are produced by assets the business does not own or control.

Source: GHG Protocol

What are net zero emissions?

- **Companies can achieve net zero greenhouse gas (GHG) emissions by reducing emissions to close to zero and then offsetting any that remain.**
- **Emissions are offset by supporting projects that reduce emissions or remove greenhouse gases from the atmosphere**. Projects are usually supported by purchasing offsets, with one offset representing one ton of CO_2e removed or avoided.
- CO_2e is a measure of GHGs, with non-CO_2 GHGs converted to CO_2 based on their warming potential.
- Companies typically aim to achieve **net zero operations** by first reducing their Scope 1 and 2 emissions and then purchasing offsets.
- Companies can then achieve **net zero value chains** by reducing their Scope 3 emissions and purchasing offsets to offset the remainder.

A stylised net zero strategy

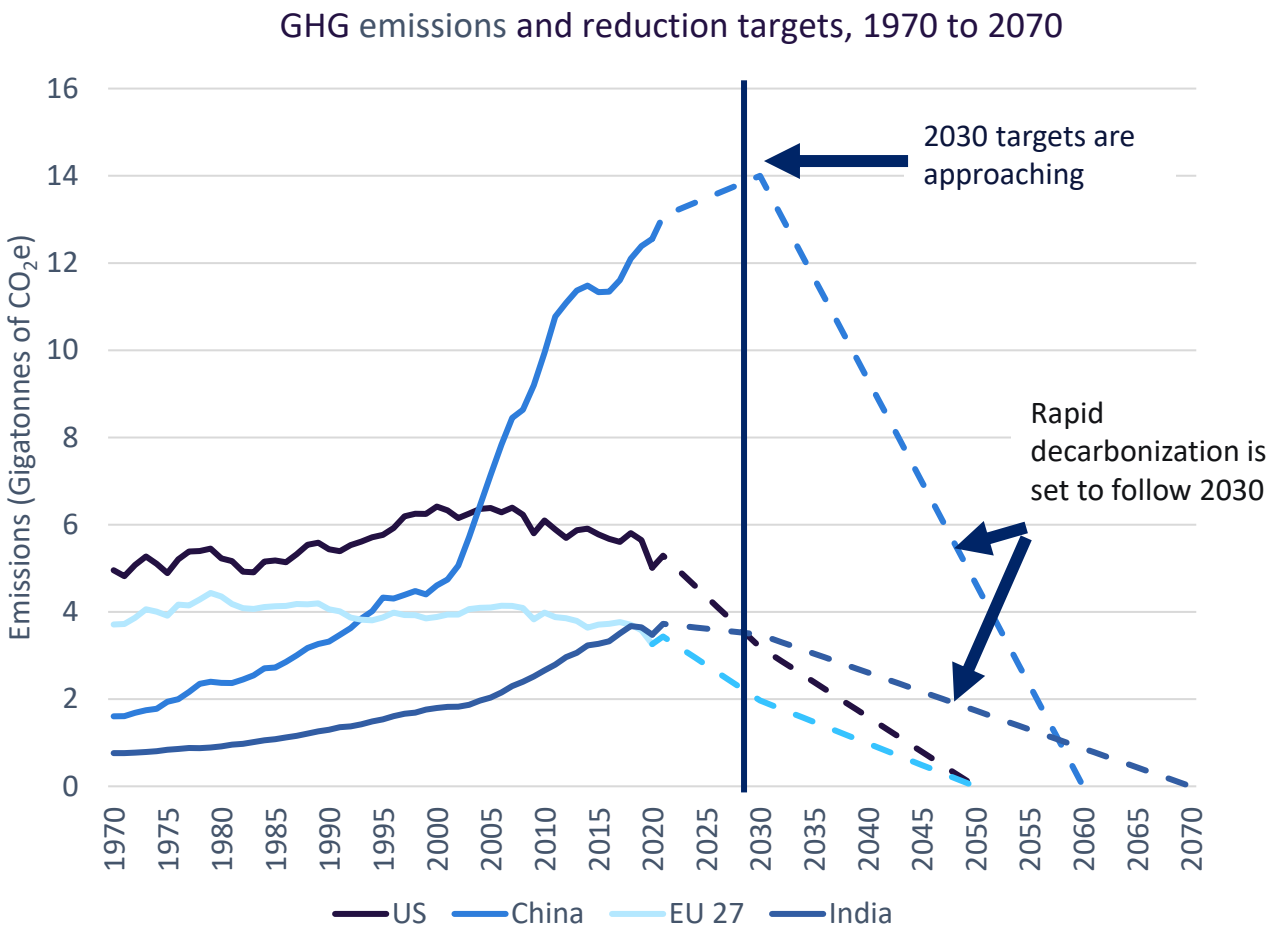


Source: GlobalData

Governments are under pressure to act on 2030 emissions targets

It means more rules on the way for the private sector

Country or region	Global CO_2 share (%)	2030 target	Net zero target year
China	32.9	Peak emissions	2060
US	12.6	50-52% below 2005 level	2050
EU 27	7.3	55% below 2019 level	2050
India	7.0	Emissions intensity 45% below 2005 level	2070
Russia	5.1	70% below 1990 level	2060
Japan	2.9	46% below 2013 level	2050
Iran	1.9	No target	No target
South Korea	1.6	40% below 2018 level	2050
Canada	1.5	40-45% below 2005 level	2050
Brazil	1.3	50% below 2005 level	2050
Turkey	1.2	21% below business-as-usual	2053
South Africa	1.2	Reduce emissions to 350-420 Mt CO_2-eq	2050
Mexico	1.1	30% below business-as-usual	No target
Australia	1.0	43% below 2005 level	2050
UK	0.9	68% below 1990 level	2050

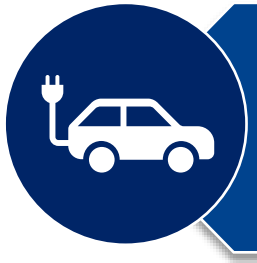


Source: Country Nationally Determined Contributions

The regulations driving corporate decarbonization

Emissions pricing
Many countries, including the EU and China, are introducing emissions trading systems or enhancing existing ones to cover more sectors. It means companies with higher-emission value chains will face higher costs.

Mandatory reporting
Mandatory sustainability reporting standards are being adopted globally. In 2023, the International Sustainability Standards Board published standards that are widely expected to become the global baseline for climate reporting and include requirements to report Scope 3 emissions. Increased transparency will put pressure on firms to reduce emissions over time.



Fossil fuel phase-outs
Many governments have committed to phasing out fossil fuel use. A number of countries have pledged to ban the sale of new petrol and diesel cars by 2035 and many countries are seeking to replace gas boilers with heat pumps. This is on top of commitments to source more energy from renewable like solar and wind.

State support for low carbon industry
Governments are competing for leadership in the production of low-carbon technologies. China dominates global production of batteries and solar panels and their supply chains. The US aims to reshore production with the Inflation Reduction Act, announced in 2022, and the EU aims to do the same with the Net Zero Industry Act.

Decarbonization is becoming the focal point of Environmental, Social and Governance strategies

	ESG 1.0	ESG 2.0
Drivers	Shareholder and consumer pressure	Government policy and regulation
Disclosures	Voluntary	Mandatory (including scope 3 emissions)
Regulatory scrutiny	Low	High on all ESG-related marketing claims
Corporate targets	Focus on setting targets	Focus on hitting targets
Scope of accountability	Limited to companies' own operations	Extended to entire value chain
Financial impact	Limited to power and autos sectors	Emissions to impact costs in every sector
Environmental focus	E, S and G treated equally	Greater urgency on E and emissions

