



REPORT:
ET GLOBAL 800
2011 CARBON RANKINGS

Environmental Investment Organisation

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



EI



WHO WE ARE

ENVIRONMENTAL INVESTMENT ORGANISATION

An independent non-profit research organisation
promoting ecological investment systems

WHAT WE DO

ENVIRONMENTAL TRACKING

ET Carbon Rankings

creating public pressure through the “spotlight effect”

ET Index Series

creating share price incentive through supply & demand pressure

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**



info@eio.org.uk | www.eio.org.uk

The Environmental Investment Organisation (EIO) is an independent non-profit body that seeks to improve the environmental 'output' of the financial system. In recent years this mandate has been focused almost entirely on the need to tackle the climate crisis.



ET Global 800 Carbon Rankings 2011 Report

Autumn 2011

T: +44 208 801 0570

E: info@eio.org.uk

www.eio.org.uk



Foreword

Dear Reader,

Welcome to the ET Global 800 Report, one in a series of Carbon Ranking Reports covering the world's largest 1,300 companies and being released on the 1.11.11.

I think we can all agree that our rapidly changing and interconnected world is full of complex ecological, economic, social and health problems amongst many others. 'Progress' is clearly a very uneven and unequal process, but such has been the fate of humanity since the beginning of documented history.

The EIO does not claim to have a solution to any of the aforementioned problems. Instead, its sole focus is to prevent a problem that we have hardly seen the beginning of, but which, if allowed to spiral out of control, is almost guaranteed to make every other problem worse.

No less an authority than the US Department of Defense has described the likely consequences of severe climate change as a "threat multiplier". In plain language, whatever problems we already have, and no-one could overstate them, a climate calamity could prove one complex problem too many.

Some may confidently predict our ability to adapt, but that theory has never been applied in practice to a planet made up of nearly 200 independent nation states and 7 billion people, and rising.

Perhaps the greatest risk we face in dealing with this situation is the delusion that our current global political system is guaranteed to solve this problem. It is not.

So, is it possible to turn this impending disaster on its head and galvanise the entire global business and financial system in a new direction? Many individuals are already 'doing their bit' on multiple fronts all around the world. Progressive corporations and organisations are already making great efforts to address not only carbon emissions but broader environmental and human priorities.

But against this giant problem of climate change, surely we need an extra push. Something so in tune with the existing system that it can get right inside, like the famous "Trojan Horse" of ancient history, and put a stop to the madness of human induced climate change before it is too late. For surely the issue here is the time line. If the conclusions of our scientists are to be shown any respect, then there is no more time to emit and massive action is required now.

But what kind of action? Skillful action, if we are to carry people with us. For example, we do not need to decimate beautiful countryside with giant wind turbines when there are hundreds of square miles of empty ocean just waiting to be exploited by offshore wind farms benefiting from economies of scale which can hardly be imagined.

We need to think big and act fast, but not in haste. Every action has trade-offs and we certainly do not want to solve one problem by creating new ones.



Problem solving is as much an Art as a Science and so is the case with the subject matter of this report. In an ideal world every company would be reporting accurate and comprehensive Scope 1, 2 and 3 carbon emissions data. With such information available the ET Carbon Ranking would be able to very effectively reward emission reduction and penalise polluters. However, despite the very serious risks we are taking with our climate system, this information does not exist.

The EIO does not pretend that its system is perfect, or that a perfect system is even possible. It is a pragmatic and practical system working with the latest available data. It is our best effort to order this information in a logical manner. If the ranking and the indexes they are designed for can create incentives for higher universal standards of reporting followed by radical emission reduction strategies, it will have served its purpose. Whatever controversies are encountered in the process will be more than justified by such a result.

On the 4th October 2011 the Greenhouse Gas Protocol's new Scope 3 Corporate Accounting Standard was released. The EIO has always stated that Scope 3 is an essential component of the GHG Reporting process and that once the standard was released our Rankings would be adjusted to incentivise full Scope 3 disclosure.

We have fulfilled this pledge and wasted no time in doing so. The intensity metric now used to compile the Ranking includes a weighting for Scope 3 based on the worst case benchmark company for its broad sector. Additionally, we have rewarded companies over and above their emission intensity according to the number of Scope 3 categories reported.

As stated in my foreword to our first Reports on the ET Europe 300 and ET UK 100 Carbon Rankings, the chasm between public policy, public understanding, corporate behaviour and scientific reality is extraordinary and profound. The need for a practical mechanism to work quickly, circumventing the aforementioned log jam, is immense.

It may be true that “not everything that can be counted, counts, or that everything that counts, can be counted” but we can at least put the numbers we do have to good use.

