



Environmental Tracking

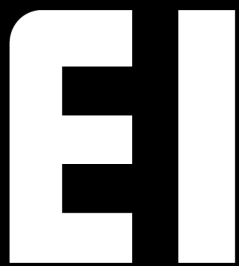
Carbon Rankings

REPORT: ET EUROPE 300 2013 CARBON RANKINGS

Environmental Investment Organisation

Where the needs of the future meet the practicalities of the present





WHO WE ARE

ENVIRONMENTAL INVESTMENT ORGANISATION

An independent research body promoting carbon transparency and investment solutions designed to address climate change.

WHAT WE DO

ENVIRONMENTAL TRACKING

ET Carbon Rankings

scoring the world's largest companies by greenhouse gas emissions & levels of transparency

ET Index Series

mainstream index series designed to give investors broad market exposure whilst capitalising on, and driving, the shift towards a low carbon economy

ET Engagement

engaging with companies to improve standards of disclosure & lower emissions

WHY WE DO IT

designed specifically to **reduce**
global corporate **Greenhouse Gas emissions**





Foreword

Dear Reader,

Welcome to the ET Europe 300 Report, examining the greenhouse gas emissions and transparency of the largest 300 companies in the region. The ET Carbon Rankings apply a uniform methodology across all sectors within a single public Ranking.

This is one in a series of ET 2013 Carbon Ranking Reports covering the world's largest 1,300 companies and being released in the week commencing 29th April.

Many companies now benefit from talented, dedicated sustainability staff and are earning top spots for their efforts, but the overall picture globally remains poor. Many companies go to great lengths to collect and analyse detailed greenhouse gas (GHG) data, only to fail at the last hurdle with simple errors in data presentation, such that a member of the public cannot decipher what the data means when set against the accepted GHG Protocol standard, the most widely used international accounting tool for GHG emissions. Unless all companies are reporting and presenting their GHG data in a clear and uniform manner, the task of cross comparing against companies becomes all but impossible.

Why is it that despite nearly two decades of major international initiatives, such as the UN Global Compact, the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP), we find ourselves in this situation? In the case of the GRI, its broad range of topics and lack of any specific format for GHG data presentation, even lacking specific headings for Scope 1, 2 and 3 emissions, explains itself. In the case of the CDP, operating as a private database with limited public access, the onus has been taken away from the responsibility of companies to report their own GHG emissions data in a clear, publicly accessible manner. Is it any wonder some companies are confused as to exactly what is expected of them? In simple terms, clear GHG reporting needs to be prioritised from the ever widening scope of CSR reporting if we are to have any chance of even passing the first hurdle of the climate crisis, which is to establish the reliability of the data itself.

The EIO does not usually involve itself in the scientific debate, preferring to let those with the necessary competence address such complex questions. Yet I could not help but be struck by a recent BBC Horizon Television Documentary entitled 'Global Weirding', a phrase which seems to neatly encapsulate the current facts on the ground. Of particular note was a claim by US scientist Professor Katharine Hayhoe and quoted by many other sources including the Met Office, that atmospheric humidity has increased by 4% since 1970. Given that many of the extreme weather events we are facing are moisture driven, this seemed to me to be a quite startling number. If we had been told that the global temperature had increased by 4% in the last 40 years, I think most people would realise that something quite serious was happening. Given an average is simply that and severe events will concentrate at particular times and places, given time lags are an inevitable part of the climatic process, we have not even begun to see the impact of this or many other consequences of climate change. I do find it surprising this particular number has not received greater attention. It does not require 'an Einstein' to



Foreword

work out that the wettest (or snowiest) decade since records began might have something to do with a 4% rise in atmospheric moisture.

The term 'Denialist' has often been used to describe arguments querying the current scientific consensus. But I do not see a consensus. On the contrary, it seems to me there are a great range of predicted outcomes and only those that are relatively 'unalarmist' get any serious press.

Unfortunately, we have no real idea of the parameters of what we are triggering, being a complex interaction of social, economic and climatic forces. I fear, as is already happening, first the vulnerable will suffer and then chaos and carnage will catch up with the rest. We are in effect driving in the dark without lights, with a misplaced over-confidence in where we are heading. Nothing new there in the history of human intelligence, it is just that on this occasion a miscalculation will leave 7 billion and counting in its aftermath.

There is no historical precedent to this situation. There is no textbook answer. The real 'denial' is in failing to recognise there is no obvious solution to this problem, in this extraordinarily complex globalised world. The global economy is made up of nearly 200 individual nation states with vast gulfs of wealth, geographical size, exposure to risks, asymmetric political and social systems and multiple competing priorities. On the evidence to date, they are simply not going to suddenly a) all agree to a meaningful new global emissions regime and b) implement it even if they did all sign it.

The only immediate decentralised non-governmental solution I can see is from the activities of the investment world. Yet this will involve a fundamental and profound rethink of the purpose of the investment system and its current models, including current models of SRI and Ethical Investment, if we are to have the slightest chance of impacting this problem in any serious or rapid time frame.

Statements of intent. Fine. Statements of principle. Fine. But surely, we need to ask the long hard question, what might actually work?

Who knows how the final days of the people of Easter Island played out, but I can imagine as those involved looked around them and asked 'what have we done?', their more intelligent young offspring were less than complimentary. A modern translation might read 'thanks a tonne!'.

Michael Gill,

Strategic Director & Founder, The Environmental Investment Organisation

April 2013

CONTENTS 4

EXECUTIVE	SUMMARY	5
RANKING HIGHLIGHTS	& DISCLOSURE OVERVIEW	8
CARBON RANKING	METHODOLOGY	11
SPOTLIGHT ON	SCOPE 3 & <i>INFERENCE</i>	14
SPOTLIGHT ON	SCOPE 1 & 2 & <i>INFERENCE</i>	17
RANKING	ANALYSIS	20
GEOGRAPHICAL	ANALYSIS	21
SECTORAL	ANALYSIS	26
KEY	DISCUSSION POINTS	29
REPORTING	LANDSCAPE	30
EXEMPLARY REPORT	& GRI TEMPLATE	32
REPORTING	EXAMPLES	34
REPORTING	GUIDANCE	36
ET REPORTING	TEMPLATE	37
CONTEXT: EMISSIONS	LANDSCAPE	39
ET INDEX	SERIES	48
GLOSSARY	& BIBLIOGRAPHY	49

EXECUTIVE 5

SUMMARY

The ET Carbon Rankings serve the twin purpose of encouraging transparency through making emissions data more publicly accessible, while also laying the foundations for the ET Index Series, a market mechanism designed to operate globally and incentivise carbon reductions within a rapid time-frame.

This latest set of Carbon Rankings build on the methodology established previously for the ET 2011 Carbon Rankings, where companies were placed into one of four Disclosure and Verification categories and then ranked by carbon intensity (tonnes of CO₂ equivalent per million US dollars of turnover) based on Scope 1, 2 & 3 emissions.

Where data is incomplete or not reported, companies are benchmarked against their sectoral competitors using the highest reported emissions intensity for that sector. *Please see the [EIO website methodology section](#) for a more comprehensive explanation of the four disclosure categories and the inference method.*

With the introduction of the long awaited [New Scope 3 Standard](#) from the Greenhouse Gas (GHG) Protocol in 2011, the EIO continues to take a proactive approach to incentivising companies to adopt this important new standard in GHG Reporting. It has long been the EIO's stated view that Scope 1 & 2 emissions do not in themselves provide an accurate picture of a company's carbon impact and therefore a bold approach needs to be taken to reward those companies fully reporting Scope 3 data.

Only when a company reports or explains its data across all 15 categories will that Scope 3 data be accepted. In all other cases, whilst the Scope 3 data is recorded and published, the inference method determines the actual Scope 3 intensity applied within the Ranking. The disclosure categories and inference method are essential tools to ensure that the ET Carbon Ranking is based on cross comparable information and no company is unfairly disadvantaged by disclosing fully its Scope 1, 2 and 3 emissions.

THE RANKINGS ARE BASED ON THE FOLLOWING CORE PRINCIPLES:

- ▶ DATA USED IN THE RANKINGS MUST BE PUBLICLY AVAILABLE AND THEREFORE FULLY TRANSPARENT.
- ▶ IN ORDER TO ADDRESS THE ISSUE OF CLIMATE CHANGE, THE RANKINGS' PRIMARY OBJECTIVE MUST BE TO ENCOURAGE DISCLOSURE.
- ▶ DATA WHICH HAS BEEN VERIFIED BY AN INDEPENDENT THIRD PARTY WILL ALWAYS BE RANKED ABOVE DATA WHICH HAS NOT.
- ▶ COMPANIES HONEST ENOUGH TO DISCLOSE THEIR TOTAL EMISSIONS MUST NOT BE PENALISED FOR DOING SO RELATIVE TO THOSE WHO FAIL TO DISCLOSE.
- ▶ IN ORDER TO BE FULLY EFFECTIVE, THE RANKINGS MUST TAKE INTO ACCOUNT THE FULL SCOPE OF A COMPANY'S CARBON EMISSIONS, INCLUDING SCOPE 3.

EXECUTIVE 6

SUMMARY

Key Findings

- ▶ **33% of companies publicly disclose complete and independently verified Scope 1 and 2 emissions data**
- ▶ **52% of companies report complete Scope 1 and 2 emissions data**
- ▶ **13% of companies do not publicly disclose their emissions data**
- ▶ **46% of companies in Europe report Scope 3 categories, within a range of one to fifteen categories**
- ▶ **3 companies have reported five or more Scope 3 categories**
- ▶ **BASF tops the ET Europe 300 Carbon Ranking, followed by Swisscom**
- ▶ **The biggest Scope 1 & 2 absolute emitter, for which information was available, was RWE followed by GDF Suez with emissions of 166,200,000 and 156,899,254 (tCO₂e), respectively**

As in 2011, topping the 2013 ET Europe 300 Carbon Ranking is BASF, one of the world's leading chemical companies. This is explained by it being the only company in the ET Europe 300 to disclose all 15 Scope 3 Categories as well as disclosing Public, Complete and Verified Scope 1 and 2 emissions data. It therefore earns them the top spot under the ET Carbon Ranking methodology, which rewards companies for their Scope 3 disclosure.

BASF is followed by two telecoms companies Swisscom and Belgacom which each have combined emissions intensities of 37.58 and 42.52, respectively.

Telecommunications groups dominate the top of the Ranking. This is explained due to the inherently low Scope 1 & 2 Intensity within the telecoms industry, and the low inferred Scope 3 benchmark figure used for this sector, since no company within it is currently fully disclosing Scope 3 data.

There is no clear trend in terms of complete data disclosure by European countries. Finland comes top (63%), followed by Italy (62%), Spain (62%) and Denmark (57%). Economic powerhouses Germany and Switzerland rank 5th and 6th out of 12 spotlighted European countries, with only 56% and 54% of companies disclosing complete data.

These Rankings highlight that carbon reporting in Europe remains highly inconsistent. Although 155 out of 300 companies report complete data as defined by the GHG protocol standard and 105 companies take the extra step of having their data independently verified, 42 companies do not report any data at all.

Swedish Oil & Gas exploration company, Lundin Petroleum, suffers the fate of coming last under the ET Carbon Ranking Methodology.

The ET Carbon Rankings make up the first phase of the Environmental Tracking concept paving the way for the second stage: the ET Index Series. This will see the Rankings used to create a series of tradeable indexes, providing the investment community with a mainstream tool to encourage transparency and emission reductions on a global scale. It has already demonstrated the ability of these ET Indexes to track their conventional equivalents with minimal tracking

EXECUTIVE 7

SUMMARY

error, through the launch of its two pilot indexes, the ET Europe 300 and the ET UK 100, based on previously published Rankings. For more information, including backtested performance data based on the 2013 ET Carbon Rankings, please refer to the [ET Index Section](#) of the EIO website.

Key Reporting Recommendations

- ▶ **Report Scope 1, 2 & 3 emissions following GHG Protocol guidelines**
- ▶ **Ensure emissions data is publicly available in CSR/Sustainability reports/Integrated Annual report and online**
- ▶ **Have emissions data verified by an independent third party**
- ▶ **Ensure verification statements are public**

Know your Scopes!

- ▶ **Scope 1 emissions:** All direct emissions
- ▶ **Scope 2 emissions:** Indirect emissions generated from the purchase of electricity
- ▶ **Scope 3 emissions:** All other indirect emissions, such as distribution of goods, transportation of purchased goods, transportation of waste, disposal of waste, employee commuting, business travel or investments.

RANKING 8

HIGHLIGHTS

ET Europe 300 Top 10

Figure 1.

ET Rank	Company Name	S1+2 emissions (tCO ₂ e)	S1+2 Intensity	S3 Categories disclosed	S1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	BASF	25,799,000	266.25	15	932.74	Complete & Verified
2	Swisscom	23,242	1.86	4	37.58	Complete & Verified
3	Belgacom	57,000	6.80	3	42.52	Complete & Verified
4	Telefonica	1,728,109	20.86	1	56.58	Complete & Verified
5	BT Group	710,000	21.76	3	57.48	Complete & Verified
6	France Telecom	1,362,641	22.83	1	58.55	Complete & Verified
7	Deutsche Telekom	2,138,039	27.65	1	63.37	Complete & Verified
8	Telecom Italia	1,141,355	28.90	2	64.62	Complete & Verified
9	Vodafone Group	2,199,598	29.49	2	65.21	Complete & Verified
10	Telenor	1,099,000	62.08	2	97.81	Complete & Verified

Topping the 2013 ET Europe 300 Carbon Ranking is German chemical leader, BASF, which is the only company publicly reporting on all 15 Scope 3 categories in the world today. Second place is occupied by Swiss telecoms company, Swisscom.