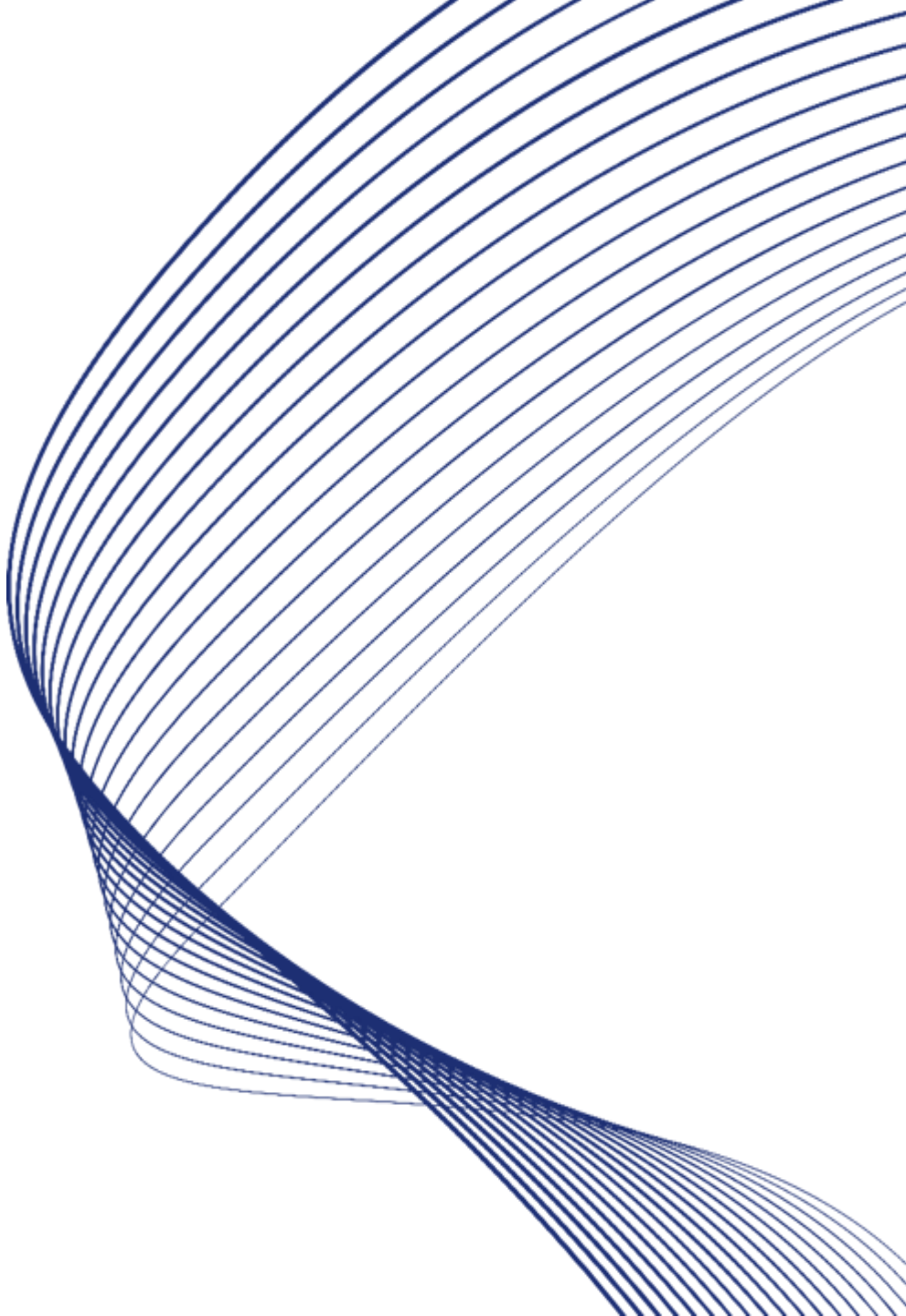
Source: GlobalData

Question: what are Liverpool FC's key sources of emissions

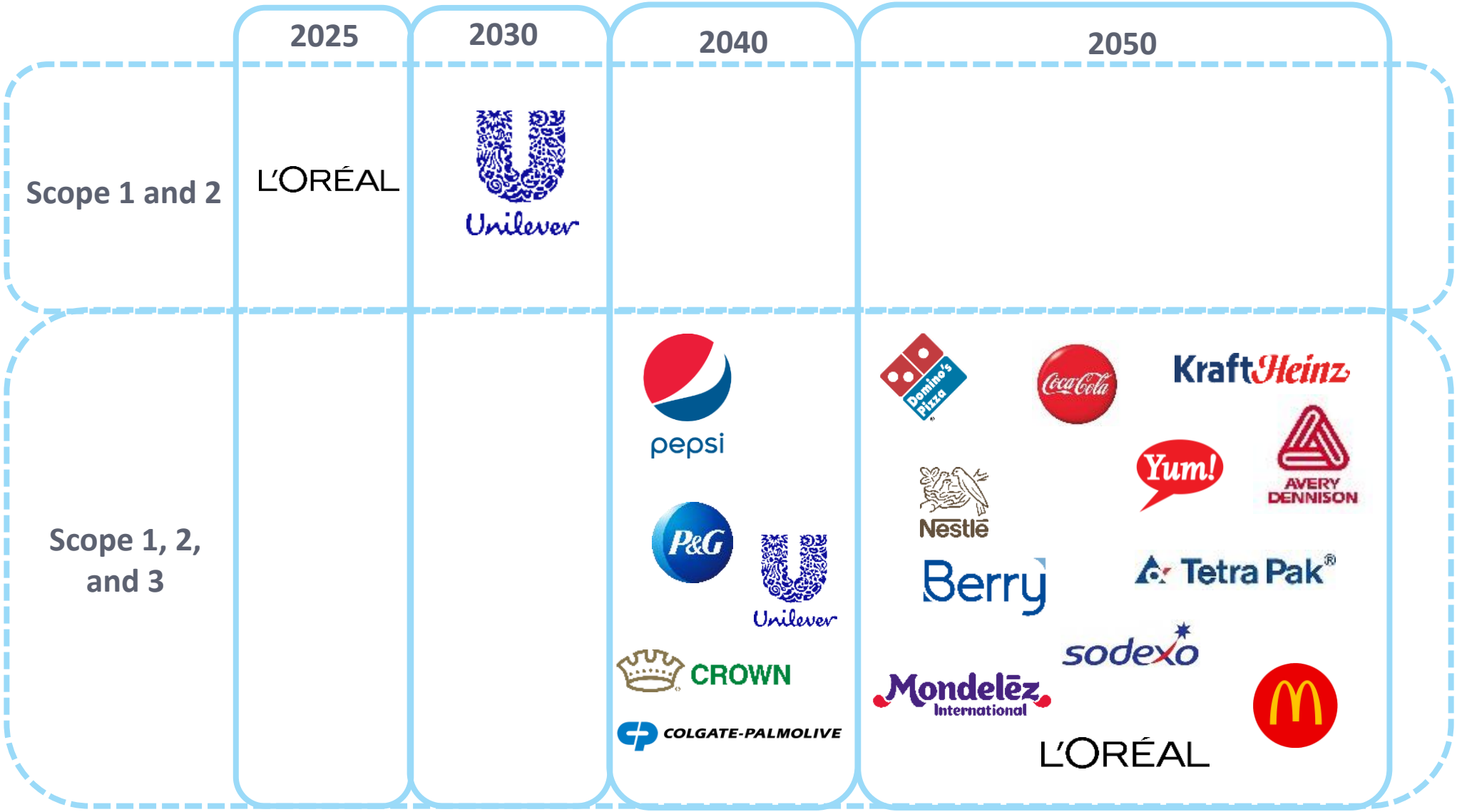
Merchandise is the main source of Liverpool’s emissions

Source: Liverpool FC

The Good



Net zero targets of major players in consumer industries

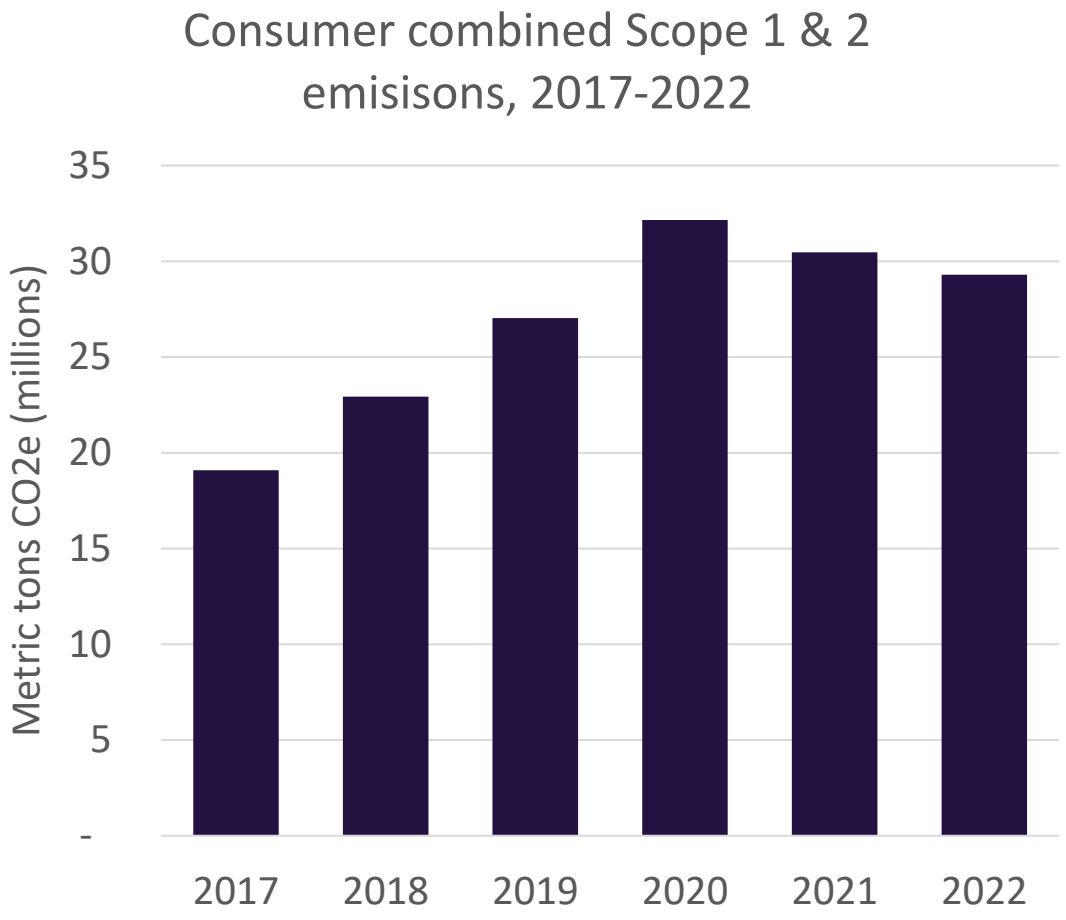


Source: Company data

Most retail and apparel majors have set net zero targets

Source: Company data

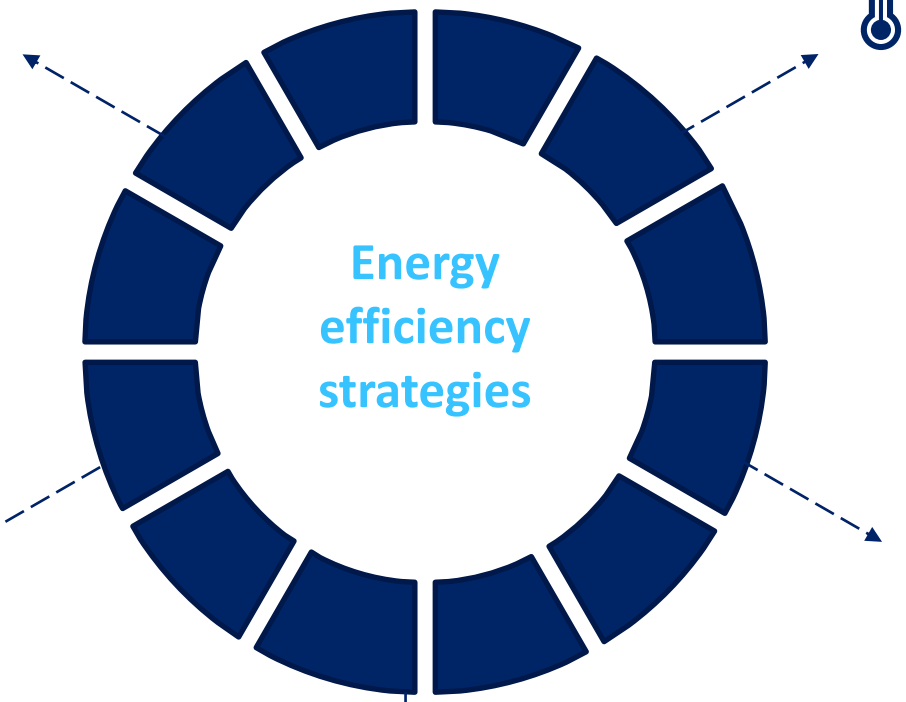
Most companies in retail and apparel have started reducing Scope 1 and 2 emissions