Michael Gill,

Strategic Director & Founder, The Environmental Investment Organisation

October 2011

CONTENTS 3

FOREWORD	TO REPORT 2
EXECUTIVE	SUMMARY 4
CARBON RANKING	METHODOLOGY 7
SPOTLIGHT ON	SCOPE 3 10
SPOTLIGHT ON	INFERENCE 12
RANKING	ANALYSIS 14
GEOGRAPHICAL	ANALYSIS 19
EMISSIONS	LANDSCAPE 22
SECTORAL	ANALYSIS 29
VERIFICATION	ANALYSIS 32
KEY	DISCUSSION POINTS 33
REPORTING	LANDSCAPE 35
EXEMPLARY REPORT	& GRI TEMPLATE 36
REPORTING	EXAMPLES 40
REPORTING	GUIDANCE 41
ET INDEX	SERIES 43
GLOSSARY	& BIBLIOGRAPHY 44

EXECUTIVE 4

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 tackle emissions within a rapid time-frame.

With the introduction of the long awaited **New Scope 3 Standard** from the Greenhouse Gas (GHG) Protocol on the 4th October, the EIO has taken a proactive approach to incentivising companies to adopt this important new standard in GHG Reporting. The finalised standard has been the result of a three year global multi-stakeholders process that included more than 2,300 participants and road-tested by 60 companies in 17 countries.

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 in distinguishing between those companies reporting Scope 3 and those that are not.

This latest set of Carbon Rankings build on the methodology established previously for the ET UK 100 and ET Europe 300, launched in April 2011, where companies were placed into one of four Disclosure and Verification categories based on their Scope 1 & 2 emissions, and then ranked by carbon intensity (tonnes of CO₂ equivalent per million US dollars of turnover: tCO₂e/\$M turnover).

Where data is incomplete or not reported, companies are benchmarked against their sectoral competitors using the highest reported emissions intensity for that sector. Companies in each category are then ranked according to their emissions intensity across the three Scopes. Additionally, within their respective Disclosure Categories, companies are advantaged according to the number of Scope 3 categories disclosed, over and above their intensity.

Please see the methodology section for a fuller explanation.

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 5

SUMMARY

Key Findings

- ▶ **BASF, (Complete & Verified), comes top, disclosing all 15 Scope 3 Categories, according to the new GHG Protocol Scope 3 Reporting Standard, with a combined Scope 1, 2 & 3 emissions intensity of 1,077.70 tCO₂e/\$M turnover.**
- ▶ **US based First Energy comes last, with no public data and an inferred combined Scope 1, 2 & 3 emissions intensity of 10,287.39 tCO₂e/\$M turnover.**
- ▶ **Exxon Mobil, (Complete & Verified), has the highest publicly disclosed Scope 1 & 2 figure of 282,000,000 tCO₂e, with a combined Scope 1, 2 & 3 intensity of 2,948.74 tCO₂e/\$M turnover.**
- ▶ **ArcelorMittal, (Complete & Verified), has the second highest publicly disclosed Scope 1 & 2 figure of 199,000,000 tCO₂e, with a combined Scope 1, 2 & 3 intensity of 6,788.47 tCO₂e/\$M turnover.**
- ▶ **55% of companies in the ET Global 800 report incomplete data or no data at all, indicating the scale of the GHG reporting challenge.**
- ▶ **The Netherlands is the only country with 100% disclosure within the ET Global 800, followed by Italy, with 88%, and Germany, with 84%.**
- ▶ **In total, only 21% of the ET Global 800 report public, complete and independently verified data, as defined by the ET Global Carbon Ranking Methodology.**

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.

EXECUTIVE 6

SUMMARY

Key Findings

- ▶ **Europe leads the world on all disclosure metrics: 53.6% of companies report complete and independently verified data. This compares to 8.8% for North America, the lowest of any region.**
- ▶ **Europe is also the region with the lowest GHG intensity with an average of 1861.3 tCO₂e/\$M turnover per company across all three Scopes**
- ▶ This compares with a figure for the BRICS countries which is almost double, at average of 3122.97 tCO₂e/\$M turnover per company. However, this comparison must be viewed in the context of significant outsourcing by multinational companies to emerging economies.
- ▶ **208, or 26%, of companies within the ET Global 800, report one or more Scope 3 categories. However, only 17, or 2%, report 5 or more Scope 3 categories.**
- ▶ Of this group, only one company, BASF, reports all 15 Scope 3 categories, according to the new GHG Protocol Scope 3 Reporting Standard.

With 257 companies not reporting any data at all, and 188 reporting incomplete data, there is clearly significant room for improvement in the Global emissions reporting landscape.