Belgian Telecoms company Belgacom ranks third with an intensity of 42.52. Neither of these telecoms giants report more than four Scope 3 categories.

Two further Telecoms firms make up the top five, in Telefonica and BT, with respective intensities of 56.58 and 57.48. Once again

though, neither of these companies discloses more than three Scope 3 categories.

No company in the top 10, except for BASF, has a combined intensity figure of more than 100, owing to the low inferred Scope 3 intensity for the telecoms sector.

(Emissions Intensity is measured in tCO₂e/\$M turnover)

RANKING 9

HIGHLIGHTS

ET Europe 300 Bottom 10

Figure 2.

ET Rank	Company Name	S1+2 emissions (tCO ₂ e)	S1+2 Intensity	S3 Categories disclosed	S1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
291	Hermes Intl	No public data	1,870.83	-	2,298.85	No public data
292	Ryanair Holdings	No public data	2,576.05	-	3,813.57	No public data
293	Sodexo	No public data	2,576.05	-	3,813.57	No public data
294	Compass Group	No public data	2,576.05	-	3,813.57	No public data
295	Cie.Gl.De Gphyq.-Vert.	No public data	1,274.87	-	4,434.78	No public data
296	Subsea 7	No public data	1,274.87	-	4,434.78	No public data
297	Seadrill	No public data	1,274.87	-	4,434.78	No public data
298	Arkema	No public data	2,412.22	-	6,472.29	No public data
299	Brenntag	No public data	2,412.22	-	6,472.29	No public data
300	Lundin Petroleum	No public data	3,926.62	-	7,086.52	No public data

Last amongst Europe's largest 300 companies is Swedish Oil & Gas exploration firm, Lundin Petroleum, with a combined intensity of 7,086.52 tCO₂e/\$M turnover. Occupying the penultimate and third from bottom spots are the German Chemical distribution company, Brenntag and French Chemical Manufacturer Arkema, both with combined inferred intensities of 6,472.29 tCO₂e/\$M turnover with the advantage being given to the smaller company by market value. The justification for this is simple: larger companies have greater resources to both improve their reporting and realign their business towards a low carbon model.

France contributes the most companies to the bottom 10 with a total of four, two come from Norway with the remaining companies making up the bottom 10 coming from Ireland, the United Kingdom, Germany and Sweden.

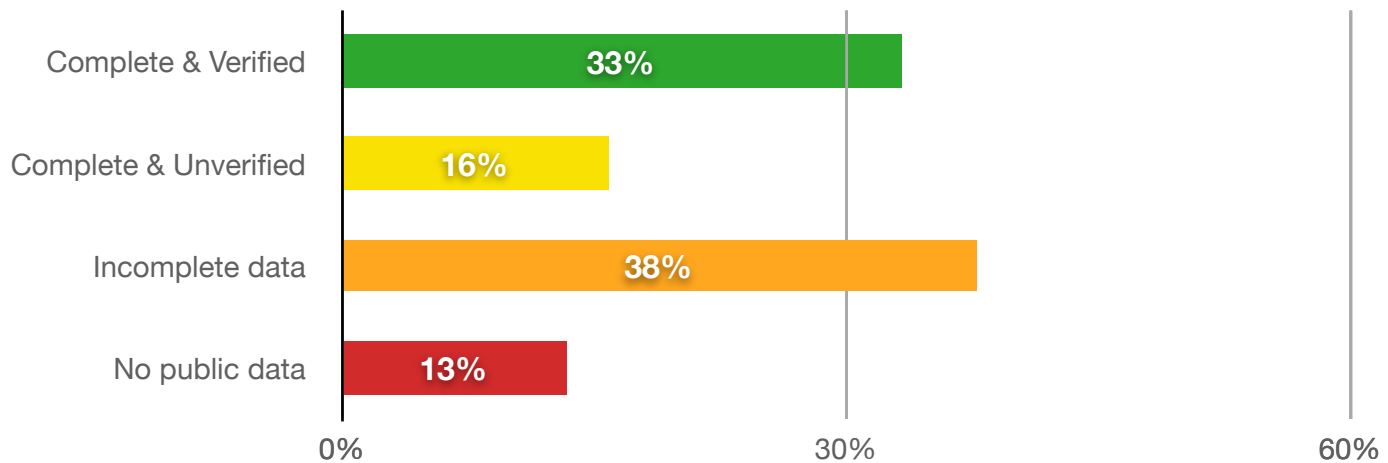
(Emissions Intensity is measured in tCO₂e/\$M turnover)

DISCLOSURE 10

OVERVIEW

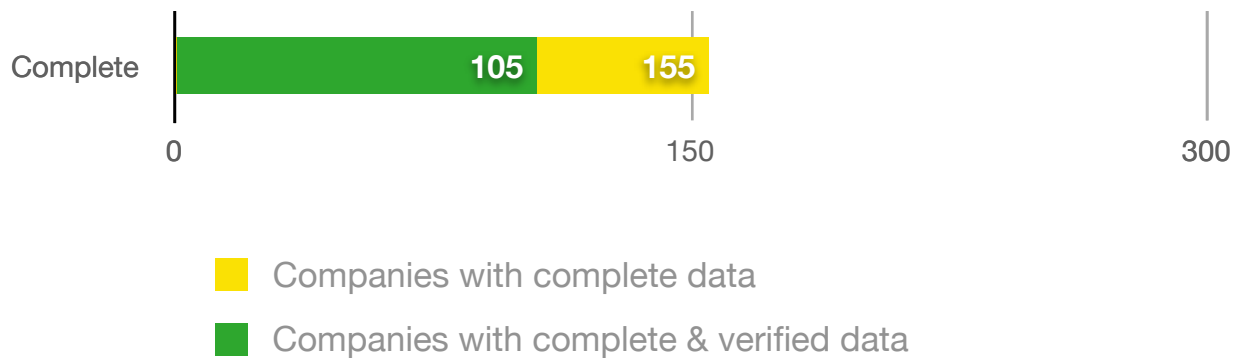
The disclosure and verification landscape of the ET Europe 300

Figure 3.



Complete data versus verified data

Figure 4.



CARBON RANKING 11

METHODOLOGY

The ET Carbon Rankings have been designed specifically to encourage disclosure and verification, paving the way for absolute emissions reductions.

In essence, the ET Carbon Ranking methodology follows a three step process based on four information categories, as detailed below.

Step 1: Categorisation

Companies are placed into one of **four data categories** based on Scope 1 & 2 emissions:

-  **1) Public, Complete, Verified**
-  **2) Public, Complete, Unverified**
-  **3) Public, Incomplete**
-  **4) No Public Data**

Step 2: Inference

Wherever data is not complete, which means Scope 1 and 2 have not been reported for the company's entire operations or they have not been expressed in a sufficiently clear manner or there is simply no public data available, a worst case figure is inferred; based on the highest reported emissions intensity by any company within the same sector across the full universe of companies within the ET Carbon Rankings. This is designed specifically to encourage disclosure and to avoid penalising companies honest enough to report their emissions figures.

The same principle is applied but in a slightly different manner to Scope 3 emissions. Because of the controversial nature of Scope 3 emissions - by definition they are not under the ownership or direct control of a company, nor do they always lend themselves to easy calculation or identification, it does not appear logical to the EIO for these emissions to be given equal weight to Scope 1 and 2 emissions, which clearly are the responsibility of the company.

THE CARBON RANKINGS HAVE BEEN
DESIGNED SPECIFICALLY TO ENCOURAGE
DISCLOSURE AND VERIFICATION

COMPANIES WITH EXTERNALLY VERIFIED
DATA WILL ALWAYS FIND THEMSELVES
RANKED ABOVE THOSE WITH
UNVERIFIED DATA

COMPANIES THAT DO NOT HAVE ANY
PUBLICLY AVAILABLE DATA ARE
BENCHMARKED AGAINST THE HIGHEST
INTENSITY FROM THE WORST PERFORMING
COMPANY WITHIN THEIR SECTOR

CARBON RANKING 12

METHODOLOGY

Scope 3 Categories:

Upstream

1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased asset

Downstream

9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investment

The EIO's current approach is to give a **50% weighting** to any **fully reported Scope 3 emissions total reported according to the 15 categories of the new Scope 3 standard**. This is then added to the Scope 1 and 2 total that has already been reported. Whenever a company does not report a complete Scope 3 total, exactly the same inference method described for Scope 1 and 2 is employed for Scope 3 emissions.

The company in the relevant sector **across the full universe of ET Rankings** with the highest reported Scope 3 figure is identified and used to infer a figure for the remaining companies, thus avoiding penalising a company for being honest enough to report a high figure. The only route by which a company can avoid having an inferred figure allocated to them is to report its own complete figure, and if that happens to be lower than the existing benchmark, then it gains the advantage of a higher ranking position by virtue of its lower emission total. If it is higher, then all the remaining non disclosing companies are benchmarked against it.

In summary, combined emissions intensity across the three Scopes is calculated according to the following formula: 100% of Scope 1 & 2 emissions intensity (disclosed or inferred) + 50% of Scope 3 emissions intensity (disclosed or inferred).

Step 3: Ranking

First companies are categorised according to the completeness and verification of their Scope 1 & 2 data. Secondly, companies are ranked within the Disclosure Categories, according to their combined emissions intensity across Scopes 1, 2 and 3; with the exception of any company reporting complete Scope 3 data across all 15 GHG Protocol Scope 3 Standard categories in addition to having complete and verified Scope 1 & 2 data. Companies falling into the latter category will rank above all other companies in the Rankings, and will be differentiated according to combined intensity. Please refer to the inference method as described in the previous section for details on how companies not providing complete data are treated.

IT IS KEY THAT SCOPE 3 EMISSIONS ARE IDENTIFIED, REPORTED AND ULTIMATELY REDUCED

CARBON RANKING 13

METHODOLOGY

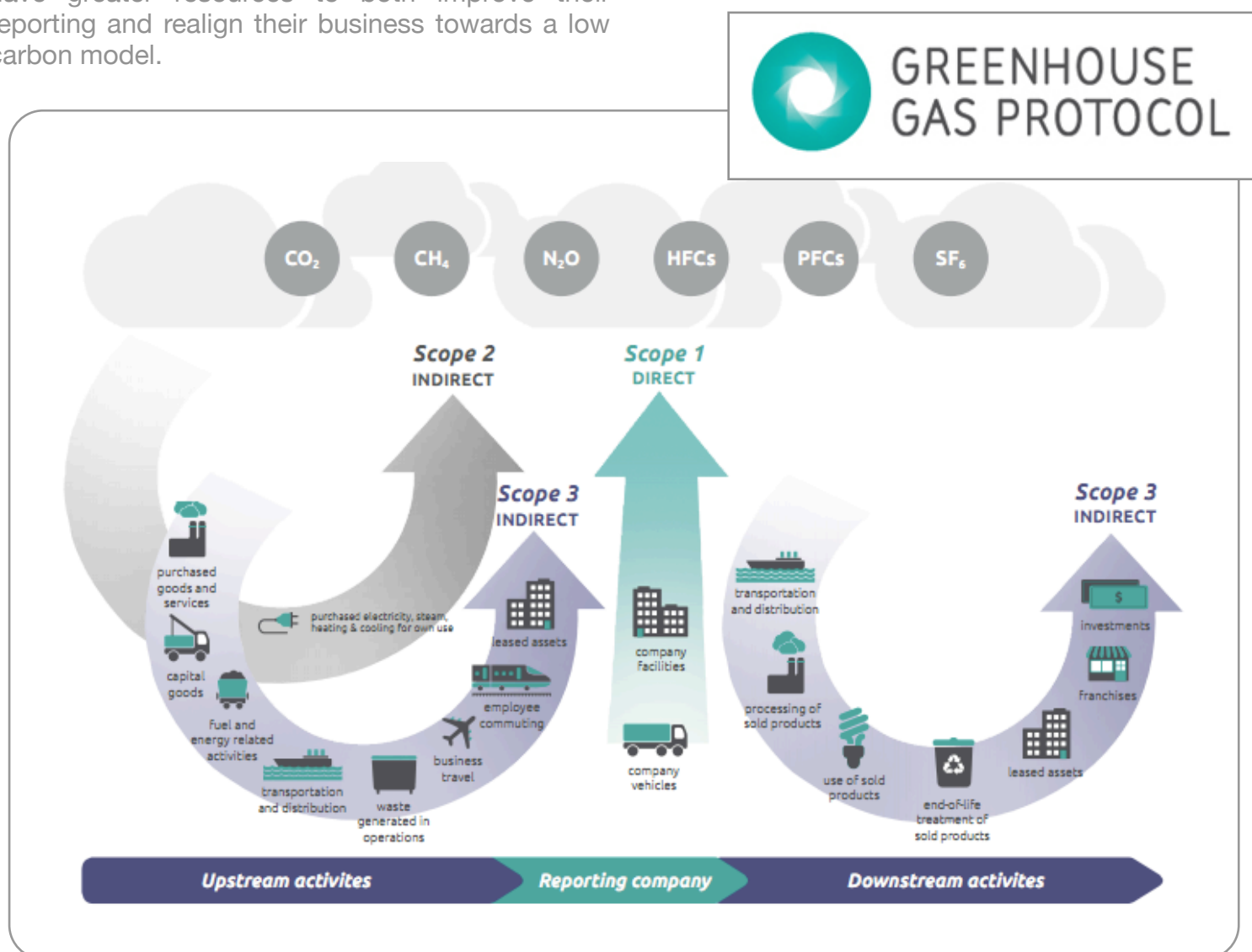
Accounting for size

Emissions intensity is calculated using turnover figures from the same financial year as their latest publicly available (at time of publication) reported emissions.