Source: Company data

Retail and consumer sectors

Retail companies are focused on reducing emissions in stores, distribution centres, warehouses, and offices



Energy management systems in stores

- Tech-enabled real-time monitoring.
- Adjustment of operations for optimization of energy use.
- Installation of energy meters in buildings.

Refrigeration

- Installation of doors on open refrigerated cases.
- Reducing oversized refrigerators.
- Installing temperature monitoring systems.
- Low-impact refrigerant gases for all new refrigerant installations.

Efficient HVAC systems

Replacing or fitting efficient heating, ventilation, and air conditioning (HVAC) systems.

LED retrofitting

- Conversion of existing fittings to an LED lighting fixture.
- LED lighting has lower energy consumption compared to traditional and fluorescent lighting.

Renewable energy

Many retail and apparel companies have set 100% renewable electricity targets.

Adopting the circular economy is key for retailers to reduce Scope 3 emissions

Companies are replacing the traditional linear *take, make, use, and dispose* path

- For Scope 3 emissions, retailers are focused on **adopting the circular economy** and **increasing the use of sustainable materials in the circular production cycle.**
- It is critical for retail companies to work closely with partners to map end-to-end supply chains and identify emissions sources. This includes, production, manufacturing, and logistics processes.

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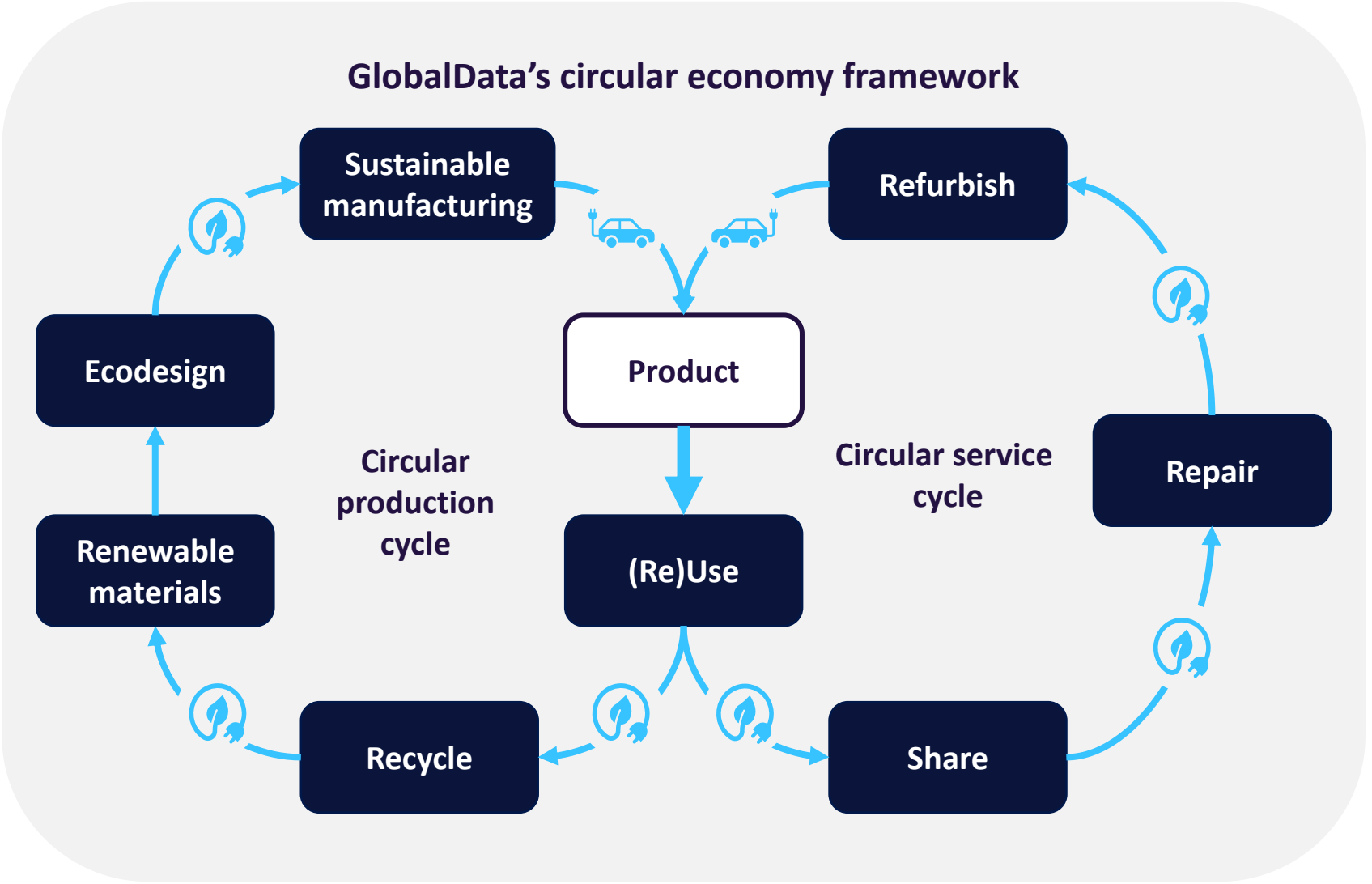


Source: GlobalData

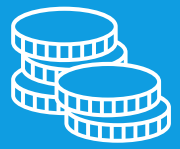
PepsiCo opens $320 million circular economy-focused plant

- In May 2023, PepsiCo opened a new plant in Poland, which it says is its greenest plant in Europe. The plant incorporates several circular economy solutions and will export Doritos and Lay's crisps to more than 20 European countries.
- The plant's circular economy solutions include using leftover potato peelings to power the facility. This is done using anaerobic digestor technology, which converts the peelings into low-carbon fertilizer to be used on farmland.
- The plant aims to be carbon neutral by 2035.

Key circular economy challenges

Collaboration – The circular economy requires all suppliers across the value chain to map their end-to-end emissions and implement changes in their business models.

Educating stakeholders – Education and awareness are vital in driving changes towards a circular economy. From consumers and businesses to policymakers, everyone needs to understand the concept and benefits of the circular economy.



Financially sustainable models – With current circular business models, retailers are challenged with often large costs that are difficult to redeem from consumers.

Regulation – Currently there is a lack of policies to support a circular economy transition. Setting and enforcing supplier standards at local and government level is crucial.

Innovating business models – Businesses need to reimagine their operations across the entire value chain and completely restructure to incorporate circular principles.