The ET Carbon Rankings make up the first phase of the Environmental Tracking concept. The EIO would like to use the Rankings to create a series of tradeable ET 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, through the launch of its two pilot indexes, the ET Europe 300 and the ET UK 100 earlier this year, based on its previously published rankings. These indexes can be described as a market mechanism designed to lower corporate emissions by influencing a company's share price.

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 easily available to the public**





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**:

-  **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

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 and verified Scope 3 emission 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 and verified 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 and verified 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

Once companies have been categorised according to the completeness and verification of their Scope 1 & 2 data, they are firstly ranked according to the number of Scope 3 categories disclosed.

Secondly, companies are ranked within the Disclosure Categories, according to their combined emissions intensity across the three Scopes. Please refer to the inference method as described in the previous section for detail on how companies not providing complete data are treated.

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

METHODOLOGY

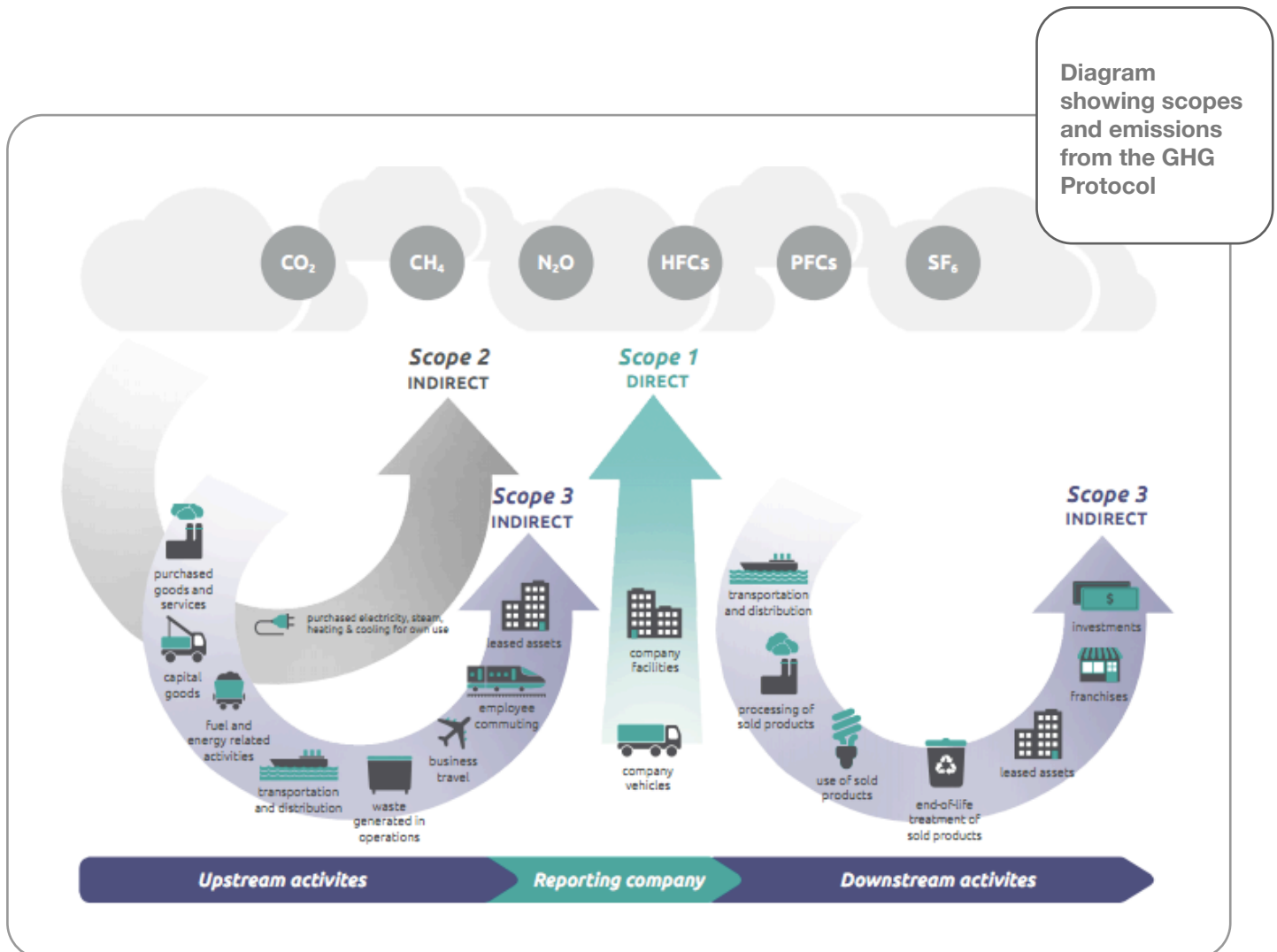
Accounting for size

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

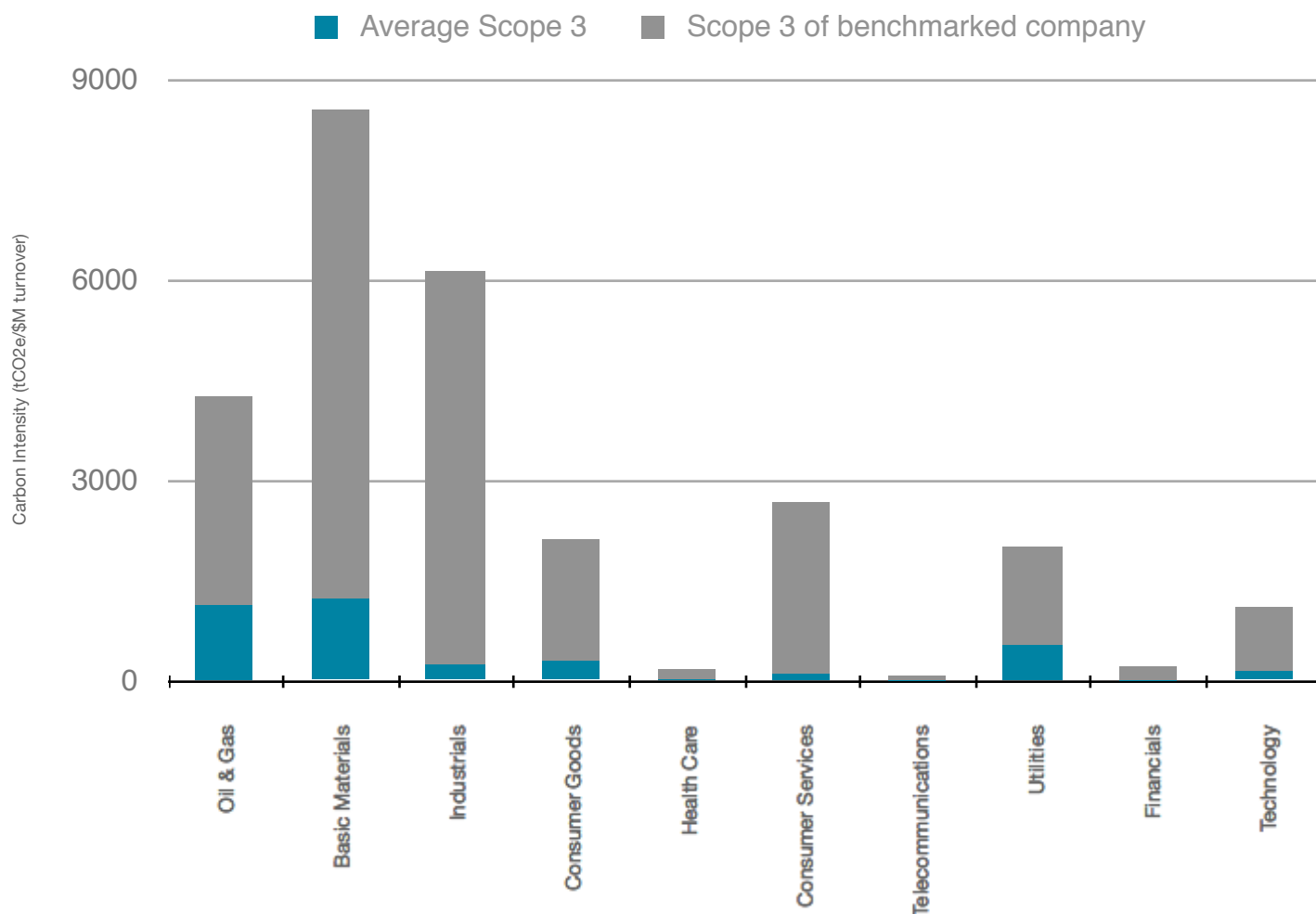


SPOTLIGHT ON 10

SCOPE 3

Global Scope 3 Analysis

Figure 1.



Global Scope 3 Benchmark companies

Figure 2.