Whilst there is no universally accepted system of establishing relative company size, turnover is generally accepted within the field of carbon accounting as a reasonable metric to determine company size.

Where one or more companies have the same emissions intensity within the Rankings, smaller market capitalisation is given an advantage. The justification for this is simple: larger companies have greater resources to both improve their reporting and realign their business towards a low carbon model.

FOR A COMPLETE EXPLANATION OF THE METHODOLOGY BEHIND THE ET CARBON RANKINGS PLEASE VISIT EIO.ORG.UK

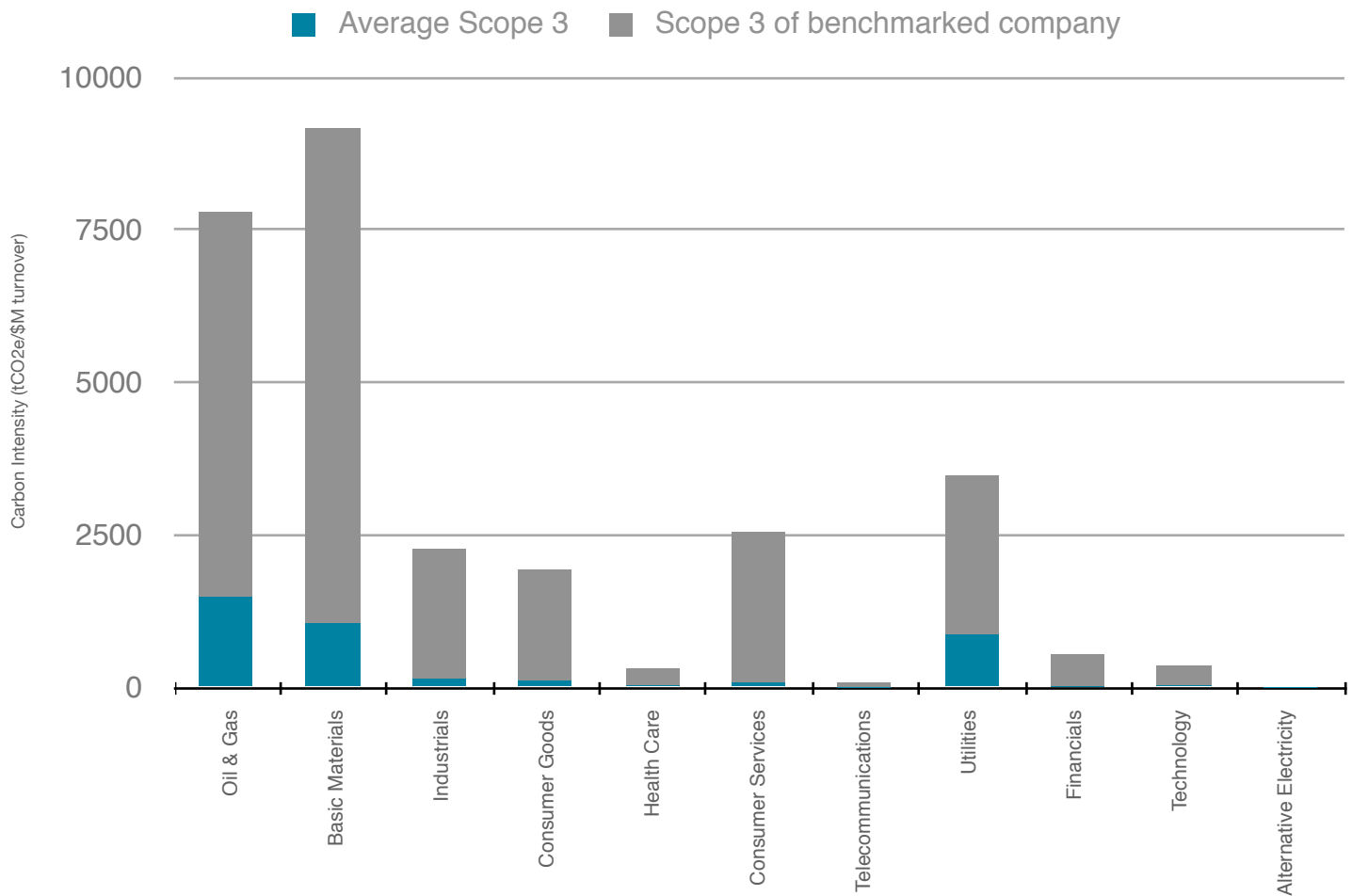


SPOTLIGHT ON 14

SCOPE 3

Global Scope 3 Analysis

Figure 5.



Global Scope 3 Benchmark companies

Figure 6.

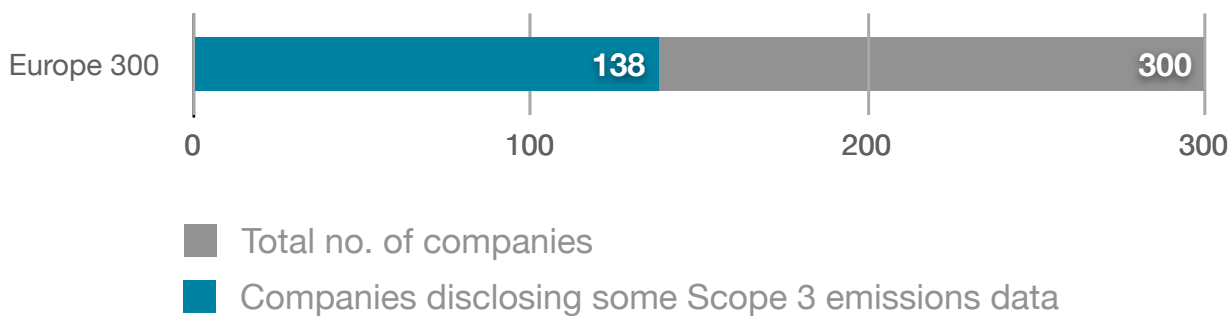
Sector	Benchmark Company Name	No. of Scope 3 Categories Disclosed	Scope 3 Intensity	Sector Scope 3 Intensity Average
Oil & Gas	Santos	1	6,319.81	1,473.57
Basic Materials	Rio Tinto	3	8,120.15	1,047.41
Industrials	Honda Motor	1	2,130.92	129.73
Consumer Goods	Panasonic	2	856.03	109.11
Health Care	Baxter Intl	12	291.54	23.43
Consumer Services	Intercontinental Hotels Gp.	2	2,475.03	72.80
Telecommunications	Sprint Nextel	5	71.44	7.35
Utilities	PG&E	1	2,610.97	861.67
Financials	British Land	3	531.72	9.96
Technology	Intel	3	314.82	36.16
Alternative Energy	Cemig	3	0.45	0.45

SPOTLIGHT ON 15

SCOPE 3

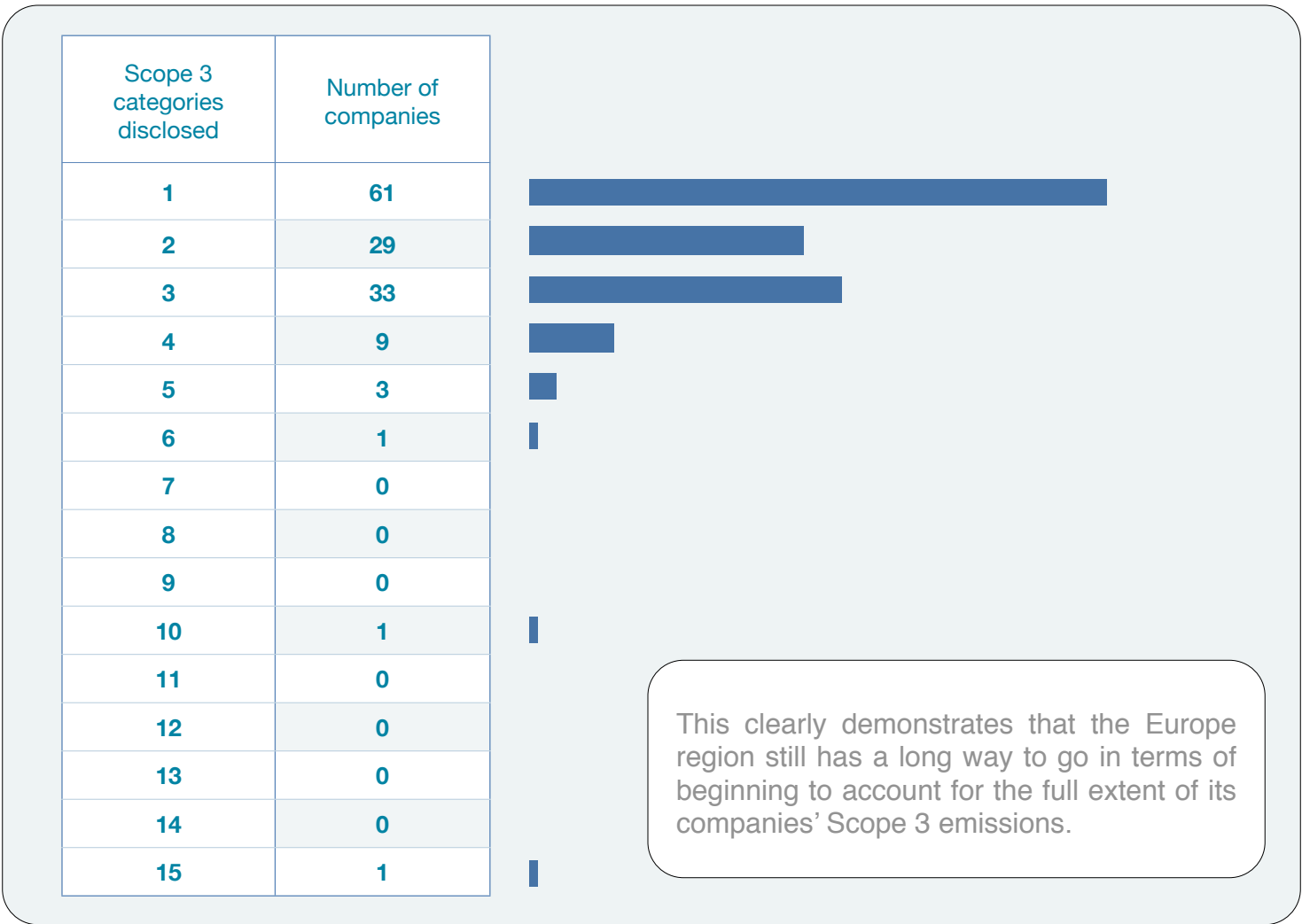
Europe 300 Scope 3 Analysis

Figure 7.



Europe 300 Extent of Scope 3 Disclosure

Figure 8.



INFERENCE: SCOPE 3

NB. Example taken from ET Global 800

Figure 9.

As these three companies from the **Basic Materials** sector fail to disclose all 15 Scope 3 categories as defined by the GHG Protocol Corporate Value Chain (Scope 3) Standard, their disclosed Scope 3 figures are considered to be incomplete, and therefore they are **given an inferred Scope 3 figure**.

Disclosure & Verification status	Carbon Rank	Company Name	No. of S3 Categories Disclosed	Total Scope 3 Emissions	Disclosed Scope 3 Intensity	Inferred Scope 3 Intensity
No Public Data	777	Mfrisco	-	No Public Data	-	8,120.15
No Public Data	778	Silver Wheaton	-	No Public Data	-	8,120.15
No Public Data	779	China Shenhua	-	No Public Data	-	8,120.15

Rio Tinto is one of the Scope 3 benchmark companies for the **ET Global Universe**, which means it is the company with the highest disclosed Scope 3 intensity within the **Basic Materials** sector.