Ørsted leads the energy transition race

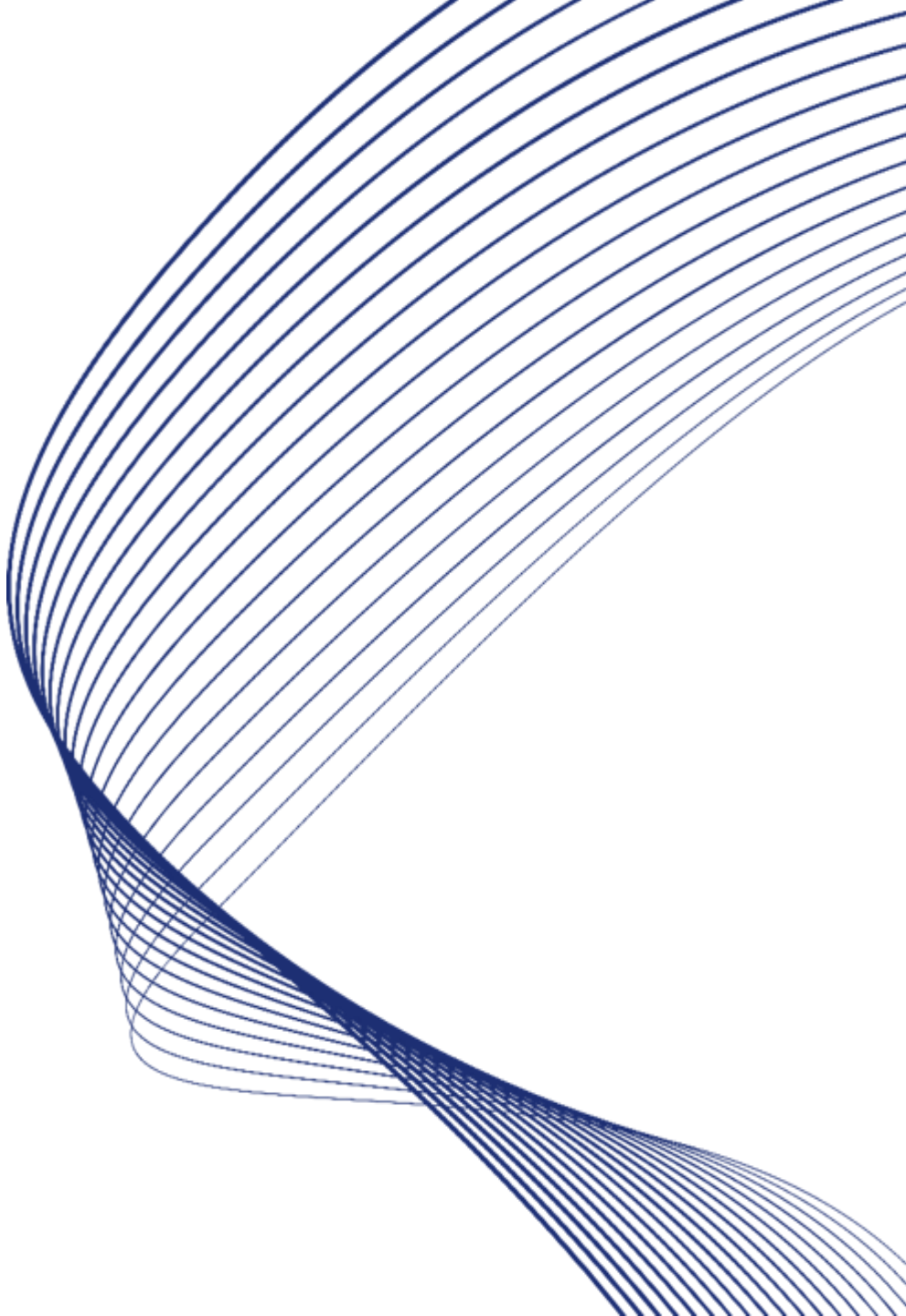
GlobalData's Energy Transition ranking with the addition of smart grids compares companies' progress in key net zero strategies

Company	15% Renewable power	10% Energy storage	5% Hydrogen	5% Electric vehicles	10% Smart grids	10% Coal decommissioning rate	10% Coal phase out	5% Emissions intensity	15% Emission reduction	10% Net Zero targets	100% Energy Transition Ranking
Ørsted	5	5	4	3	5	5	5	5	5	5	1
enel	4	4	5	5	5	4	4	4	3	4	2
Iberdrola	5	3	5	5	4	5	4	2	2	4	3
ENGIE	3	4	5	4	4	3	4	3	5	4	3
RWE	4	5	5	4	4	4	3	1	3	4	5
EDF	2	3	4	5	5	5	3	5	1	3	6
NEXTera ENERGY RESOURCES	5	5	3	3	2	5	3	4	2	3	7
exelon	5	2	2	5	3	5	5	3	2	3	7
VATTENFALL	3	2	4	5	3	5	3	4	1	4	9
AMERICAN ELECTRIC POWER	3	3	2	3	4	5	2	3	1	4	10

The performance in each of the energy transition avenues is rated from 5 to 1, with 5 being the best performance and 1 being the worst performance among the 20 power utilities companies. The leaderboard shown above is arrived at through the weighted average of the company ratings in each avenue.

Source: GlobalData. For more, see the Energy Transition theme

The Bad



Major banks are focused on financed emissions

		Financed emissions reduction targets for 2030 — Absolute emissions target / Emissions intensity target									
Company	Baseline year	Shipping	Automotive	Aviation	Oil & gas	Coal	Power	Energy	Iron & steel	Cement	Real estate
JPMorgan Chase & Co.	2019	✘	48%	36%	45%	✘	69%	36% [5]	30%	28%	✘
Bank of America	2019	✘	48%	37%	✘	✘	48%	48%	✘	48%	✘
HSBC	2019	✘	66%	25%	34%	70% [4]	77%	✘	42%	28%	✘
Wells Fargo	2019	✘	53%	20%	26%	✘	63%	✘	0% [6]	✘	✘
UBS	2020	✘	✘	✘	71% [3]	✘	49%	✘	✘	15%	44%
Goldman Sachs	2019	✘	Between 49% and 54%	✘	Between 17% and 22%	✘	Between 48% and 65%	✘	✘	✘	✘
DBS	2020	23%	57%	16%	28%	✘	✘	✘	27%	✘	42%

[3] UBS reports coal and oil & gas as one "fossil fuel" target, which has been categorized as "oil & gas" in the table above.
[4] HSBC categorizes its coal emissions reduction target under the "mining" sector, but it is almost exclusively comprised of Scope 3 emissions for thermal coal mining, so it is reported under coal in the above table.
[5] JPMorgan Chase's energy target is dubbed "energy mix", a broader view of energy supply that captures substitutions from oil and natural gas to low-carbon fuels.
[6] Wells Fargo's baseline steel emissions intensity is 1.01 tCO_2e/t stell, lower than the IAE NZE scenario benchmark of 1.09 tCO_2e/t steel. The target has, therefore, been tentatively set as 0%.

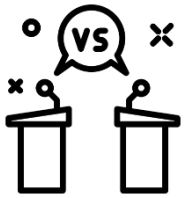
Source: GlobalData, PCAF

Why finance majors should favor engagement over exclusion

—

Finance companies are under pressure to stop financing fossil fuel projects.

In 2023, Standard Chartered, HSBC, Société Générale, and ABN AMRO ceased efforts to have their climate targets verified by the SBTi after the SBTi suggested this would be needed to have climate targets approved.



The anti-ESG movement has grown in strength. Commitments to reduce financing to high-emitting sectors are a challenge for financial services companies. It exposes them to the risk of political pushback, as has been seen most strongly in the US. Insurers who committed to phasing out the underwriting of fossil fuel projects were threatened with anti-trust lawsuits.

Energy security has become a priority. Following Russia's invasion of Ukraine and the spike in global fossil fuel prices, there is a renewed sense of urgency on energy security. Financial services companies can expect greater pushback against activities threatening energy security and must tread cautiously when committing to phase out fossil fuel financing over the short term.

Engagement needs time. Most major energy firms (even large oil and gas firms) now have energy transition plans. However, these are long-term plans that need development and progress. Finance firms would be better off encouraging the development of such plans rather than excluding companies. By excluding companies, finance majors would lose their boardroom influence and their ability to help clients move to lower-emissions business models.

Airlines are adopting sustainable aviation fuel (SAF) at pace

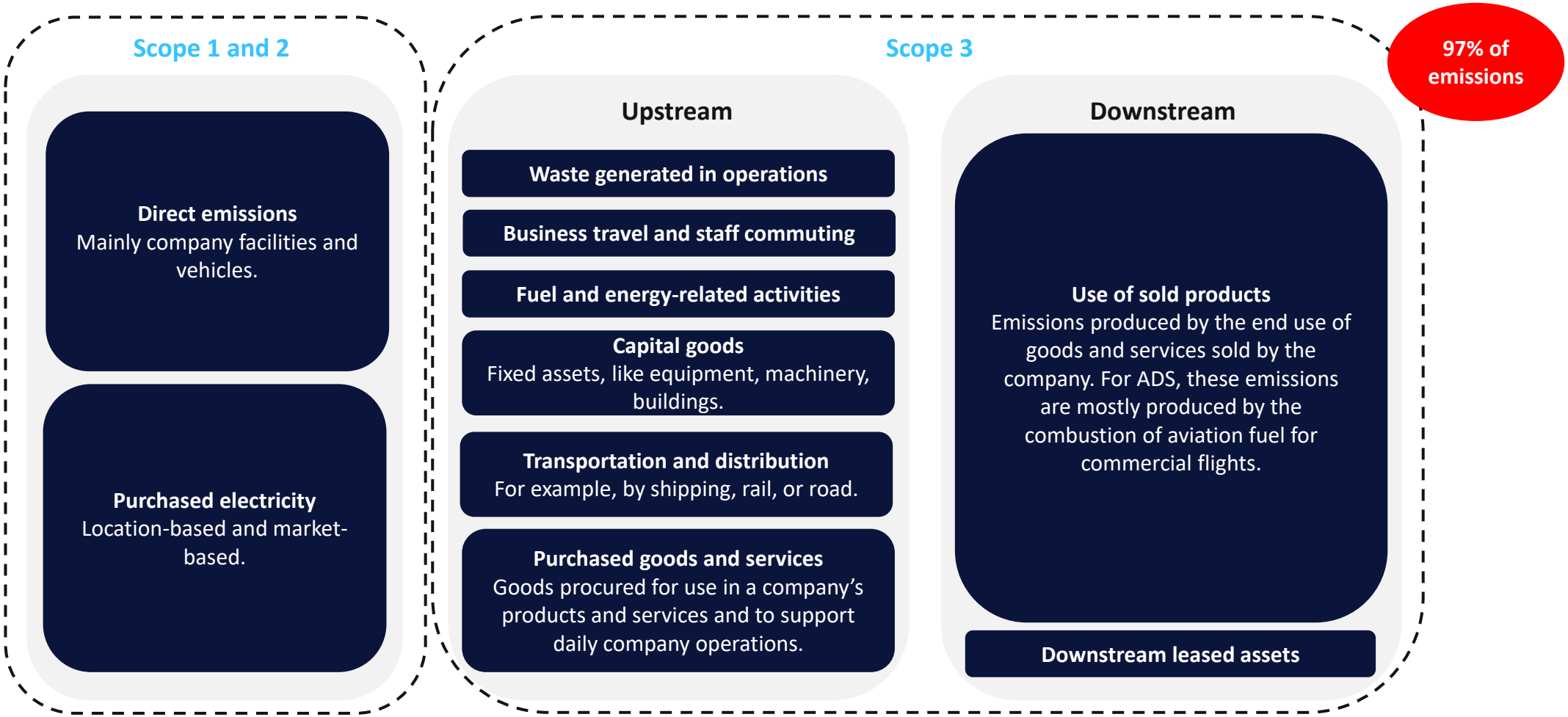
Companies across the commercial aviation value chain have been active in announcing SAF usage targets and securing future supplies.