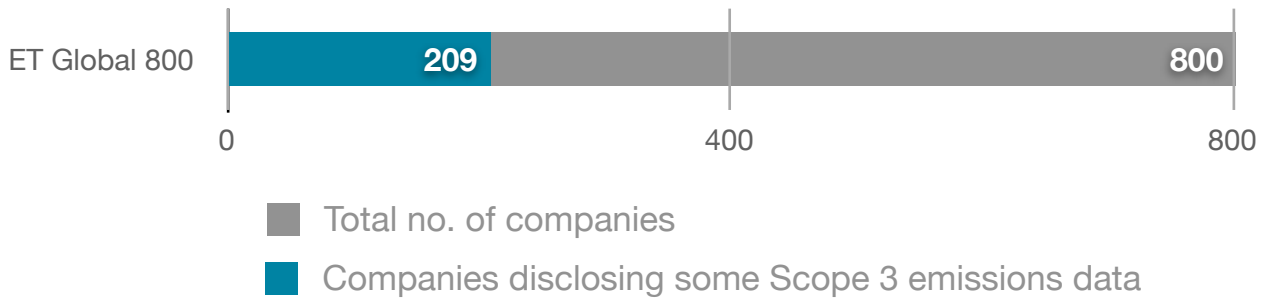
Sector	Benchmark Company Name	No. of Scope 3 Categories Disclosed	Scope 3 Intensity	Sector Scope 3 Intensity Average
Oil & Gas	OMV	1	4,246.31	1,133.87
Basic Materials	Rio Tinto	3	8,547.13	1,222.48
Industrials	Delta Electronics	1	6,130.53	238.84
Consumer Goods	Reckitt Benckiser Group	4	2,115.76	289.92
Health Care	Baxter Int.	6	166.90	19.50
Consumer Services	IC Hotels Group	4	2,665.29	101.85
Telecommunications	Sprint Nextel	2	64.51	6.02
Utilities	RWE	3	1,998.50	536.19
Financials	British Land	4	206.53	7.76
Technology	Motorola Mobility	4	1,103.38	141.30