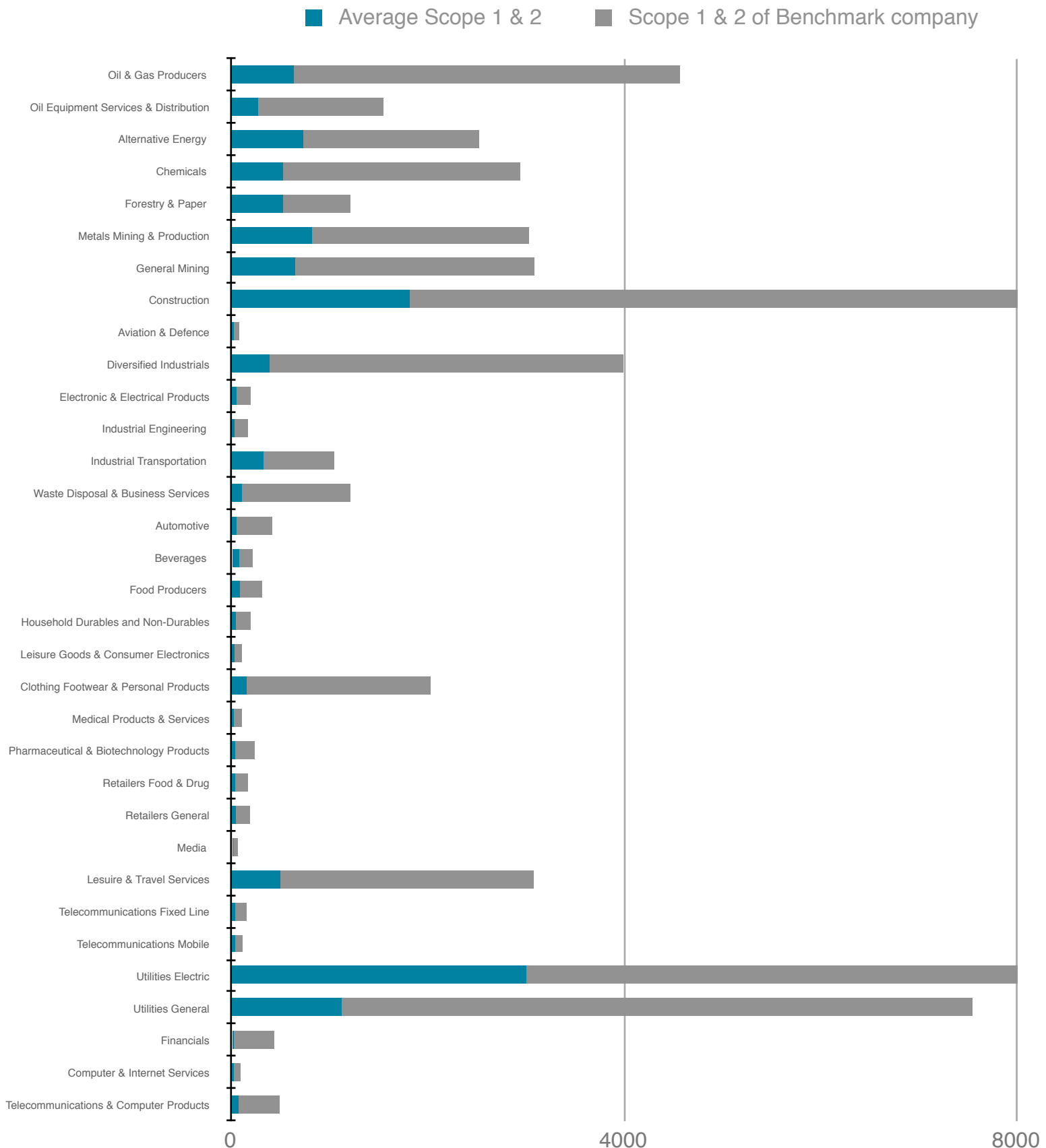
Sector	Benchmark Company Name	Scope 3 Intensity
Oil & Gas	Santos	6,319.81
Basic Materials	Rio Tinto	8,120.15
Industrials	Honda Motor	2,130.92
Consumer Goods	Panasonic	856.03
Health Care	Baxter Intl	291.54
Consumer Services	Int. Continental Hotels Group	2,475.03
Telecommunications	Sprint Nextel	71.44
Utilities	PG&E	2,610.97
Financials	British Land	531.72
Technology	Intel	314.82
Alternative Energy	Cemig	0.45

SPOTLIGHT ON 17

SCOPE 1 & 2

Global Scope 1 & 2 Analysis

Figure 10.



SPOTLIGHT ON 18

SCOPE 1 & 2

Global Scope 1 & 2 Benchmark companies

Figure 11.

Sector	Benchmark Company Name	Scope 1 & 2 Intensity	Sector Scope 1 & 2 Intensity Average
Oil & Gas Producers	Sasol	3,926.62	637.62
Oil Equipment, Services & Distribution	Transcanada	1,274.87	274.59
Alternative Energy	Tractebel	1,792.34	732.14
Chemicals	Air Prds& Chems	2,412.22	527.69
Forestry & Paper	Mondi	685.07	528.76
Metals Mining & Production	Usiminas	2,203.99	825.31
General Mining	Harmony Gold Mng	2,434.17	652.35
Construction	ACC	16,462.39	1,818.72
Aviation & Defence	Meggitt	54.67	25.31
Diversified Industrials	Swire Pacific	3,602.58	393.03
Electronic & Electrical Products	Samsung Elto.Mechanics	139.38	54.13
Industrial Engineering	Mahindra & Mahindra	130.66	33.84
Industrial Transportation	A P Moller - Maersk	720.44	328.55
Waste Disposal & Business Services	Waste Man	1,099.20	110.08
Automotive	Astra International	360.96	56.47
Beverages	Sabmiller	139.63	77.65
Food Producers	Monsanto	222.05	87.10
Household Durables and Non-Durables	Steinhoff Intl	146.90	49.53
Leisure Goods & Consumer Electronics	Samsung Electronics	73.34	34.27
Clothing, Footwear & Personal Products	Colgate-Palmolive India	1,870.83	157.14
Medical Products & Services	Mediclinic International	77.42	29.46
Pharmaceutical & Biotechnology Products	Novozymes	198.15	38.83
Retailers Food & Drug	Lawson	130.51	39.56
Retailers General	The Foschini Group	142.70	46.36
Media	Dai Nippon Printing	53.33	15.97
Lesuire & Travel Services	Int. Continental hotels gp	2,576.05	498.77
Telecommunications Fixed Line	Chunghwa Telecom	121.62	36.84
Telecommunications Mobile	Taiwan Mobile	70.96	40.01
Utilities Electric	American Elec Power	9,036.54	3,007.06
Utilities General	Duke Energy	6,421.64	1,124.00
Financials	Weyerhaeuser	418.28	22.78
Computer & Internet Services	Wipro	63.80	28.49
Telecommunications & Computer Products	United Micro Eltn	413.39	76.90

INFERENCE: SCOPE 1 & 2

Figure 12.

American Electric Power is the company with the highest emissions intensity disclosing complete data within the Electricity Industry across the entire **ET Global Universe**.

Disclosure & Verification status	Carbon Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Emissions Intensity (tCO ₂ e/\$M turnover)	No. of S3 Categories Disclosed
Complete & Unverified	297	Duke Energy	93,300,000.00	6,421.64	-
Complete & Unverified	298	Xcel Energy	79,300,000.00	7,446.89	-
Complete & Unverified	299	American Elec Power	136,000,000.00	9,036.54	-

Disclosure & Verification status	Carbon Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Emissions Intensity (tCO ₂ e/\$M turnover)	No. of S3 Categories Disclosed
No Public Data	799	Edison Intl.	No Public Data	9,036.54	-
No Public Data	800	First Energy	No Public Data	9,036.54	-

NB. Example taken from ET Global 800

Here, Edison International and First Energy have been benchmarked against the highest disclosing company with complete data from the Electricity industry. This means they have been given an *inferred* intensity of 9,036.54 tCO₂e/\$M turnover. This is not an approximation of their emissions but a means of making sure that the highest *disclosing* company in the sector is not penalised for being honest enough to report a large figure.

As both companies have the same *inferred* intensity figure, the company with the largest market capitalisation is placed lower down the Ranking.

RANKING 20

ANALYSIS

Highest and Lowest Absolute Emitters:

Scope 1 & 2

Taken from the 155 Companies reporting complete data

Lowest Absolute Emitters (Scope 1 & 2 Only)

Figure 13.

Absolute Rank	ET Rank	Company Name	Scope 1+2 emissions (tCO ₂ e)	Scope 1+2 Intensity	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	121	Edenred	5,652	4.15	1,069.61	Complete & Unverified
2	108	Sonova	14,742	8.35	154.12	Complete & Unverified
3	2	Swisscom	23,242	1.86	37.58	Complete & Verified
4	111	Sage Group	26,773	12.35	169.76	Complete & Unverified
5	141	SES FDR	27,496	12.03	1,249.55	Complete & Unverified

Figure 13 lists the five lowest absolute emitters from those disclosing complete Scope 1 & 2 information. Verification status is included on the right but does not affect their position in the absolute ranking.

Despite their low absolute emissions, all but Swisscom fail to rank in the top 10 of the main Ranking. This due to the fact their Scope 1 and 2 emissions are not externally verified and their high combined emissions intensities.

Highest Absolute Emitters (Scope 1 & 2 Only)

Figure 14.

Absolute Rank	ET Rank	Company Name	Scope 1+2 emissions (tCO ₂ e)	Scope 1+2 Intensity	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
151	104	Holcim	99,100,000	4,373.13	5,438.59	Complete & Verified
152	75	Enel	123,832,000	1,210.82	2,516.30	Complete & Verified
153	72	E On	146,200,000	981.75	2,287.24	Complete & Verified
154	76	GDF Suez	156,899,254	1,312.50	2,617.98	Complete & Verified
155	87	RWE	166,200,000	2,564.70	3,870.19	Complete & Verified

Figure 14 lists the five largest absolute emitters from those disclosing complete Scope 1 & 2 information, ignoring verification status.

All companies except Holcim, one of the world's largest cement producers, fall within the carbon-intensive Energy sector. Of note: despite all of the bottom five having large Scope 1 & 2 totals, all

report Complete & Verified emissions data and thereby gain an advantage in the main Ranking.

REW has an absolute Scope 1 and 2 figure which is over 60% larger than Holcim's, the lowest of the bottom 5.

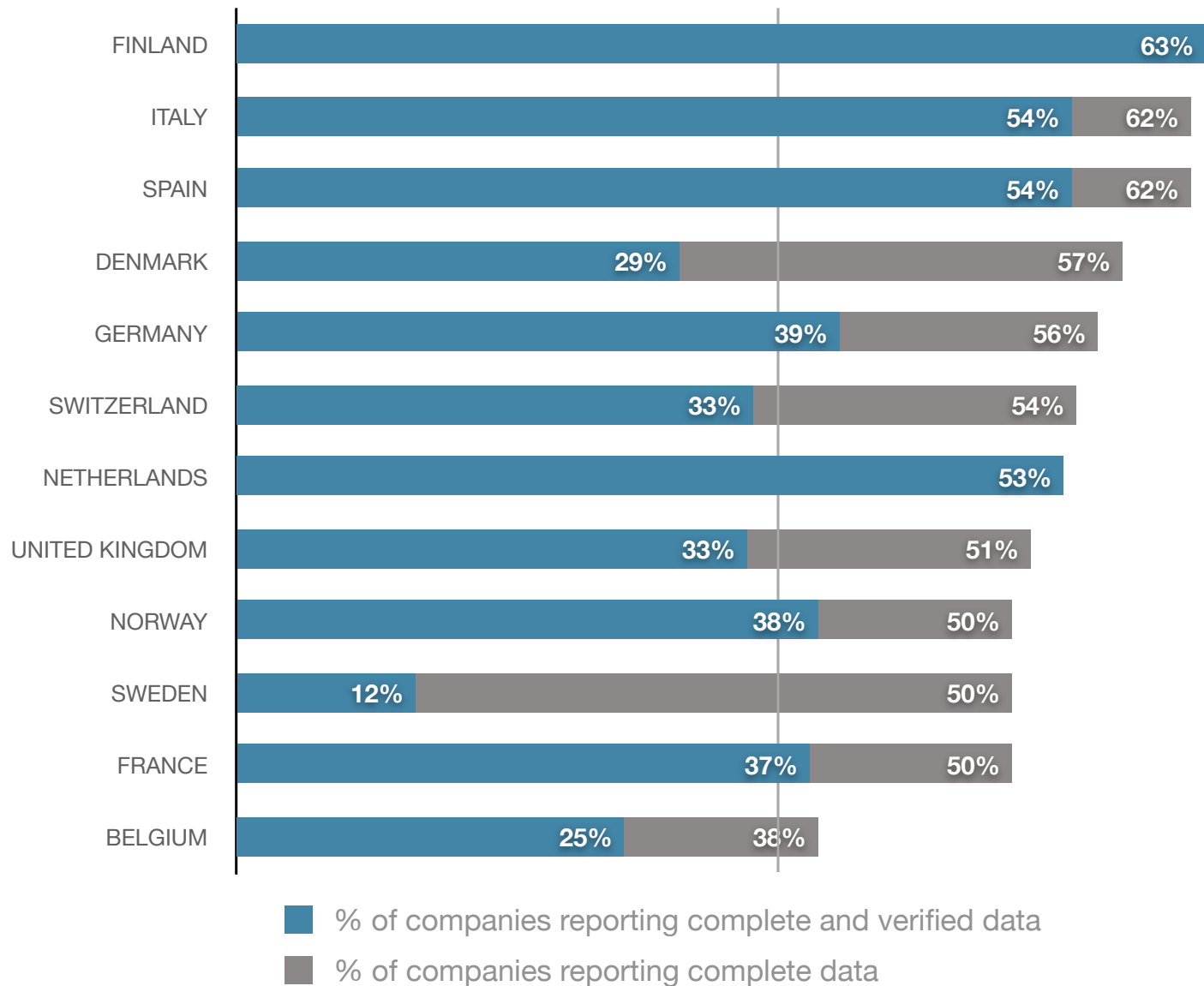
GEOGRAPHICAL 21

ANALYSIS

Summary

Countries leading the field of disclosure

Figure 15.