Company	Location	Target
Air Canada	Canada	1% SAF use by 2025
Air France-KLM	France	10% SAF use by 2030
All Nippon Airways	Japan	10% SAF use by 2030
American	USA	10% SAF use by 2030
Cathay Airlines	Hong Kong	10% SAF use by 2030
Delta	USA	10% SAF use by 2030
Emirates	UAE	Announced aspiration to achieve 50% SAF usage by 2030
Japan Airlines	Japan	1% SAF use by 2025 and 10% in 2030
JetBlue	USA	10% SAF use by 2030
LATAM Airlines	Chile	5% SAF use by 2030
Quantas	Australia	10% SAF use by 2030, 60% by 2050
Ryanair	Europe	12.5% of flights will be powered by SAF in 2030
Southwest	USA	10% SAF use by 2030

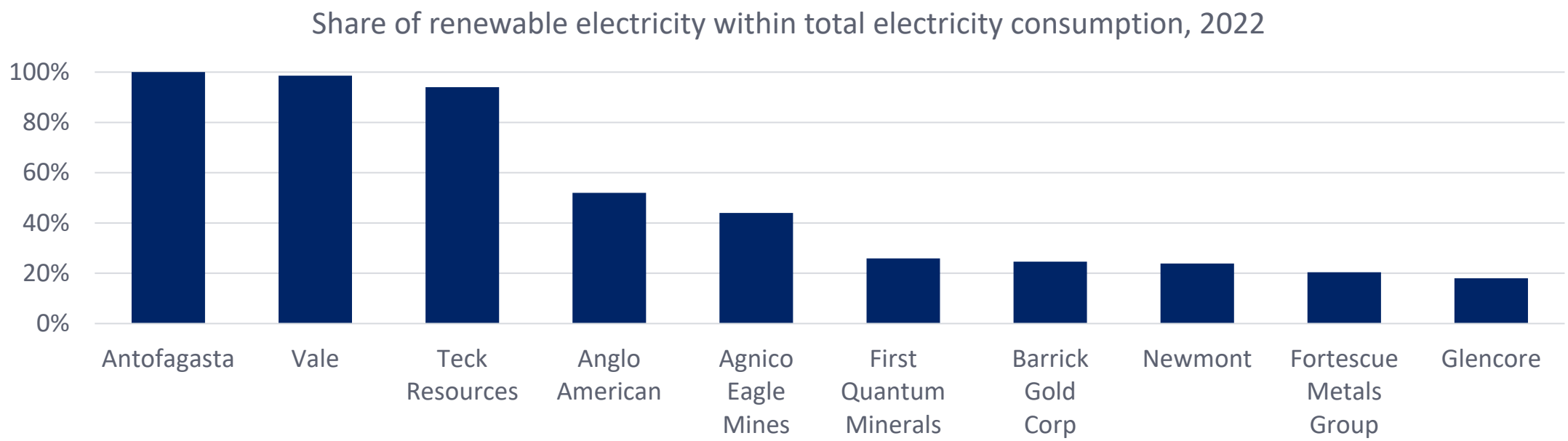
Source: GobalData Analysis, LMC

SAFs will also be vital for Aerospace, Defense and Security companies

- Purchased goods and services and use of sold products are the largest component of Scope 3 emissions and of ADS companies' emissions more broadly.
- However, many ADS companies do not report these numbers. These companies will be less aware of potential downstream and upstream supply chain risks from emissions pricing and carbon taxes.



Miners are focused on renewables



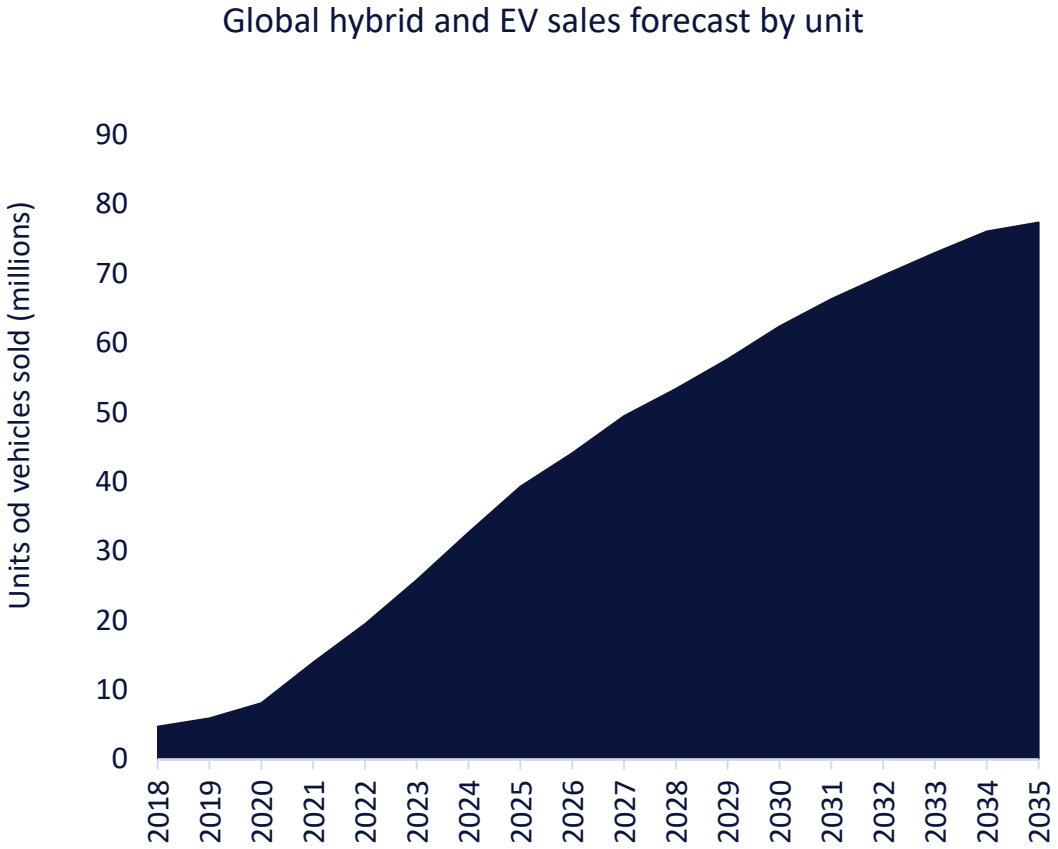
- Over the medium-term miners are focused on electrification of vehicle fleets.
- Very little attention is currently paid to Scope 3 emissions, which could naturally impact demand for coal and iron ore.

Source: Company data

Electrification - Global EV sales will surpass 50 million units annually by 2028

Demand and supply side factors are spurring sales for LEVs globally

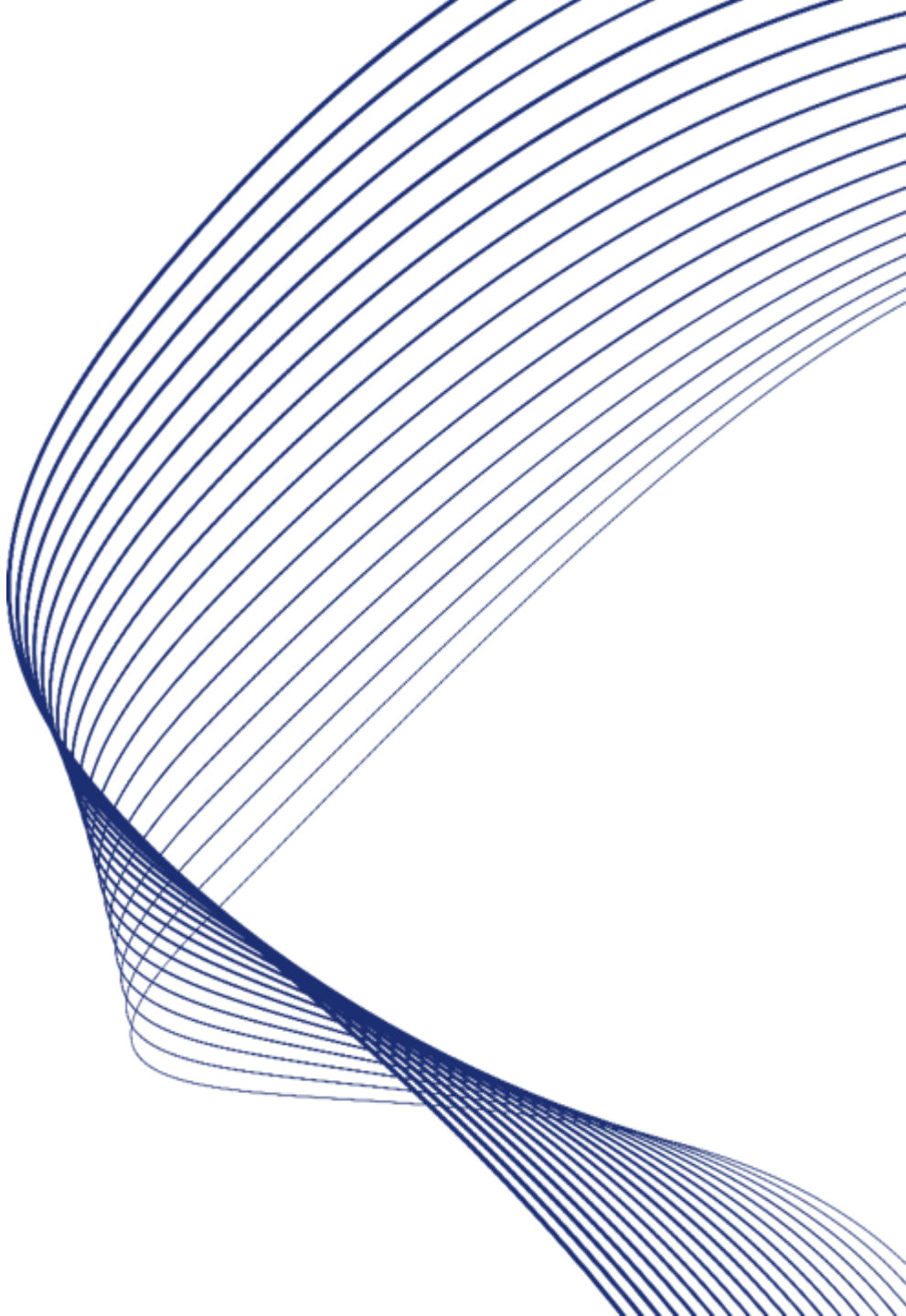
Company	Targets	Progress
Stellantis	The share of LEVs in its global sales mix will reach 44% in Europe and 37% in the US by 2025, increasing to 100% in Europe and 50% in the US by 2030.	In 2022, shares of LEVs in the global sales mix were 18.3% in Europe and 4.9% in the US.
BMW	Electrified cars will exceed 30% of total deliveries by 2025, increasing to over 50% by 2030.	In 2022, sales of electrified vehicles rose by 32.1%. This resulted in the share of electrified vehicles in the total fleet rising to 18.1% from 13% in 2021.
Mercedes-Benz	All-electric by the end of the decade.	In 2022, xEVs made up 35% of total sales, up from 28% in 2021.
Toyota	Cumulative sales of 30 million or more EVs by 2025.	As of 2023, Toyota has sold over 20 million electrified vehicles cumulatively.