SPOTLIGHT ON 11

SCOPE 3

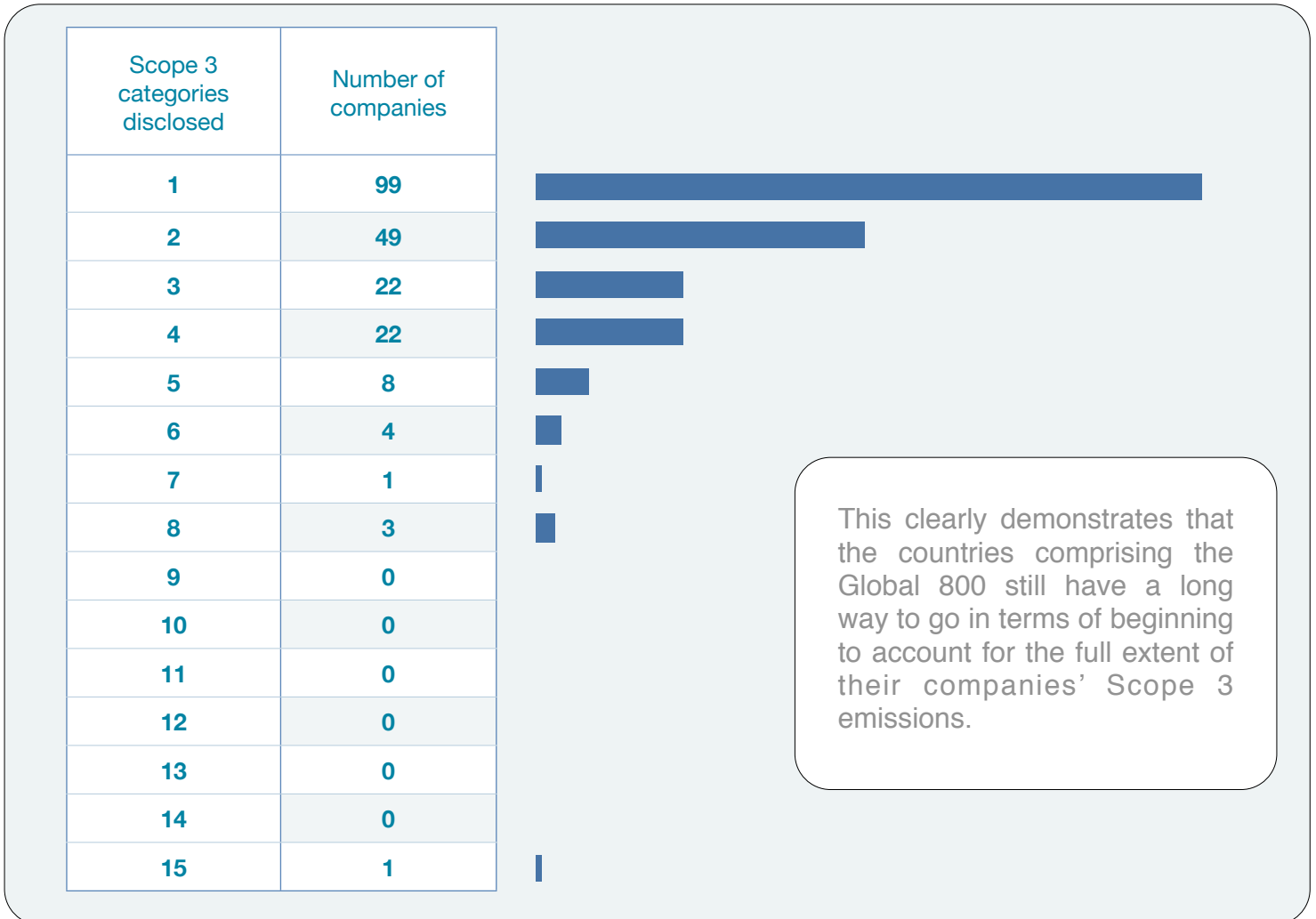
Global 800 Scope 3 Analysis

Figure 3.



Global 800 Extent of Scope 3 Disclosure

Figure 4.



SPOTLIGHT ON 12

INFERENCE: SCOPE 3

Figure 5.

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	787	Buenaventur	-	No Public Data	-	8,547.13
No Public Data	788	Silver Wheaton	-	No Public Data	-	8,547.13
No Public Data	789	China Shenhua	-	No Public Data	-	8,547.13

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	OMV	4,246.31
Basic Materials	Rio Tinto	8,547.13
Industrials	Delta Electronics	6,130.53
Consumer Goods	Reckitt Benckiser Group	2,115.76
Health Care	Baxter Int.	166.90
Consumer Services	IC Hotels Group	2,665.29
Telecommunications	Sprint Nextel	64.51
Utilities	RWE	1,998.50
Financials	British Land	206.53
Technology	Motorola Mobility	1,103.38

INFERENCE: SCOPE 1 & 2

Figure 6.

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	126	Potash Corporation	10,315,000.00	1,518.86	-
Complete & Unverified	127	Xcel Energy	80,500,000.00	7,815.68	-
Complete & Unverified	128	American Electric Power	134,000,000.00	9,288.14	-

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 International	No Public Data	9,288.14	-
No Public Data	800	First Energy	No Public Data	9,288.14	-

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 9,288.14 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.

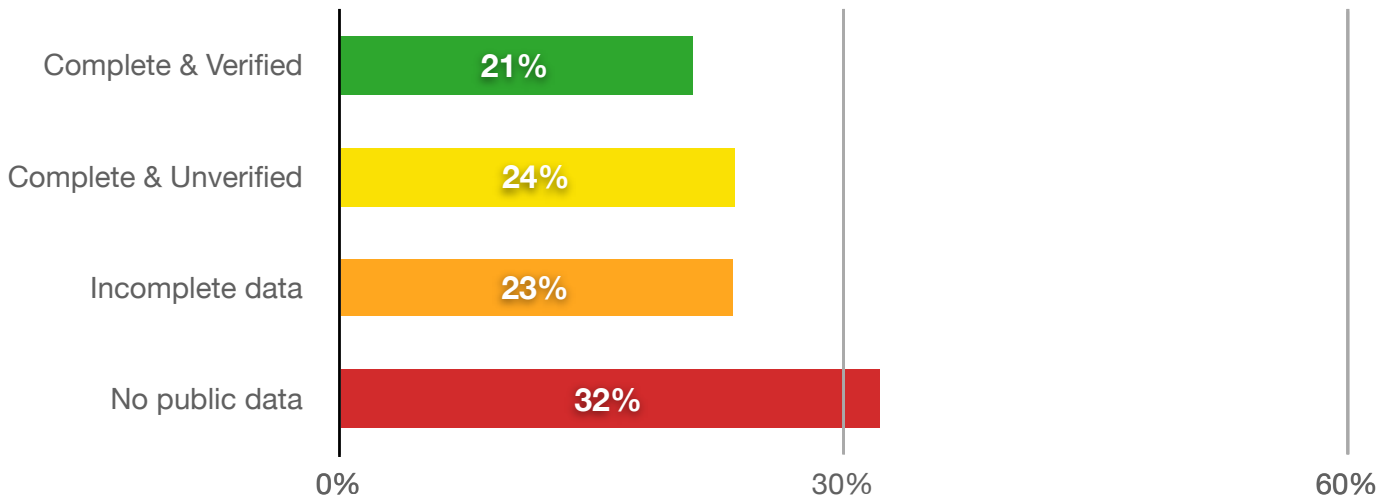
As both companies have the same *inferred* intensity figure, the company with the largest market capitalisation is placed lower down the Ranking.