Europe is the region with the highest percentage of companies reporting complete data (51.6%), yet shows some differences between countries.

The percentage range of companies reporting complete data ranges between 38% (Belgium) up to 63% (Finland), making it clear that there is still a long way to go to raise the bar across the board.

Finland, Italy and Spain lead the Europe with nearly two thirds of companies reporting complete data and over 50% of companies providing verified data.

Finland and the Netherlands are very good on verification with 100%. Whereas, the UK, Germany, France and, especially Sweden, still show significant room for improvement in this respect.

GEOGRAPHICAL ANALYSIS 22

Spotlight on: United Kingdom

Please note that only countries with 10 or more companies in the ET Europe 300 Ranking have been included in this analysis

Top 5

Figure 16.

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	5	BT Group	710,000	21.76	3	57.48	Complete & Verified
2	9	Vodafone Group	2,199,598	29.49	2	65.21	Complete & Verified
3	14	Astrazeneca	700,000	20.63	2	166.40	Complete & Verified
4	18	Glaxosmithkline	1,875,700	42.13	3	187.91	Complete & Verified
5	21	British Land	31,346	61.61	3	327.47	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
78	255	Tullow Oil	Unclear	3,926.62	-	7,086.52	Incomplete
79	265	Shire	No Public Data	198.15	-	343.92	No Public Data
80	267	Arm Holdings	No Public Data	413.39	-	570.80	No Public Data
81	286	Sainsbury	No Public Data	130.51	-	1,368.03	No Public Data
82	294	Compass Group	No Public Data	2,576.05	-	3,813.57	No Public Data

Spotlight on: France

Top 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	6	France Telecom	1,362,641	22.83	1	58.55	Complete & Verified
2	20	ST Microelectronics	1,458,000	158.77	1	316.18	Complete & Verified
3	22	Loreal	166,250	6.20	4	434.21	Complete & Verified
4	24	LVMH	313,436	10.05	2	438.06	Complete & Verified
5	26	Danone	495,998	19.47	0	447.49	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
42	(282)	Bureau Veritas Intl.	No Public Data	1,099.20	-	2,164.66	No Public Data
43	(284)	Hermes Intl	No Public Data	1,870.83	-	2,298.85	No Public Data
44	(286)	Sodexo	No Public Data	2,576.05	-	3,813.57	No Public Data
45	(293)	Cie.Gl.De Gphyq.-Vert.	No Public Data	1,274.87	-	4,434.78	No Public Data
46	(299)	Arkema	No Public Data	2,412.22	-	6,472.29	No Public Data

GEOGRAPHICAL 23

ANALYSIS

Spotlight on: Germany

Top 5

Figure 16. continued

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	1	BASF	25,799,000	266.25	15	932.74	Complete & Verified
2	7	Deutsche Telekom	2,138,039	27.65	1	63.37	Complete & Verified
3	16	SAP	230,000	12.26	3	169.67	Complete & Verified
4	19	Deutsche Boerse	29,799	10.12	0	275.98	Complete & Verified
5	31	BMW	1,309,613	14.43	2	1,079.89	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
32	261	Fresenius	No Public Data	77.42	-	223.19	No Public Data
33	262	Fresenius Medcare	No Public Data	77.42	-	223.19	No Public Data
34	283	Gea Group	No Public Data	130.66	-	1,196.12	No Public Data
35	285	Kabel Deutschland Hdgs	No Public Data	53.33	-	1,290.85	No Public Data
36	299	Brenntag	No Public Data	2,412.22	-	6,472.29	No Public Data

Spotlight on: Switzerland

Top 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	2	Swisscom	23,242	1.86	4	37.58	Complete & Verified
2	12	Roche Holding	862,889	18.57	1	164.34	Complete & Verified
3	17	Novartis	1,459,270	25.90	0	171.68	Complete & Verified
4	23	Richemont	68,900	6.90	1	434.91	Complete & Verified
5	47	ABB	1,635,000	44.82	1	1,110.28	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
20	236	Kuehne & Nagel Intl	Incomplete Data	720.44	-	1,785.90	Incomplete Data
21	263	Actelion	No Public Data	198.15	-	343.92	No Public Data
22	268	Aryzta	No Public Data	222.05	-	650.07	No Public Data
23	270	Swiss Prime Site	No Public Data	418.28	-	684.14	No Public Data
24	289	The Swatch Group	No Public Data	1,870.83	-	2,298.85	No Public Data

GEOGRAPHICAL 24

ANALYSIS

Spotlight on: Sweden

Top 5

Figure 16. continued

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	15	Ericsson	317,200	9.09	4	166.50	Complete & Verified
2	44	Sandvik	538,000	37.20	0	1,102.66	Complete & Verified
3	46	SKF	424,017	41.66	1	1,107.12	Complete & Verified
4	106	TeliaSonera	222,154	13.85	3	49.57	Complete & Unverified
5	107	Tele2	139,559	22.28	0	58.00	Complete & Unverified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
22	233	Hennes & Mauritz	Incomplete	142.70	-	1,380.21	Incomplete Data
23	260	Elekta 'B'	-	77.42	-	223.19	No Public Data
24	275	Investor	-	418.28	-	684.14	No Public Data
25	284	Hexagon 'B'	-	139.38	-	1,204.85	No Public Data
26	300	Lundin Petroleum	-	3,926.62	-	7,086.52	No Public Data

Spotlight on: Italy

Top 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	8	Telecom Italia	1,141,355	28.90	2	64.62	Complete & Verified
2	33	Fiat Industrial	598,000	18.67	1	1,084.14	Complete & Verified
3	62	Terna	136,385	65.01	2	1,370.50	Complete & Verified
4	68	Snam Rete Gas	2,265,000	485.45	0	1,790.94	Complete & Verified
5	75	Enel	123,832,000	1,210.82	2	2,516.30	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
9	164	Generali	70,160	0.75	1	266.61	Incomplete Data
10	176	Intesa Sanpaolo	112,315	2.32	1	268.18	Incomplete Data
11	194	Unicredit	420,679	7.46	2	273.32	Incomplete Data
12	272	Mediobanca	-	418.28	-	684.14	No Public Data
13	290	Luxottica	-	1,870.83	-	2,298.85	No Public Data

GEOGRAPHICAL 25 ANALYSIS

Spotlight on: Spain

Top 5

Figure 16. continued

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	4	Telefonica	1,728,109	20.86	1	56.58	Complete & Verified
2	40	Abertis Infraestructuras	149,967	29.85	0	1,095.31	Complete & Verified
3	55	Inditex	313,332	18.97	1	1,256.49	Complete & Verified
4	66	Red Electrica Corpn	873,120	404.48	1	1,709.96	Complete & Verified
5	71	Gas Natural Sdg	24,128,024	868.34	2	2,173.83	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
9	166	Banco Popular Espanol	7,601	1.02	1	266.88	Incomplete Data
10	184	Banco De Sabadell	20,598	3.58	1	269.44	Incomplete Data
11	186	Banco Santander	414,844	3.73	1	269.59	Incomplete Data
12	193	Bbvargentaria	339,880	7.14	1	273.00	Incomplete Data
13	219	Amadeus It Holding	18,336	5.14	1	1,070.60	Incomplete Data

Spotlight on: Netherlands

Top 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	13	ASML Holding	63,800	8.56	0	165.97	Complete & Verified
2	28	Heineken	1,938,000	85.85	0	513.86	Complete & Verified
3	32	Eads	1,048,901	16.19	0	1,081.65	Complete & Verified
4	39	Philips	858,000	28.82	3	1,094.28	Complete & Verified
5	60	Ahold Kon	2,166,000	54.27	0	1,291.79	Complete & Verified

Bottom 5

Country Rank	ET Rank	Company Name	Absolute Emissions tCO2e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
11	229	Wolters Kluwer	Unclear	53.33	-	1,290.85	Incomplete Data
12	254	Arcelormittal	Incomplete	2,203.99	-	6,264.06	Incomplete Data
13	266	Master Blenders 1753	-	139.63	-	567.65	No Public Data
14	273	Rolinco	-	418.28	-	684.14	No Public Data
15	280	Robeco	-	418.28	-	684.14	No Public Data

SECTORAL 26

ANALYSIS

Sector: Oil & Gas

Figure 17.

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Amec	GB	41,100	7.75	1	3,167.66	Complete & Verified
2	Saipem	IT	1,441,000	90.27	0	3,250.18	Complete & Verified
3	Statoil	NO	13,700,000	118.10	1	3,278.00	Complete & Verified

Sector: Basic Materials

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	BASF	DE	25,799,000	266.25	15	932.74	Complete & Verified
2	Johnson Matthey	GB	417,407	25.72	1	4,085.79	Complete & Verified
3	Umicore	BE	695,733	36.44	0	4,096.52	Complete & Verified

Sector: Industrials

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	BMW	DE	1,309,613	14.43	2	1,079.89	Complete & Verified
2	Eads	NL	1,048,901	16.19	0	1,081.65	Complete & Verified
3	Fiat Industrial	IT	598,000	18.67	1	1,084.14	Complete & Verified

Sector: Consumer Goods

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Loreal	FR	166,250	6.20	4	434.21	Complete & Verified
2	Richemont	CH	68,900	6.90	1	434.91	Complete & Verified
3	LVMH	FR	313,436	10.05	2	438.06	Complete & Verified

Sector: Health Care

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Roche Holding	CH	862,889	18.57	1	164.34	Complete & Verified
2	Astrazeneca	GB	700,000	20.63	2	166.40	Complete & Verified
3	Novartis	CH	1,459,270	25.90	0	171.68	Complete & Verified

Intensity is measured as tCO₂e/\$Million turnover

SECTORAL 27

ANALYSIS

Sector: Consumer Services

Figure 17. continued

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	British Sky B Group	GB	36,609	3.41	4	1,240.93	Complete & Verified
2	PPR	FR	118,010	7.32	3	1,244.84	Complete & Verified
3	Reed Elsevier	GB	144,831	14.84	1	1,252.36	Complete & Verified

Sector: Telecommunications

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Swisscom	CH	23,242	1.86	4	37.58	Complete & Verified
2	Belgacom	BE	57,000	6.80	3	42.52	Complete & Verified
3	Telefonica	ES	1,728,109	20.86	1	56.58	Complete & Verified

Sector: Utilities

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Terna	IT	136,385	65.01	2	1,370.50	Complete & Verified
2	Centrica	GB	7,696,591	207.45	3	1,512.94	Complete & Verified
3	National Grid	GB	8,704,000	382.81	3	1,688.29	Complete & Verified

Sector: Financials

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Deutsche Boerse	DE	29,799	10.12	0	275.98	Complete & Verified
2	British Land	GB	31,346	61.61	3	327.47	Complete & Verified
3	Hammerson	GB	67,684	121.01	1	386.87	Complete & Unverified

Sector: Technology

Sector Rank	Company Name	Cntry	Absolute Emissions tCO ₂ e (Scope 1+2)	Scope 1+2 Intensity	Scope 3 Categories Disclosed	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	Nokia	FI	216,300	4.24	5	161.65	Complete & Verified
2	ASML Holding	NL	63,800	8.56	0	165.97	Complete & Verified
3	Ericsson	SE	317,200	9.09	4	166.50	Complete & Verified