For more see Electric Vehicles (2023)

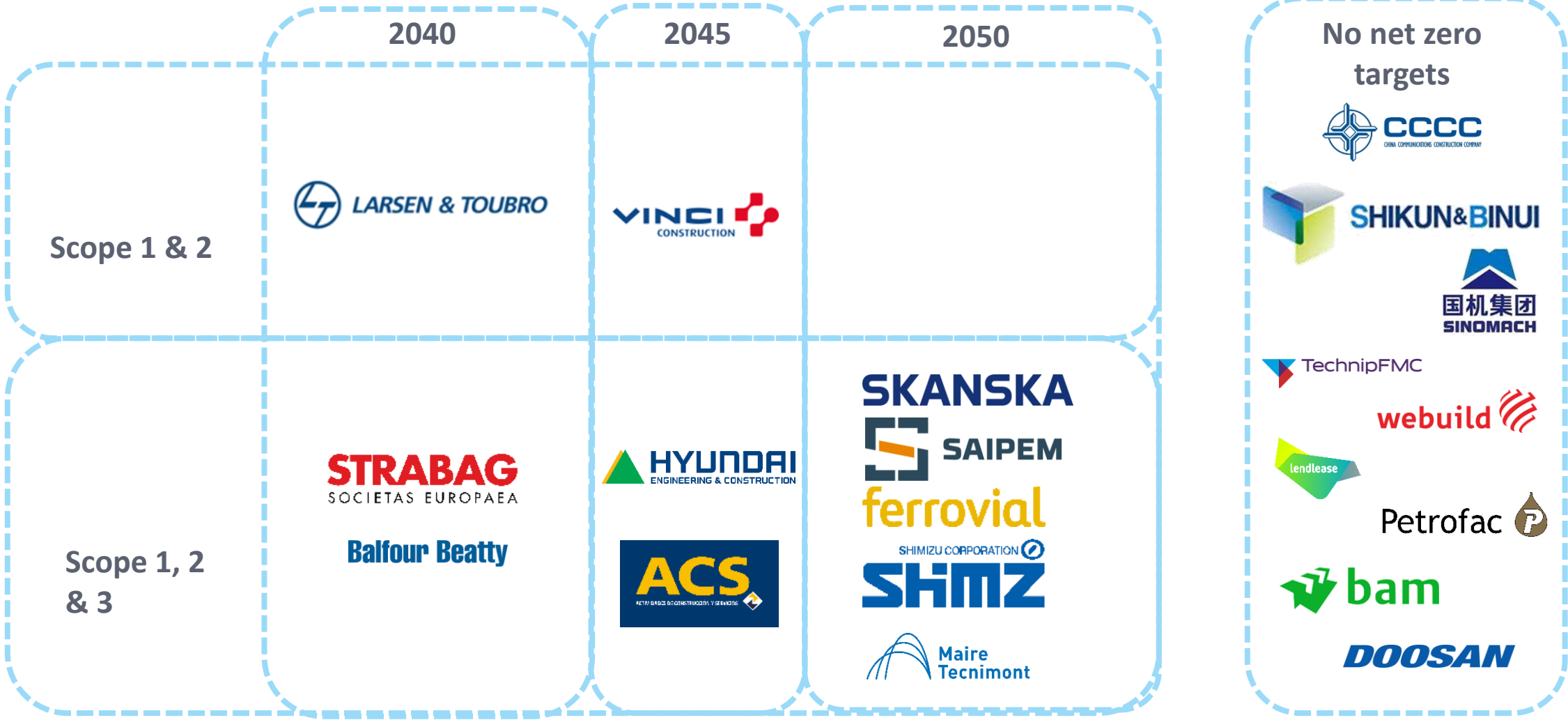
Source: GlobalData

The Ugly



There has been less target setting in construction

Construction firms are investing less in electrification than, say, mining companies



Source: Company data

Which technologies are more suitable for decarbonizing steel?

HDRI has seen the most development and investment thus far and is most proven at an industrial scale whilst electrolysis is only beginning to undergo industrial-scale development. CCUS has not been widely implemented yet due to its high cost.

Technology	Decarbonization potential	Development stage	Suitability for steel	Current profitability
Electrolysis	High	Mid	High	Low
CCS/CCU	High	Low	Mid	Low
Hydrogen	High	High	High	Low

Potential impact of net zero strategies

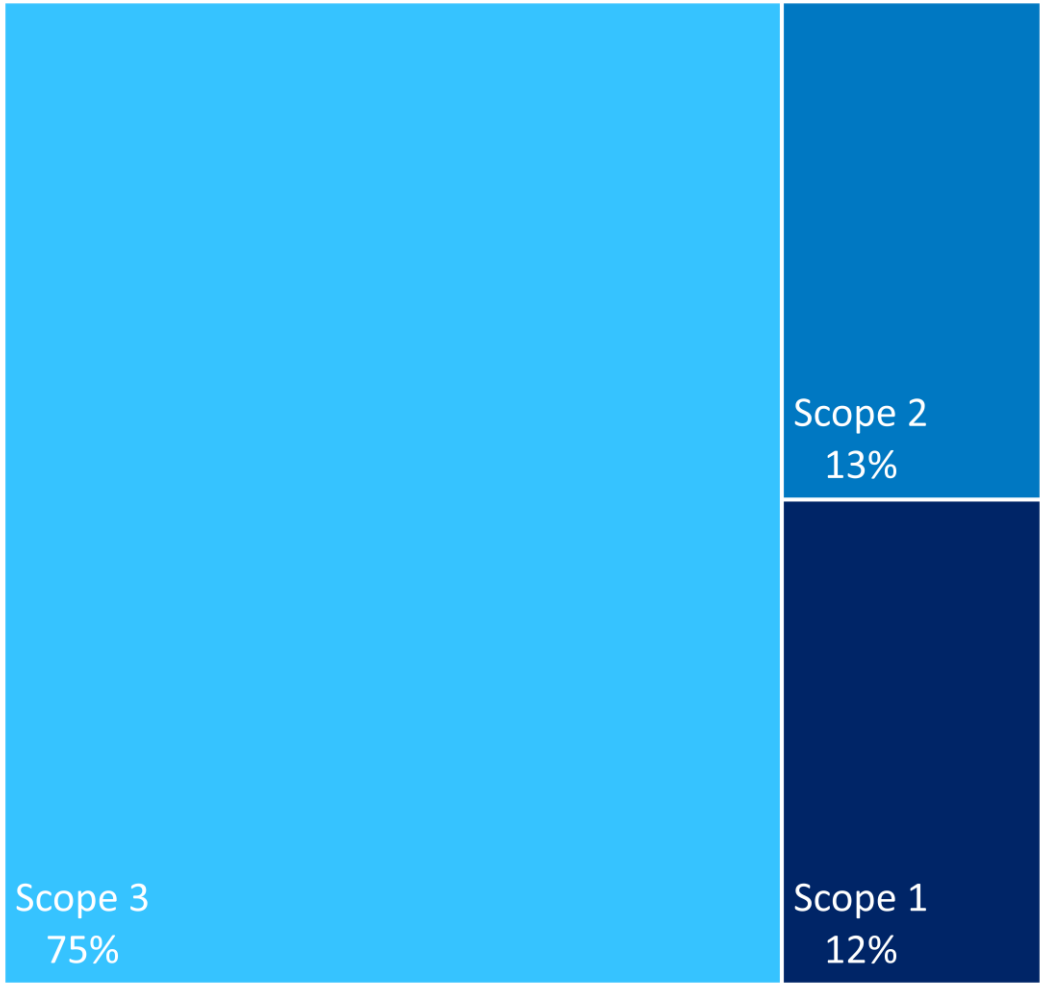
- Low
- Mid
- High

Source: GlobalData Analysis

Oil and gas companies are focused on Scope 1 emissions

- Oil and gas companies are mostly focused on reducing their Scope 1 and 2 emissions.
- Reducing Scope 3 emissions – the emissions from burning oil and gas – can be reduced if end-users use carbon capture or through switching to renewables.
- Many oil and gas majors have plans to invest in renewable energy capacity, but these are long-term.