RANKING 14

ANALYSIS

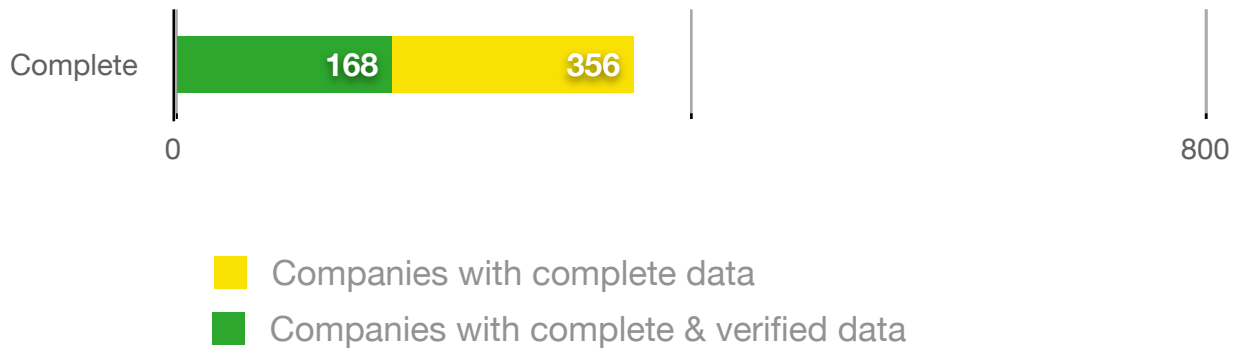
The disclosure and verification landscape of the ET Global 800

Figure 7.



Complete data versus verified data

Figure 8.



RANKING 15

ANALYSIS

ET Global 800 Top 10

Figure 9.

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	25,000,000	292.38	15	1,077.70	Complete & Verified
2	Anglo American	2,000,000	70.54	8	4,344.11	Complete & Verified
3	Gold Fields	6,400,000	1,157.06	8	5,430.63	Complete & Verified
4	Alcatel-Lucent	719,955	33.62	7	585.31	Complete & Verified
5	Santander BR	19,563	0.56	6	103.83	Complete & Verified
6	Baxter Intl	851,000	66.25	6	149.70	Complete & Verified
7	Vale	19,990,000	398.72	6	4,672.28	Complete & Verified
8	Westpac Banking	200,165	5.29	5	108.55	Complete & Verified
9	Commerzbank	207,238	5.59	5	108.86	Complete & Verified
10	National Ausbank	208,563	5.65	5	108.92	Complete & Verified

Topping the 2011 ET Global 800 Carbon Ranking is the German based chemical company BASF, which is the only company in the Global 800, and indeed the entire ET Global Universe, to report on all 15 Scope 3 categories. BASF is the only company not to have been given an inferred Scope 3 intensity within its sector, meaning that the numbers displayed reflect its actual reported Scope 3 intensity. This combined intensity figure, which gives Scope 3 emissions a 50% weighting, stands at 1077.70.

Second place is occupied by the British mining and natural resource group Anglo American with a combined carbon intensity of 4344.11. South African based basic materials company Gold Fields ranks third with an intensity of 5,430.63.

Both companies report on eight Scope 3 categories, which is the joint second best disclosure level of Scope 3 emissions across the entire Global 800.

The fourth and fifth ranked companies are reporting on seven and six Scope 3 categories respectively: Alcatel-Lucent with an intensity of 585.31 and Brazilian based bank Santander BR with an intensity of 103.83. Baxter Intl. and Vale, ranked sixth and seventh report six Scope 3 categories and are thus placed before Westpac Banking, Commerzbank and National Ausbank which have a lower GHG intensity but only disclose five Scope 3 categories.

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

RANKING 16

ANALYSIS

ET Global 800 Bottom 10

Figure 10.

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
791	Jardine Matheson HDGS	no public data	4,292.54	-	7,357.81	No public data
792	Jardine Strategic HDGS	no public data	4,292.54	-	7,357.81	No public data
793	Honeywell Int	no public data	4,292.54	-	7,357.81	No public data
794	Hutchison Whampoa	no public data	4,292.54	-	7,357.81	No public data
795	Fortune Brands	no public data	4,735.84	-	7,801.11	No public data
796	Fluor	no public data	4,735.84	-	7,801.11	No public data
797	Inter RAO UES	no public data	9,288.14	-	10,287.39	No public data
798	Entergy	no public data	9,288.14	-	10,287.39	No public data
799	Edison Intl.	no public data	9,288.14	-	10,287.39	No public data
800	First Energy	no public data	9,288.14	-	10,287.39	No public data

The last four places in the ET Global 800 are occupied by Utilities companies, three from the United States and one from Russia. Positions 790-796 are all occupied by companies from the broad Industrial Sector; the lower ranking companies coming from the slightly more carbon intensive subsector of Construction and Materials, as opposed to the General Industrial sector.