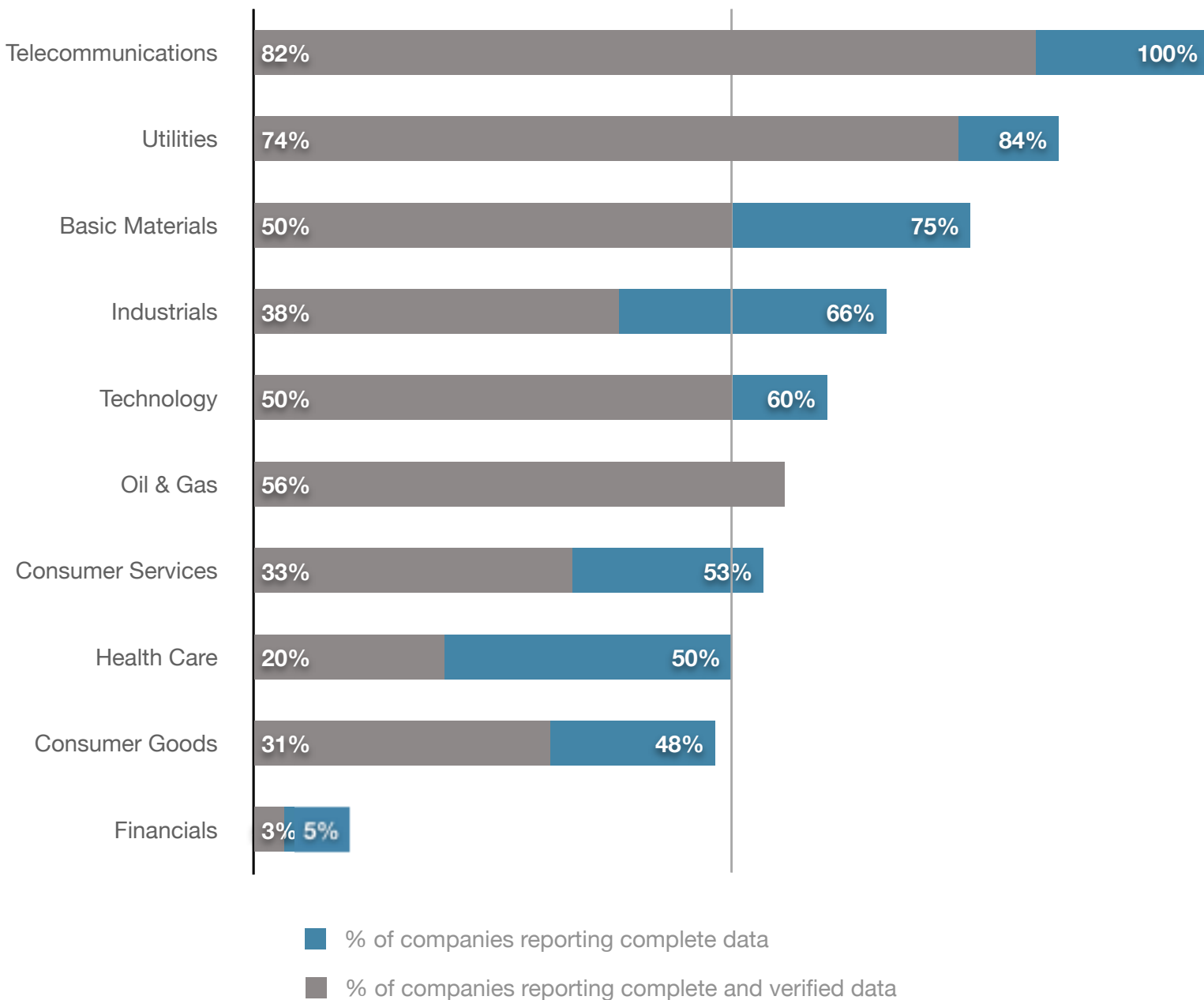
Intensity is measured as tCO₂e/\$Million turnover

SECTORAL 28 ANALYSIS

Summary

Sectors leading the field of disclosure

Figure 18.



The Rankings show that there is vast room for improving GHG emissions reporting and verification throughout Europe and its dominant industry sectors. Telecoms companies within the ranking achieve a 100% disclosure rate, of which 82% is verified. Utilities, with one of the highest carbon intensities, has an excellent rate of

reporting both Complete and Complete and Verified data.

The two sectors with the lowest percentage of companies reporting Complete and Verified data are Consumer Goods and Financials.

DISCUSSION 29

KEY POINTS

WITHOUT COMPLETE AND VERIFIED DATA
WE CANNOT ACCURATELY PAINT A PICTURE
OF THE EMISSIONS LANDSCAPE

CONSIDERING BUSINESS' MOTIVATION TO
PROVIDE SHAREHOLDER RETURN, WE CAN
INCENTIVISE CHANGE THROUGH AFFECTING
A COMPANY'S SHARE PRICE

Non-Sectoral approach

The ET Carbon Ranking methodology is based on a non-sectoral approach as it is intended to create incentives for disclosure and emissions reduction across the board. Under this wider Environmental Tracking system, companies with higher intensities will experience greater downward pressure than those with low intensities, reflecting the science behind climate change mitigation dictating that absolute emissions have to be reduced.

Disclosure & Verification before intensity

It could be argued that the present Ranking does not accurately reflect the emissions landscape as the key determinant of positioning is disclosure and verification before intensity. However, without complete and verified data we cannot accurately paint a picture of the emissions landscape.

High intensity by definition

By definition some companies pollute more than others, moreover, many of these companies provide valuable and vital services to society. Yet without strong incentives to change, they will continue to carry out their activities in a way which is detrimental to the environment. Virtually all the technological advances needed to tackle climate change are already in existence, or are only a few years away with the necessary investment.

The only way we can expect these companies to invest in new technologies and employ new environmentally friendly policies is to provide them with an incentive to do so. The EIO argues that within the framework of the existing system this incentive must accord with a company's *raison d'être*: to maximise share price return. This can only be achieved by creating a system which influences share price according to the environmental costs of a company's actions.

REPORTING 30

LANDSCAPE

Sustainability reporting has grown rapidly over the past two decades as companies supplement their annual reports with issues pertaining to corporate social responsibility.

However, the lack of a universally accepted or mandatory standard concerning corporate responsibility disclosure means both reporting formats and content vary widely.

A large number of Europe's top companies follow the framework set out by the Global Reporting Initiative. This clearly defines the disclosure of environmental, social and governance indicators, including Greenhouse Gas emissions expressed as metric tonnes of CO₂ equivalent (tCO₂e). (See page 27 for more details). However, following GRI guidelines does not specifically require clear Scope 1 and 2 reporting.

The internationally recognised and accepted standard for Greenhouse Gas (GHG) reporting has been established by the Greenhouse Gas Protocol, and defines Greenhouse Gas emissions reporting by Scope 1, 2 and 3 emissions. However, as this report highlights companies do not always apply the standard correctly. Important issues of coverage and key calculation and reporting requirements are often not clearly stated or are hidden within the main document.

In 2000 the Carbon Disclosure Project launched an initiative to encourage corporate GHG disclosure. However, this information is not always included in sustainability reports or placed in the public domain.

► **Scope 1 emissions:**

All direct emissions

► **Scope 2 emissions:**

Indirect emissions generated from the purchase of electricity

► **Scope 3 emissions:**

All other indirect emissions, such as distribution of goods, transportation of purchased goods, transportation of waste, disposal of waste, employee commuting, business travel

AS THE ET EUROPE 300 CARBON RANKING HIGHLIGHTS, THERE ARE MAJOR DISCREPANCIES BETWEEN COMPANIES IN REGARD TO THE QUALITY OF REPORTING

REPORTING 31

LANDSCAPE

THERE ARE CURRENTLY WIDE VARIATIONS IN INTERPRETATION OF METHODS FOR THE MAJORITY OF VOLUNTARY SCHEMES

ERM (2010) NOTES THAT THERE ARE FEW INITIATIVES PROVIDING INCENTIVES SUCH AS LEAGUE TABLES OR FINANCIAL PENALTIES/REWARDS - A GAP THE EIO SEEKS TO ADDRESS DIRECTLY THROUGH ITS ET CARBON RANKINGS AND INDEX SERIES

Variations

As pointed out by the ERM (2010) study on GHG reporting methods and initiatives, “Voluntary methods are open to varying degrees of interpretation by the user whilst mandatory methods tend to be much more prescriptive. An example of this can be seen on the issue of boundary setting. Voluntary methods such as the WBCSD/WRI GHG Protocol, and voluntary reporting schemes such as CDP, allow the user to select the boundary based on a number of options (e.g. operational or financial control; equity share), to ensure maximum flexibility. By way of contrast, mandatory schemes and their associated calculation methods, such as those for the UK Carbon Reduction Commitment and the schemes linked to trading of emissions allowances or permits (e.g. EU ETS; JVETS), define quite precisely the boundary, to ensure consistency in reporting between organisations covered by the scheme.”

Gaps

Interestingly, the report notes that “few methods or initiatives provide incentives such as benchmarks, league tables and financial penalties/rewards”. This is a gap the EIO seeks to address through its Environmental Tracking (ET) Carbon Rankings and Index Series.

The report also draws attention to the “lack of clear statement of a ‘mandatory minimum’ GHG reporting requirements in most of the voluntary methods and initiatives”, suggesting that “most voluntary methods have shied away from being prescriptive on key issues or have put complex arrangements in place to ensure adaptability” in order to encourage maximum uptake (ERM 2010).

Please see the Reporting guidance section (pages 39-40) for suggestions on the EIO’s recommendations for how companies can report their GHG emissions more clearly.

EXEMPLARY 32

REPORT

Direct, Indirect Greenhouse Gas GRI EN16

Total direct and indirect greenhouse gas emissions by weight.

Direct and Indirect Greenhouse Gas (GHG) Emissions (in metric tonnes CO2 equivalent)	2011	2010	2009	2008	Company has targets for year:	C1
CO2 Direct	197,914	276,721	235,656	296,768		
CO2 Indirect Scope 2	2,199,564	2,125,986	2,380,946	2,381,447		
CH4 Direct						
N2O Direct	29,224	17,441	11,235	5,386		C5
HFCs Direct	65,637	42,289	14,566	13,060		C6
PFCs Direct	221,074	232,290	181,907	256,667		C7
CF6 Direct	13,960	9,549	13,291	8,452		
Total Direct (Scope 1)	527,809	578,290	456,655	580,333		
Scope 1 data coverage (e.g. as % of revenues, employees, etc...): Owned and leased operations	100	100	100	100		
Scope 1 estimated total (for 100% data coverage)						
Scope 1 emissions intensity per 100K revenue						
Total direct GHG emissions factored against base figure (please specify base figure here, e.g., revenue, volume or production, floor space area, etc):						
Total Indirect (Scope 2)	2,199,564	2,125,986	2,380,946	2,381,447		
Scope 2 data coverage (e.g. as % of revenues, employees, etc...): Owned and leased operations	100	100	100	100		
Scope 2 estimated total (for 100% data coverage)						
Scope 2 emissions intensity per 100K revenue						
Total Direct and Indirect GHG Emissions	2,727,373	2,704,276	2,837,601	2,961,780		
Subtotal Scope 3 (from GRI EN17 "GHG Scope 3 Emission")						
Total GHG Emissions	2,727,373	2,704,276	2,837,601	2,961,780		

Taken from IBM's website, this template clearly shows Scope 1 & 2 emissions and is easily accessible from the company's online GRI index (see next page), under the EN16 link.

IBM also provides its Scope 3 emissions information which is clearly referenced under EN17.

IBM ranks 50th in the ET North America 300 and 187th in the Global 800.

TEMPLATE



3.6 Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.

3.7 State any specific limitations on the scope or boundary of the report⁸.

If boundary and scope do not address the full range of material economic, environmental, and social impacts of the organization, state the strategy and projected timeline for providing complete coverage.

3.8 Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.

3.9 Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.

Explain any decisions not to apply, or to substantially diverge from, the GRI Indicator Protocols.

ASSURANCE

3.13 Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).

Using a Global Reporting Initiative index helps anyone reading a report to navigate it quickly and easily.

To the left are the key indicators the EIO focuses on to determine:

- ✓ the scope of a company report
- ✓ whether or not any material elements have been excluded
- ✓ whether it has been assured by a third-party
- ✓ whether the company is reporting its Scope 1, 2 and 3 emissions.

ASPECT: EMISSIONS, EFFLUENTS, AND WASTE

CORE **EN16** Total direct and indirect greenhouse gas emissions by weight.

CORE **EN17** Other relevant indirect greenhouse gas emissions by weight.

REPORTING 34

EXAMPLES

Overview of Scope 3 emissions by the BASF Group for 2012 (in accordance with the GHG Protocol)

Nr.	Category	GHG Emissions
		[CO ₂ equivalents in millions of tons]
1	Purchased goods and services	46.7
2	Capital goods	1.4
3	Fuel- and energy-related activities	2.8
4	Upstream transportation and distribution	1.9
5	Waste generated in operations	0.6
6	Business travel	0.3
7	Employee commuting	0.3
8	Upstream leased assets	0.2
9	Downstream transportation and distribution	1.3
10	Processing of Sold Products	Undetermined*
11	Use of sold products	57.4
12	End-of-life treatment of sold products	16.4
13	Downstream leased assets	Not relevant***
14	Franchises	Not relevant***
15	Investments	0,0****

Explanations:

*For a chemicals company at the beginning of the value chain, such as BASF, the effort to determine Scope 3 emissions from the further processing of our products (Category 11 Processing of Sold Products) is not reasonable.

** Expert estimate. The activities of BASF as a lessee account for less than 20% of our activities in the area of Leased Assets Upstream (Category 8).