Average emissions by Scope of 18 top O&G companies

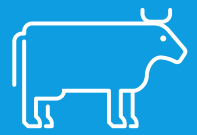


Source: GlobalData

Companies need to act quickly on agriculture emissions

Most agriculture companies lack clear pathways to reaching net zero.

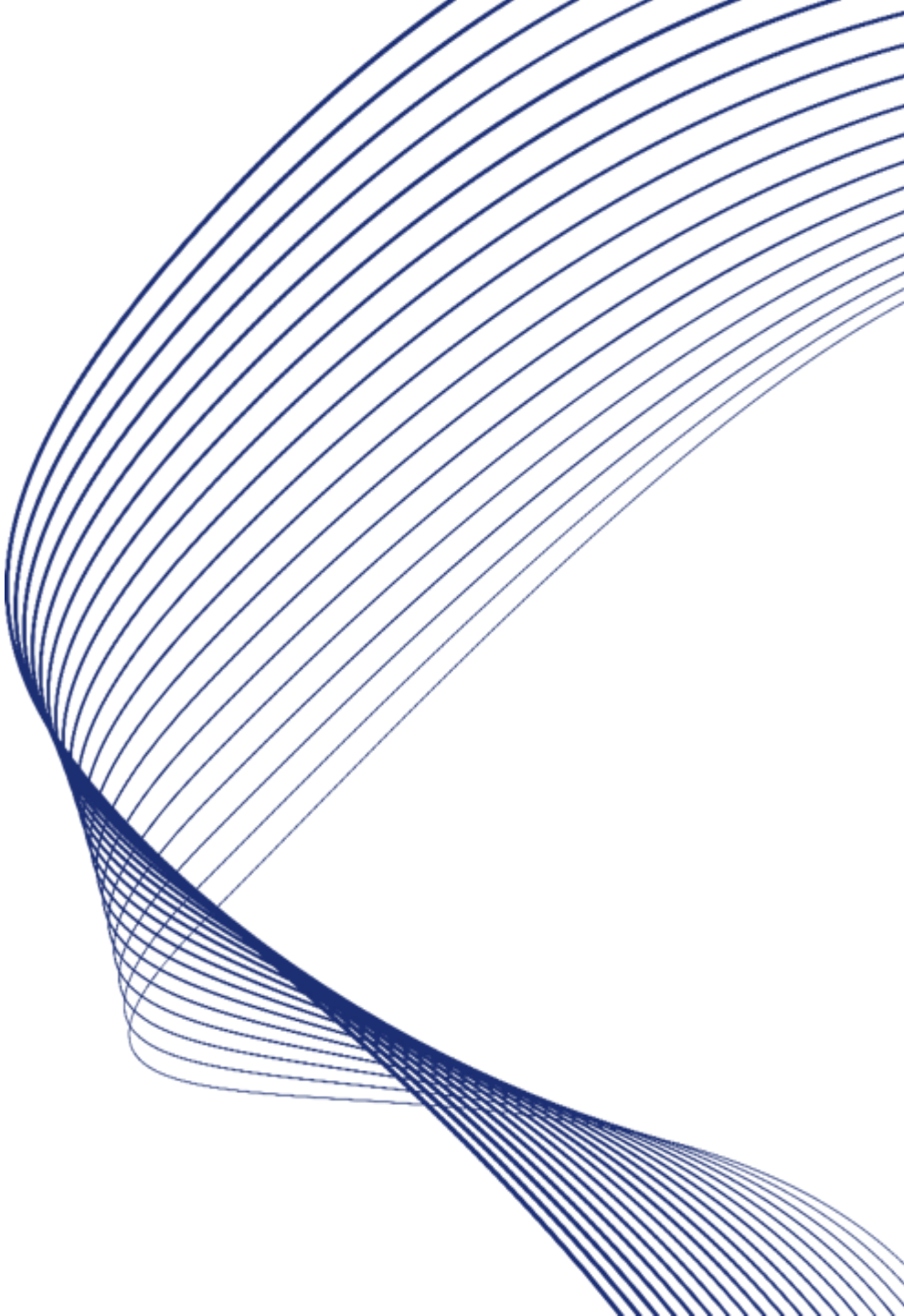
Few major agriculture companies publish comprehensive emissions data.



Global leaders have pledged to act on non-CO_2 emissions.

The SBTi is making some companies set FLAG (Forest, land, and agriculture) emissions targets

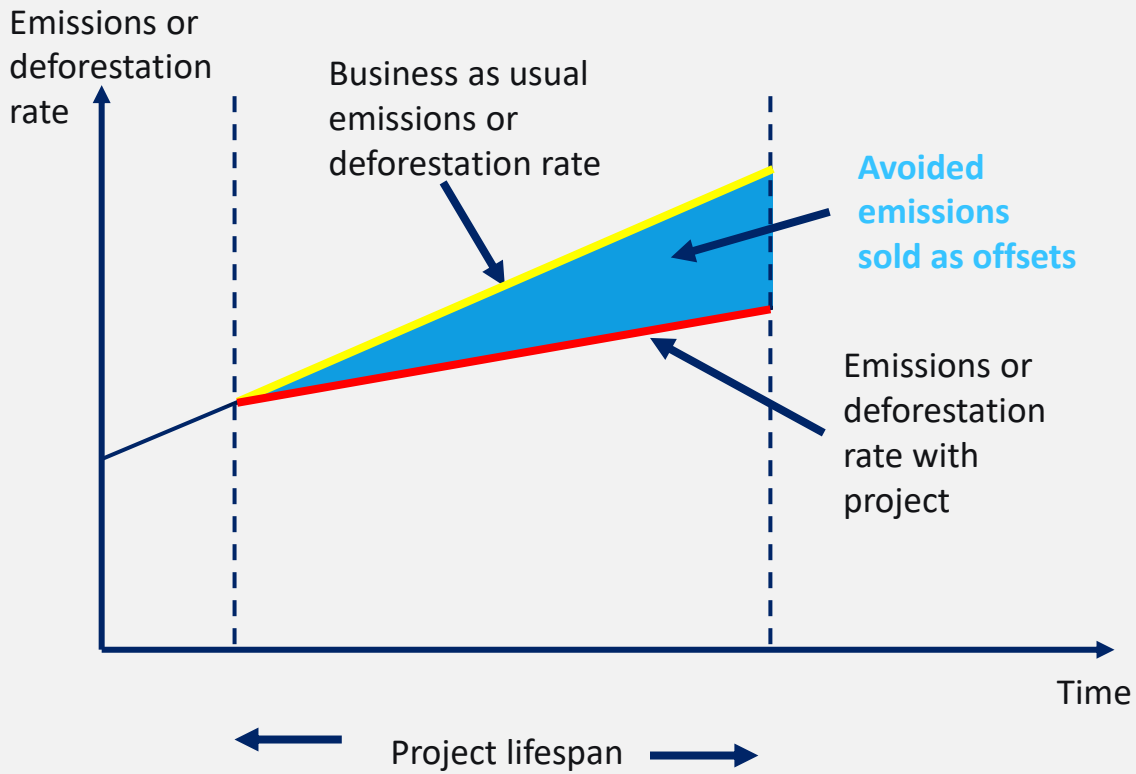
Carbon Offsets



What is a carbon offset?

- A single carbon offset represents the **avoidance** or **removal** of one ton of CO_2e from the atmosphere.
- By far the most popular type of offset is an **avoidance offset**, which is where a project reduces emissions compared to a baseline scenario in which the project was not undertaken.
- Most avoidance projects aim to protect forests from deforestation. Such nature-based offsets typically cost less than $10 per ton of CO_2e.
- There are also **removal offsets**, which remove CO2 from the atmosphere and measuring their impact does not depend on assumptions.

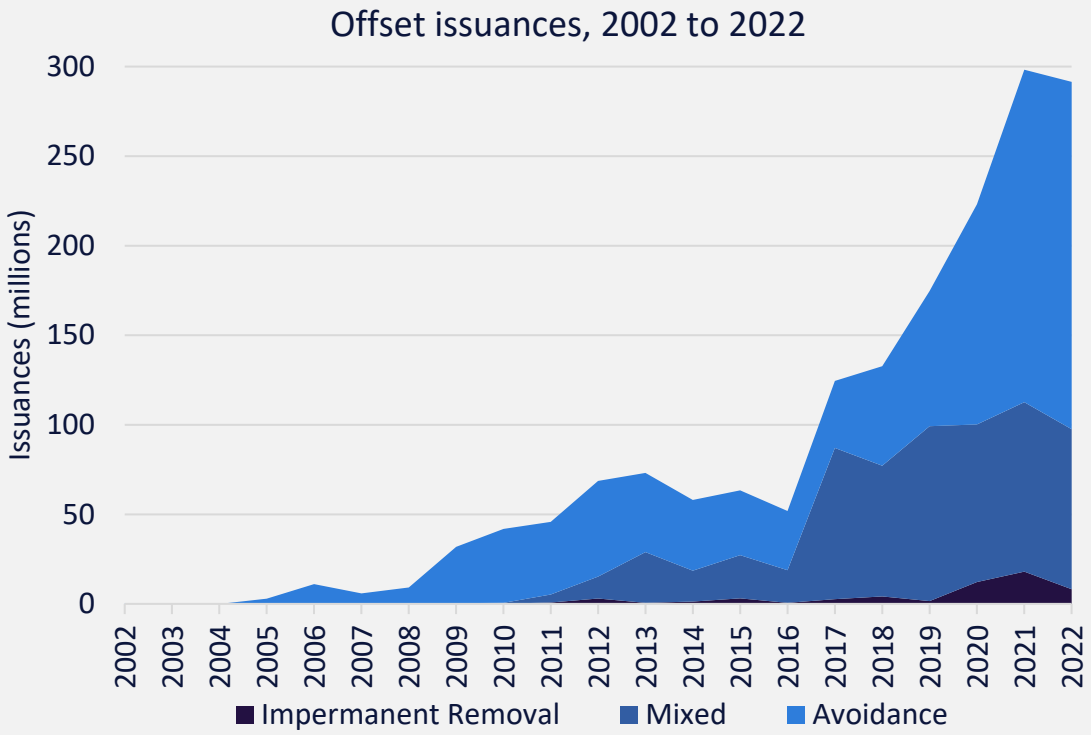
How avoidance offsets are typically generated



Source: GlobalData

The carbon offset market has grown rapidly since 2015

- The number of carbon offsets issued climbed 359% to 291 million between 2015 and 2022.
- Demand for carbon offsets has been driven by some of the world's largest companies incorporating them into their net-zero strategies.



Source: Ivy S. So, Barbara K. Haya, Micah Elias. (2023, May). Voluntary Registry Offsets Database, Berkeley Carbon Trading Project, University of California, Berkeley.

The largest companies using offsets as part of their net-zero strategy

Meta, amazon, Microsoft, Apple, INTUIT, Wells Fargo, NETFLIX, CATERPILLAR, Honeywell, Alphabet, TCS Tata Consultancy Services, S&P Global, Union Pacific, RTX, United Healthcare, accenture, Alibaba, tsmc, J.P.Morgan, DANAHER, BOEING, Johnson & Johnson, BHP, ThermoFisher Scientific, HERMÈS PARIS, MERCK, TotalEnergies, Chevron, Disney, aramco, Shell, American Express, HSBC, VISA, ConocoPhillips, mastercard

Source: Company data

Two major scandals in 2023

Verra standards scrutinized

2021

A joint investigation by Unearthed and *The Guardian* found that Verra's carbon offsetting standard was flawed. An investigation of 10 Verra Redd+ projects found that projects were using inconsistent predictive methods and overstating emissions reductions.

January 2023

A nine-month investigation by *The Guardian*, SourceMaterial, and *Die Zeit* accused Verra of issuing credits that fail to represent genuine emissions reductions for over 90% of its rainforest offset credits.

April 2023

Verra released a new draft of its REDD methodology including new standardized baselines for 2025 implementation.

Climate Home News

Verra boss steps down after criticism of its carbon credits

South Pole's mega project collapses

Faulty Credits Tarnish Billion-Dollar Carbon Offset Seller

South Pole, the world's leading purveyor of offsets, is facing allegations that it exaggerated climate claims around its forest-protection projects. The uncertainty could influence how legions of companies try to slash their emissions.

Bloomberg, March 2023:
Extent of preservation by the Kariba project (Zimbabwe), has been overstated by as much as a factor of five.

THE GREAT CASH-FOR-CARBON HUSTLE

Offsetting has been hailed as a fix for runaway emissions and climate change—but the market's largest firm sold millions of credits for carbon reductions that weren't real.

***The New Yorker*, October 2023:**
An investigation by *The New Yorker*, found serious governance issues with the Kariba project and its finances.

Carbon Offset Market Faces Chaos as African Mega-Project Collapses

The breakup of the partnership behind one of the world's biggest carbon projects in Zimbabwe raises new doubts about the carbon market's ability to backstop failures.

Bloomberg, October 2023:
South Pole terminates its partnership with Carbon Green Investments, which runs the Kariba project.

Companies are facing carbon offset greenwashing accusations

Corporations are becoming increasingly scrutinized for the standards of their carbon offsets

Bloomberg

KLM Faces Trial Over Climate Ad Greenwashing Allegations

June 7, 2023

The Guardian

Cookstove carbon offsets overstate climate benefit by 1,000%, study finds

Tue 23 Jan 2024

INDEPENDENT

Credibility of Leon's 'carbon-neutral' burgers questioned by scientists

21 August 2021

The Guardian

'Worthless': Chevron's carbon offsets are mostly junk and some may harm, research says

Wed 24 May 2023

FINANCIAL TIMES

Apple's 'carbon neutral' claims come under scrutiny

OCTOBER 24 2023

Bloomberg

Shell Loses Dutch Appeal Over Misleading Carbon Emission Ads

- Dutch authority queries extent carbon credits offset emissions
- Oil major says no question of deception in advertisements

October 21, 2022

CNBC

Delta Air Lines hit with proposed class action over carbon neutral claims

MAY 31 2023

Why carbon offsets should be avoided

The low price of renewables and greater state investment in energy transition means that it is difficult for offset buyers to argue that the projects they are supporting would not have happened without their backing.

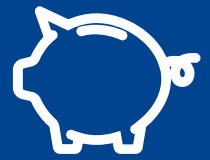
Technology-based carbon removals such as direct air capture and biochar, where the amount of CO_2 removed is exact and measurable, will be a future option but have not yet scaled and remain expensive.

The offsets widely available today are not compliant with many emissions trading systems, such as the EU ETS, meaning companies end up paying twice for their emissions. Most offsets cannot be used to meet SBTi-approved targets.

Tech will invest heavily in emerging carbon removal offsets

Biochar and bio-oil	BiCRS (biomass carbon removal and storage)	Direct air capture	Enhanced rock weathering	Ocean removal and storage
CHARM INDUSTRIAL	ARBOR	CarbonCapture™	Eion	captura
PACIFIC BIOCHAR	CO280 Carbon Negative Solutions	1POINTFIVE	InPlanet	RUNNING TIDE
carboculture		climeworks		

Removal offset projects remove GHGs from the atmosphere and store them. Reforestation is the most popular form, but tech-based carbon removal offsets are far more reliable and can store CO_2 for hundreds of years.



Major corporates like Microsoft and Amazon have invested in tech-based removal start-ups in 2023.

The companies with the best chance of offsetting success

Market pioneers

Market pioneers will secure long-term deals for tech-based carbon removal offsets. These remove CO_2 from the atmosphere and store it for long periods. Direct air capture (DAC), biochar, and enhanced rock weathering are all examples of tech-based removal offsets.

Market pioneers support start-ups developing these technologies, invest in them, and help them scale.

Market pragmatists

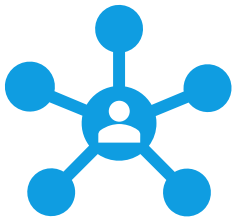
Market pragmatists will wait until tech-based carbon removal offsets have scaled. This includes air capture (DAC), biochar, bio-oil, and enhanced rock weathering, which remove CO_2 from the atmosphere for long-term storage.

Carbon markets view $100 per ton of CO_2 as the point where these technologies become economical on a large scale.

DIY-ers

DIY-ers will prefer to manage their own nature-based offset removal projects with enhanced measurement, reporting, and verification.

This will allow them to pay close attention to project performance and generate revenue from offset sales.

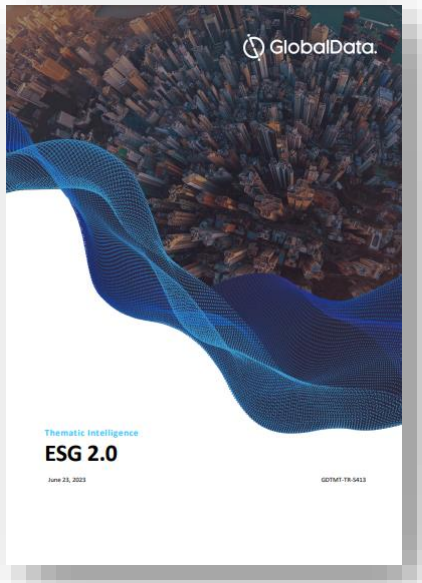


Outsourcers

Outsourcers will buy offsets from top multinationals with their own offset projects. This will provide additional reassurance on project quality and is likely to come with better measurement, verification, and reporting.

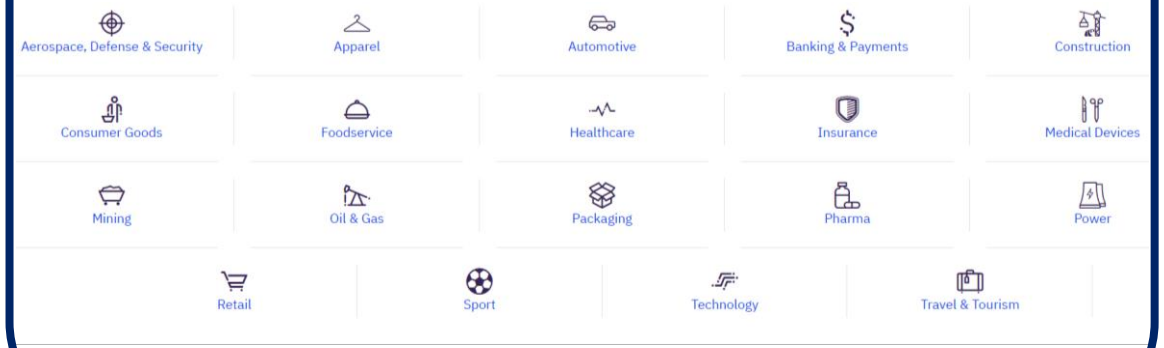
It also allows buyers to invest in a variety of different projects.

ESG offerings



13 Net Zero in sector reports

Net Zero in….



ESG THEMES

- ESG - Environmental
- ESG - Social
- ESG - Governance

Contact Us

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