*** BASF does not engage in franchising activities.

**** Data from 2009.

We have summarized the procedure and assumptions in the calculation of emissions in the named categories in our emission report based on the Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standards template

» [Read more...](#) (pdf, 134 kb)

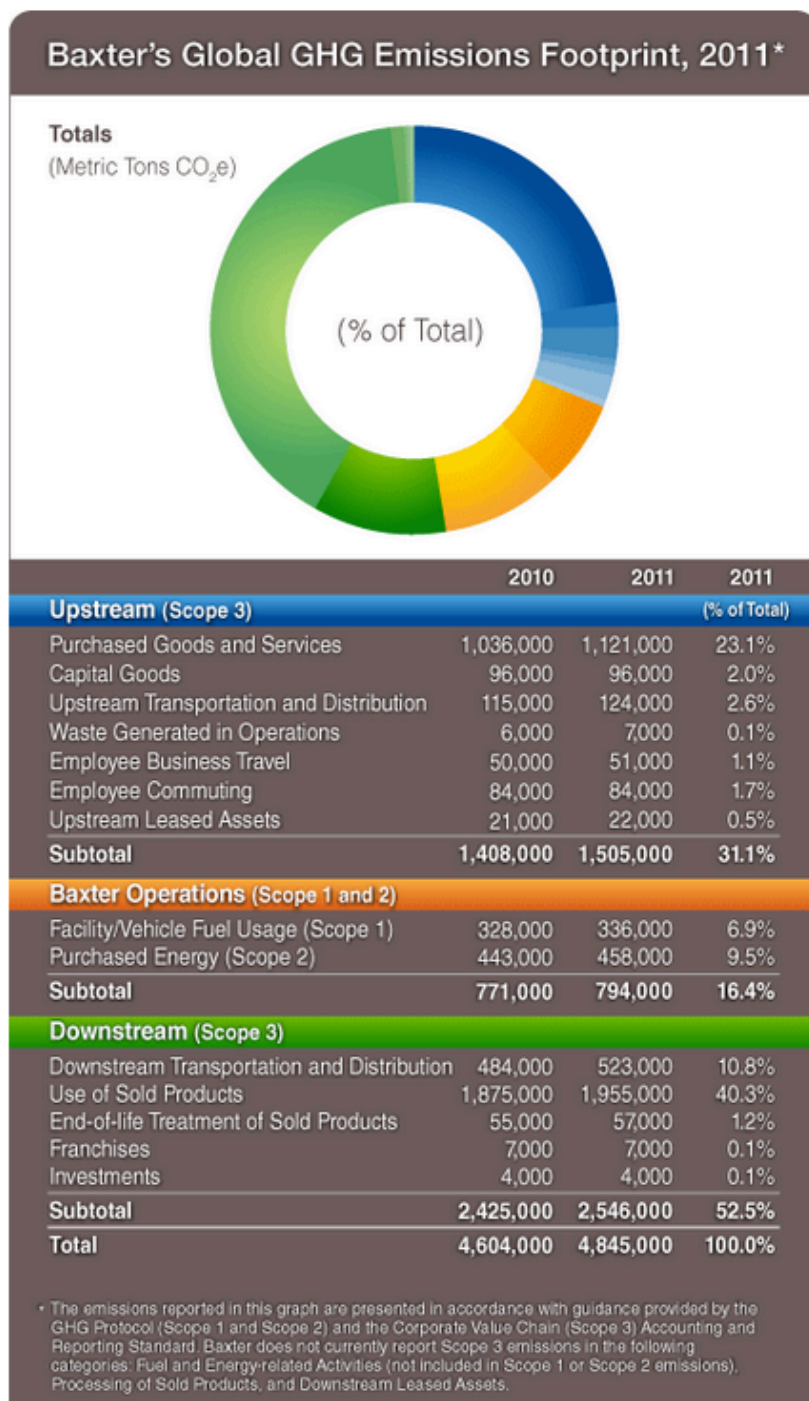
» [Standards Greenhouse Gas Protocol standards](#)

In this example we see the company disclose fully on all 15 GHG Protocol Scope 3 categories. The company clearly identifies each category, reports its emissions and explains any omissions.

BASF is the only company in the ET Carbon Rankings series to report on all 15 Scope 3 categories, and therefore enjoys pole position in both the ET Global 800 and ET Europe 300 for the second time running.

REPORTING 35

EXAMPLES



Here we see a very good example of clear reporting, across all Scopes adhering to the GHG Protocol terminology and presenting information over multiple years for ease of comparison.

Baxter International ranks 35th in the ET Global 800 and 13th in the ET North American 300.

- ▶ **Report Scope 1, 2 & 3 emissions following GHG protocol guidelines**
- ▶ **Ensure emissions data is publicly available in CSR/Sustainability reports/Integrated Annual report and online**
- ▶ **Have emissions data verified by an independent third party to a recognised standard**
- ▶ **Ensure verification certificates are public**

Companies can easily improve their standings within the ET Carbon Rankings by following several simple steps:

1. Publishing emissions data for Scopes 1, 2 and 3 in the public domain, in a clear and accessible manner, either on the company website or in a Sustainability Report, Annual report, Integrated Annual report or ideally, all of those that apply.
2. Ensuring this information has been externally verified to a reasonable standard of assurance, ideally against a specific GHG standard such as ISO 14064-3, but at least in accordance with a general assurance standard, such as ISAE 3000 (the International Standard on Assurance Engagement).
3. Calculate Scope 3 emissions comprehensively according to the new GHG protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The latest information on verification of Scope 3 can be found at the GHG Protocol and ISO websites.
4. Ensure that any verification statement is publicly available and included in the relevant Sustainability Report or Annual Report, as well as ensuring it can be easily found on your company's website.

One of the primary aims of the EIO's series of Rankings is to ensure that reliable GHG emissions data is publicly available and we applaud all companies making a serious effort to reach this standard.

Encouraging clearer reporting

The key areas which are identified by the various bodies of research carried out in the field of GHG emissions reporting, including by the EIO, suggest that there is an urgent need for:

- ▶ Standardised reporting
- ▶ More emphasis on the verification of GHG emissions data reported by companies

The following page outlines the EIO's proposal for the ET Reporting template initiative.

ET REPORTING 37

TEMPLATE



The EIO, is seeking sponsorship for its forthcoming Environmental Tracking (ET) Reporting Template initiative. The ET Reporting Template will provide companies with a cloud-based, simple, straightforward and standardised way of reporting their greenhouse gas emissions in the public domain. The EIO is offering sponsors the opportunity to showcase their brand while supporting a cutting edge and urgently needed piece of infrastructure in the carbon reporting landscape.

Below is an example of the points the template will seek to cover.

ENVIRONMENTAL TRACKING REPORTING TEMPLATE

Reporting Period:

1 January 2011 to 31 December 2012: Yes/No? _____

If other please specify _____

	Metric tonnes of CO2e (tCO2e)	
Scope 1		
Scope 2		
Scope 3		
Scope 3 Upstream		
Purchased goods and services		
Capital Goods		
Fuel - and Energy - related Activities not included in Scope 1+2		
Transportation & Distribution (Upstream)		
Waste Generation in Operations		
Business Travel		
Employee Commuting		
Leased Assets (Upstream)		
Investments		
Scope 3 Downstream		
Transportation & Distribution (Downstream)		
Processing of Sold Products		
Use of Sold Products		
End-of-Life Treatment of Sold products		
Leased Assets (Downstream)		
Franchises		
Total gross emissions		
Green tariff Energy Purchased		-
Total net emissions		

ET REPORTING 38

TEMPLATE



While many companies disclose their greenhouse gas emissions through third party databases such as the Carbon Disclosure Project, there is currently no standardised reporting template available for companies to disclose their emissions on their websites, corporate social responsibility reports and/or annual reports. With many variations and inconsistencies in reporting styles and practices, the vast majority of information disclosed by companies on their greenhouse gas emissions is extremely difficult to interpret and makes cross comparison virtually impossible. In order to address this issue the EIO is proposing its ET Reporting Template initiative.

ENVIRONMENTAL TRACKING REPORTING TEMPLATE (Continued)

Other greenhouse gases

Does your company produce any greenhouse gases which are not covered by the Kyoto basket of 6 gases? Yes/No?

If you have answered yes to the previous question what percentage do they represent of the total and have they been included in the Scope 1, 2 and 3 calculations listed above?

Boundary setting:

What reporting boundary method have you adopted under the terms of the GHG Protocol?

Scope of Reporting: Scope 1 & 2

Do the gross emissions reported for Scope 1 & 2 as defined by the GHG Protocol represent 100% of your company's emissions for these Scopes? Yes/No?

If you have answered no to the previous question, what percentage of your company's operations do they represent?

Scope of Reporting: Scope 3

How many Scope 3 categories does your company disclose data for?

Please attach a full breakdown with the percentage coverage for each

Verifications/Assurance (to be completed by an independent third party)

Name of Verifier: _____

Which standard has been used to assure the data? (E.g. ISO14064, AA1000AS etc)

Which Scopes have been verified? _____

If the company is reporting Scope 3 emissions, has it covered all of the Scopes accurately (for Scope 3 please refer to the GHG Protocol new Corporate Value Chain (Scope 3) Accounting and Reporting Standard), including any GHGs not covered by the GHG Protocol which may be material? Yes/No?

Are there any material issues with the numbers represented for the company under Scope 1, 2 or 3? Yes/No?

Is the data presented by the company representative of the company's entire scope of operations? Yes/No? If no approximately what % does it cover?

Please state any other further comments or qualifications

Please attach the verification full statement.

LANDSCAPE

Introduction

In 2009, the European Commission (EC) launched the Climate and Energy package, which had three aims. These were to reduce greenhouse gas (GHG) emissions by 20% compared to 1990 levels, to generate 20% of energy used in EC countries from renewable sources, and to reduce primary energy use by 20% compared with projected levels. To achieve this, the EU is reforming its Emissions Trading System (EU ETS) and is instead producing new, binding targets for renewable energy in Member States, providing a legal framework to promote the development of carbon capture and storage (CCS), and advancing the implementation of the Effort Sharing Decision, and F-Gas regulation (see below). In 2012, the EC introduced two new regulations which aimed to set clearer common criteria regarding the monitoring, reporting and verification of greenhouse gas emissions[1]. By establishing these basic monitoring methodologies, estimation procedures, and stricter requirements for frequent reporting,[2] the EU has demonstrated its aspiration for higher performance standards in combating climate change. These supplement existing provisions under the Renewables Directive and various efficiency and quality standards across a range of industries. Their implementation is the responsibility of individual EU Member States.

The Effort Sharing Decision

The Effort Sharing Decision aims to bring a 10% reduction in GHG emissions from some of the sectors which are exempt from the EU ETS from 2013 to 2020[3], but excludes forestry, international shipping and activities associated with land use change. However, individual member states and Croatia (due to join the Union in 2013) have been allocated draft annual emissions allowances depending on their relative economic wealth, though the European Council and Parliament are yet to recommend that these become binding. Member States were required to develop and enforce plans to meet these targets, while leaving room for flexibility in case a higher European emissions target was set in future[4]. As a result, it is anticipated that emissions will become more strictly regulated throughout the European Union,

EMISSIONS 40

LANDSCAPE

by providing incentives for better disclosure and emissions reductions across the board.

Measured in tonnes of carbon dioxide-equivalent, the Annual emissions allocations (AEAs) have been calculated on the basis of the difference between Member States' total emissions and their verified ETS emissions, reported by Member States for 2005 and 2008-2010. The Decision will be examined by the Council and Parliament before its adoption.

The F-Gas Regulation

The EU F-Gas Regulation 2006 deals with limiting the emission of three kinds of fluorinated gases: hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6), which are used in air conditioning, fire extinguishing systems and electronic devices[5]. Although they constitute a very small part of total greenhouse gas emissions, their global warming potential is several thousand times larger than that of carbon dioxide. As a recent report by the European Environment Agency shows, under the F-Gas regulation, the number of companies reporting their F-gas emissions for 2011 has grown by 12% relative to the previous year. Production of F-gases in 2011 declined by 5%, imports by 6%, and sales within the Union by 12%. On the other hand, exports have seen an increase. In 2012, the European Commission started exploring options for setting stricter measures against F-gas emissions through new legal provisions.

European Union Emissions Trading System (EU ETS)

One of the EC's most prominent initiatives to reduce greenhouse gas emissions is the EU ETS[6]. By regulating carbon dioxide and some nitrous oxide emissions from around 11,000 power stations and industrial facilities in the 27 EU Member states, Norway, Iceland and Liechtenstein, the scheme regulates a larger volume of emissions from the power than any other scheme in the world[7]. In operating with accordance to the cap and trade principle, the EU ETS sets a progressively lower allowance (cap) on the volume of emissions that each regulated facility (power

EMISSIONS 41

LANDSCAPE

stations, other combustion plants, oil refineries, and iron and steel factories) can emit each year. In reducing these limits, emissions from these facilities should be 21% lower in 2020 than in 2005. If the facilities emit less than their allowance, they can sell the difference on the market or save them to meet future demand, while those exceeding their quota must purchase credits[8].

During the first (2005-2007) and second (2008-2012) phases of the EU ETS, member states had to draw National Allocation Plans (NAPs) to set out the total quantity of allowances they would give to their companies in each of the trading periods and the distribution of allowances among the installations covered by the scheme⁸. In assessing the plans, the EC sought to ensure that the allocations would enable the EU-15 to meet their collective legally-binding emissions reduction target set under the Kyoto Protocol.

The review of the first phase outlined the need to simplify the allocation process and to make it more transparent, in order to give market actors a greater degree of certainty and timely information about the allocation decisions. As a result, the Commission worked to establish guidelines for standardising the key points of information to be included in the NAPs and encouraged states to streamline their administrative rules.

During the second phase, the aviation sector was included in the EU ETS for the first time and a single registry for regulated facilities was established[9]. Each airline was allocated 0.6797 allowances per 1,000 tonne-kilometres in 2012 and 0.6422 allowances per 1,000 tonne-kilometres from 2013 to 2010, the third reporting phase. Hence, the aviation emissions cap will require emissions to fall from 97% of average aviation emissions for 2004-2006, to 95% of this level in 2013-2020.

Another feature of the third phase is that more emissions credits will be auctioned, and as such the quantity of free allowances will be reduced from 85% of the total in 2012 to 82% in phase three[10], though free allowances will be given to

EMISSIONS 42

LANDSCAPE

more than 900 aircraft operators annually, following national allocation by member states.

Although the undertaking will cost the aviation industry approximately €7 billion by 2020, the scheme should encourage innovation in the form of more efficient aircraft design[11]. In addition, the EC has ruled that 3% of all allowances have been reserved for companies whose emissions have risen by more than 18% annually between 2010 and 2014. This means that some companies which grew between 2004 and 2006, the baseline period against which each airline was allocated emissions reductions targets, should not be penalised[12].

The incorporation of aviation into the EU Emissions Trading Scheme has given rise to many criticisms, mostly from countries such as the U.S., China, and India. The EC has been accused of overstepping its jurisdiction by including foreign carriers which fly from and into airports based within European Union member states in the scheme¹⁴. In 2011, a few American airlines brought a case against the EC before the European Court of Justice, arguing that the EU ETS measures contradict international agreements such as the Open Skies Agreement and the Chicago Convention, which respectively guarantee the right for airlines from any origin access to airspace, and prohibit fuel tax. However, the Court ruled in favour of the EC, stating that it does not infringe upon other countries' sovereignty and that the scheme deals only with arrivals at and departures from airports in countries belonging to the EU. The Court also ruled that the EU ETS measures are a market mechanism designed to stimulate increased fuel efficiency, and do not constitute a tax on fuel. Nonetheless, as the International Civil Aviation Organisation has decided on a process and timeline for the adoption of an international agreement on reducing greenhouse gas emissions in the aviation sector[13], the EC decided to postpone the application of the EU ETS to foreign airlines for a year. This decision was made so that more countries could help to find a multilateral solution, potentially at the ICAO's general assembly in November 2013. Despite this gesture of goodwill, the Chinese and U.S. governments have passed legislation which bans their airlines from complying with the EU ETS[14].

EMISSIONS 43

LANDSCAPE

As discussed, an additional important development in preparation for Phase III of the trading system was the introduction of a European supranational emissions registry replacing its national counterparts in January 2012, to govern the free allocation, auctioning and trading of emissions[15]. The office also extended its jurisdiction to stationary installations and personal accounts in June of that year.

Replacing national registries with this supranational registry was done to allow the EU ETS to function more securely and efficiently. In response to the fraudulent transaction of emission allowances in 2010 and 2011, the EC increased its security arrangements and gradually required more documentation for registry account holders[16]. These security measures include the prohibition of transactions between those not included on a trusted account holder list and the ability to freeze transactions where fraud is suspected among other things.

On the horizon. . .

Other changes which are due to take place during phase III of the EU ETS include[17]:

- ▶ The expansion of the scheme to cover the petrochemical, ammonia, and aluminum industries;
- ▶ The addition of a nitrous oxide (N₂O) emissions caps for certain industrial participants and the introduction of a perfluorocarbon cap to industries involved in aluminium production;
- ▶ The introduction of possibility of carrying allowances between trading phases to improve market efficiency;
- ▶ The introduction of annually declining emissions caps;
- ▶ A significant increase in the proportion of allowances auctioned, from 4% in phase II to 100% by 2027, to prevent the over-allocation of free emissions credits;
- ▶ The centralisation of decision-making power regarding emissions caps and rules from member state governments to the EC, to reduce complexity

in the system and remove incentives for national governments to favour its domestic industries;

- ▶The set-aside of some allowances to finance carbon capture and storage demonstration projects and innovative renewable energy technologies; and,

- ▶The postponement of several emissions auctions toward the end of Phase III, to prevent the oversupply of allowances at the start of each emissions trading period. These changes require a minor amendment to the Emissions Trading Scheme Directive[18], which are yet to be approved by the European Parliament and Council.

Looking further ahead...

There are longer term provisions proposed to link the EU ETS tightly with emerging international emissions trading frameworks, from 2013 onwards[19]. These include:

The possibility of increasing greenhouse gas emissions reductions from EU countries to 30% below 1990 levels by 2020 if other major emitters agree to a binding international policy; and

Provision to forge additional links with the carbon credits scheme introduced under the Clean Development Mechanism or any new international emissions trading systems, to facilitate global emissions trading.

In August 2012, it was announced that the EC and Australia will embark on a two-way link between their emissions trading schemes from July 2018[20]. While the scheme is set up, an interim arrangement will commence in July 2015, where Australian businesses meeting their obligations under the Australian Emissions Trading Scheme can purchase European emissions allowances. It is predicted that this move will increase the efficiency and liquidity of the two carbon markets[21].

It has become increasingly clear that the EU ETS is not spatially isolated. Its unilateral control over the aviation sector and its linkage with other emissions trading schemes means that it is likely to indirectly influence environmental policies adopted outside of Europe.

LANDSCAPE

Policies and Initiatives adopted in individual EU Member states

The majority of new policy developments in EU Member States are either a result of the direct implementation of European legislation, or are linked to European Commission policy. Many European Commission policies, like the Renewable Energy and the Energy Performance of Buildings Directives, assist the Member States in formulating ambitious climate change mitigation policies. It is thus clear that intensification of policies at the EU-level can have a large impact on a country's environmental performance. Although 'green growth' is part of many government plans, the financial crisis has led to little real transformation in evidence, as cuts in spending in the environment sector have been made to alleviate short-term budget gaps in several European countries[22].

According to annual climate policy progress reviews, nine EU Member States have made progress in 2011, five have fallen behind, while no significant developments were identified for the remaining thirteen[23]. The current combined effort of EU member states is not sufficient to meet the EC's low-carbon vision, following a standstill in long term strategies. Some countries have also reversed earlier commitments. For example, a tax exemption on some 'green' investments have been scaled back in the Netherlands[24]. In addition, renewable energy subsidies have been cut as their production costs have fallen and their sales increased. The financial support offered to solar photovoltaic cell installation was cut retroactively in Spain[25] and tax exemptions for photovoltaics were recently ended in the Czech Republic[26], reducing incentives for future investments.

However, the positive steps taken by many Member States constitute useful examples of good practice for others. For instance, Denmark and Germany have formulated greenhouse gas emissions reduction targets for the periods up to 2020 and 2050 respectively. Also, Finland, Hungary and Latvia have increased the support offered in the renewables sector[27] and the recent Bulgaria Renewable Energy Act includes carbon capture and storage[28]. The Slovenian government set up programmes to co-finance biomass district heating

EMISSIONS 46

LANDSCAPE

systems[29] and the UK adopted an innovative feed-in tariff for renewable heat[30]. Austria introduced environmental taxes in transport, while Ireland will double its carbon tax by 2014[31]. The Belgium National Climate Plan includes initiatives designed to facilitate the promotion of several sustainable modes of transport[32]. In Greece, an incentive scheme for energy efficiency measures in buildings has been in place since 2010[33], while Italy is extending the tax credit for low-carbon investments in the building sector until 2020[34].

In Belgium, the National Climate Plan due to run from 2009-2013 has a vast remit. For instance, the Green Certificates have supported the production of renewable electricity and combined heat and power by providing renewable electricity providers with priority access to the electricity distribution network. It also allows scope for regional public authorities to choose not to enforce energy and greenhouse gas emissions reductions targets for industries taking voluntary action to do the same over a given period. Moreover, as far as energy use in buildings is concerned, financial incentives such as tax reductions have been introduced to promote energy conservation and the installation of microgenerators. Additionally, measures have been developed in the transport sector to limit fossil fuel consumption, provide tax exemptions for vehicles running on biofuels and tax deductions for fuel-efficient vehicles, and to ensure that any allowances employers pay employees for riding their bicycles to work are not taxable. Finally, The plan also hopes to reduce impacts from the agricultural sector by encouraging biofuel production and implementing measures to limit emissions from manure and fertilisers[35].

Notably, Germany has also implemented a significant range of environmental policies designed to help tackle climate change. The Energy Concept, a long-term energy strategy with a remit until 2050, was released by the German Federal Government in September 2010. Against a 1990 baseline, it aims to facilitate a reduction CO2 emissions by 80-95%, increase the proportion of renewables used to generate electricity to 80%, and reduce electricity consumption by 25%. It also stipulates that nuclear power should be phased out by 2022, that the mechanism to support feed-

LANDSCAPE

in tariff subsidies for renewable energy generation should be strengthened, and that the Energy and Climate fund designed to support energy efficiency and renewable energies should be financed from a nuclear energy tax and profits made from auctioning carbon allowances in the EU ETS[36].

Some member states have also announced environmental policy instruments more recently. For instance, in September 2012, the Italian Government announced a National Emissions Reduction Plan. The plan, which is due to expire in 2020, requires the Italian Government to manage the creation of systems and technologies designed to boost low-carbon technologies, improved forest management, carbon taxes for sectors due to be excluded from the EU ETS, and an extension of a 55% tax credit for low-carbon investments in the building sector[37].

Denmark's Energy Agreement is also a recent example of a promising greenhouse gas emissions reduction plan, which requires that greenhouse gas emissions are reduced by 34% by 2020 against a 1990 baseline. To achieve this objective, the plan stipulates that, by 2020, 35% of energy should be generated from renewables, 50% of electricity should be generated from wind power, and electricity consumption should fall by 7.6% compared to 2010 levels. To help meet these targets, the Government is providing funding for the research, development and deployment of fledgling renewable technologies such, as solar and wave power. It has also forced energy companies to pay for building retrofit programmes and to realise an energy saving of 2.6% in 2013 and 2014, and 2.9% from 2015 to 2020 (compared to 2010 levels). Among other things, the Energy Agreement has also made provisions for the efficient use of renewable energy in businesses, the reduction of fossil fuel heating systems in favour of alternatives powered by renewables, and the expansion of biogas utilisation[38].

Although the European financial crisis has undoubtedly been a major obstacle to policy formulation and implementation, the Member States of the European Union have demonstrated willingness to meet or exceed stringent European supranational legislation.



Moving forward: The ET Index Series

The ET Carbon Rankings represent the first phase of the Environmental Tracking concept, paving the way for the ET Index Series, which will follow soon after.

The ET Index Series has been designed to provide the investment community with a tool to encourage transparency and emission reductions on a global scale. Through the creation of a mainstream financial product, in the form of a series of broad market indexes, the world's largest companies can be incentivised to cut their emissions. This is done by re-weighting companies in the index series, either positively or negatively, on a sliding scale, according to their position in the ET Carbon Ranking.

As pointed out by the recent Mercer report on Climate Change Scenarios and the Implications for Asset Allocation (Mercer 2011), the use of sustainability themed indices in passive portfolios is identified as one way investors can take action to improve their portfolio resilience to climate-related risks.

However, the key question, which the EIO seeks to address through its Index series, is how to create an investable index which can have sufficient appeal to investors, evidently concerned with the bottom line. This is why the ET Index Series has been created to mirror the risk/reward profile of their non weight-adjusted counterparts, whilst still applying pressure to companies across the board to reduce their emissions.

The potential of ET Index Series to tackle GHG emissions rests on the logic that if a significantly large pool of investors track the indexes, it will alter the supply and demand for these companies' shares based on their position in our Ranking. This effectively increases the cost of emitting Greenhouse Gases, incentivising companies to take action.

NATIONAL INDEXES:

ET UK 100

REGIONAL INDEXES:

ET EUROPE 300

ET NORTH AMERICA 300

ET ASIA-PACIFIC 300

ET BRICS 300

GLOBAL INDEXES:

ET GLOBAL 800

THROUGH APPLYING PRESSURE TO A
COMPANY'S SHARE PRICE, THE ET
INDEX SERIES AIMS TO RAISE THE
COST OF CARBON FOR COMPANIES

GLOSSARY 49

OF TERMS

BAU: Business As Usual

CCC: Committee on Climate Change

CCX: Chicago Climate Exchange

CDM: Clean Development Mechanism

CED: Clean Energy Dialogue

CRC: Carbon Reduction Commitment

C(S)R: Corporate (Social) Responsibility

CO₂e: Greenhouse Gas emissions expressed as Carbon Dioxide (CO₂) Equivalents, meaning calculated to express their global warming potential in terms of CO₂.

DECC: Department of Energy and Climate Change

EIO: Environmental Investment Organisation

EPA: Environmental Protection Agency (US)

ET: Environmental Tracking

EU ETS: EU Emissions Trading Scheme

GDP: Gross Domestic Product

GHG: Greenhouse Gas

GRI: Global Reporting Initiative

GWP: Global Warming Potential

IMF: International Monetary Fund

ISAE: International Standard on Assurance Engagements

ISO: International Organization for Standardization

JVETS: Japanese Voluntary Emissions Trading Scheme

kWh: kilowatt hours

Mt: Mega tonnes

OECD: Organisation for Economic Co-operation and Development

RGGI: Regional Greenhouse Gas Initiative

Jl: Joint Implementation

tCO₂e: Metric Tonnes Carbon Dioxide Equivalent

ROC: Renewable Obligation Certificates

Scope 1 (or S1): All direct GHG emissions.

Scope 2 (or S2): Indirect GHG emissions from consumption of purchased electricity, heat or steam.

Scope 3 (or S3): Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity related activities (e.g. T&D losses) not covered in Scope 2, outsourced activities, waste disposal, etc.

UNFCCC: United Nations Framework Convention on Climate Change

WBCSD/WRI: World Business Council for Sustainable Development / World Resources Institute

WCI: Western Climate Initiative

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