First Energy, the US Electricity conglomerate, comes bottom overall as the largest of the four companies in the Utilities sector not to publicly disclose emissions data. US based Edison International and Entergy are joined by Russian based Inter ROA but are saved from the bottom

spot by having slightly smaller market values to First Energy.

The remainder of the bottom 10 is more geographically diverse, with companies coming from Singapore, China and the United States. Again, where companies have the same combined intensity score across the three Scopes, advantage is given to the smaller company in terms of market value.

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

RANKING 17

ANALYSIS

Highest and Lowest Absolute Emitters:

Scope 1 & 2

Taken from the 235 Companies reporting complete data

Lowest Absolute Emitters (Scope 1 & 2 Only)

Figure 11.

Absolute Rank	ET Rank	Company Name	Scope 1+2 emissions (tCO2e)	Scope 1+2 Intensity	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
1	(279)	BMF Bovespa	843	0.98	104.24	Complete & Unverified
2	(23)	Redecard	1,134	0.72	103.98	Complete & Verified
3	(200)	Nat. Bank of Canada	8,052	1.62	104.88	Complete & Unverified
4	(250)	Green Mnt. Coffee R.	11,326	14.10	1,071.98	Complete & Unverified
5	(24)	DnB NOR	11,892	0.74	104.00	Complete & Verified
6	(223)	Legal & General	14,576	0.62	103.89	Complete & Unverified
7	(5)	Santander BR	19,563	0.56	103.83	Complete & Verified
8	(201)	SEB	21,287	1.67	104.93	Complete & Unverified
9	(108)	Swisscom	25,422	1.98	34.24	Complete & Verified
10	(111)	Deutsche Boerse	29,239	10.09	113.35	Complete & Verified

Figure 11 lists the ten lowest absolute emitters from those disclosing complete Scope 1 & 2 information. Verification status is included on the right but does not affect the ranking.

Despite their low absolute emissions, BMF Bovespa, National Bank of Canada and Green Mnt. Coffee, which occupy 1st, 3rd and 4th places don't appear in the top 25 of the ET Carbon Ranking due to the fact that they have failed to have their emissions data independently verified.

Except for Santander Brazil, none of the companies featured in the above table disclose more than three Scope 3 categories, with both Swisscom and BMF Bovespa failing to disclose any at all.

RANKING 18

ANALYSIS

Highest and Lowest Absolute Emitters:

Scope 1 & 2

Taken from the 235 Companies reporting complete data

Highest Absolute Emitters (Scope 1 & 2 Only)

Figure 12.

Absolute Rank	ET Rank	Company Name	Scope 1+2 emissions (tCO2e)	Scope 1+2 Intensity	Scope 1+2 + 50% Inferred S3 Intensity	Disclosure & Verification status
347	(59)	Lafarge	95,000,000	4,388.95	7,454.21	Complete & Verified
348	(167)	Holcim	96,600,000	4,735.84	7,801.10	Complete & Verified
349	(322)	Tokyo Electric Power	107,527,000	1,778.32	2,777.57	Complete & Unverified
350	(127)	GDF Suez	109,324,454	966.70	1,965.95	Complete & Verified
351	(50)	Enel	116,645,000	1,211.15	2,210.40	Complete & Verified
352	(313)	EON	116,700,000	938.75	1,938.00	Complete & Unverified
353	(356)	American Electric Power	134,000,000	9,288.14	10,287.39	Complete & Unverified
354	(32)	RWE	170,200,000	2,506.59	3,505.84	Complete & Verified
355	(164)	ArcelorMittal	199,000,000	2,514.91	6,788.47	Complete & Verified
356	(135)	Exxon Mobil	282,000,000	825.58	2,948.74	Complete & Verified

Figure 12 lists the ten largest absolute emitters from those disclosing complete Scope 1 & 2 information, ignoring verification status.

Six of the bottom 10 are from the carbon intensive Utilities sector, however, the largest absolute emitter in the ET Global 800 across Scope 1 & 2 emissions is the Oil & Gas giant, Exxon Mobil, which discloses a total Scope 1 & 2 figure which is almost a third larger than the second highest company, ArcelorMittal.

Perhaps unsurprisingly, two of the world's largest cement companies, French based Lafarge and Swiss based Holcim, feature in the bottom 10.

Lafarge emits 1,600,000 tCO2 less per year than its competitor and is marginally more carbon efficient.

Interestingly, within the Utilities sector whilst all have comparative absolute emissions, some appear to be far more efficient than others. American Electric Power has a Scope 1 & 2 emissions intensity of 9,288 tCO2e/\$M turnover, compared to EON and GDF Suez, which have intensities approximately 10 times lower at 938.75 and 966.70 tCO2e/\$M turnover, respectively.

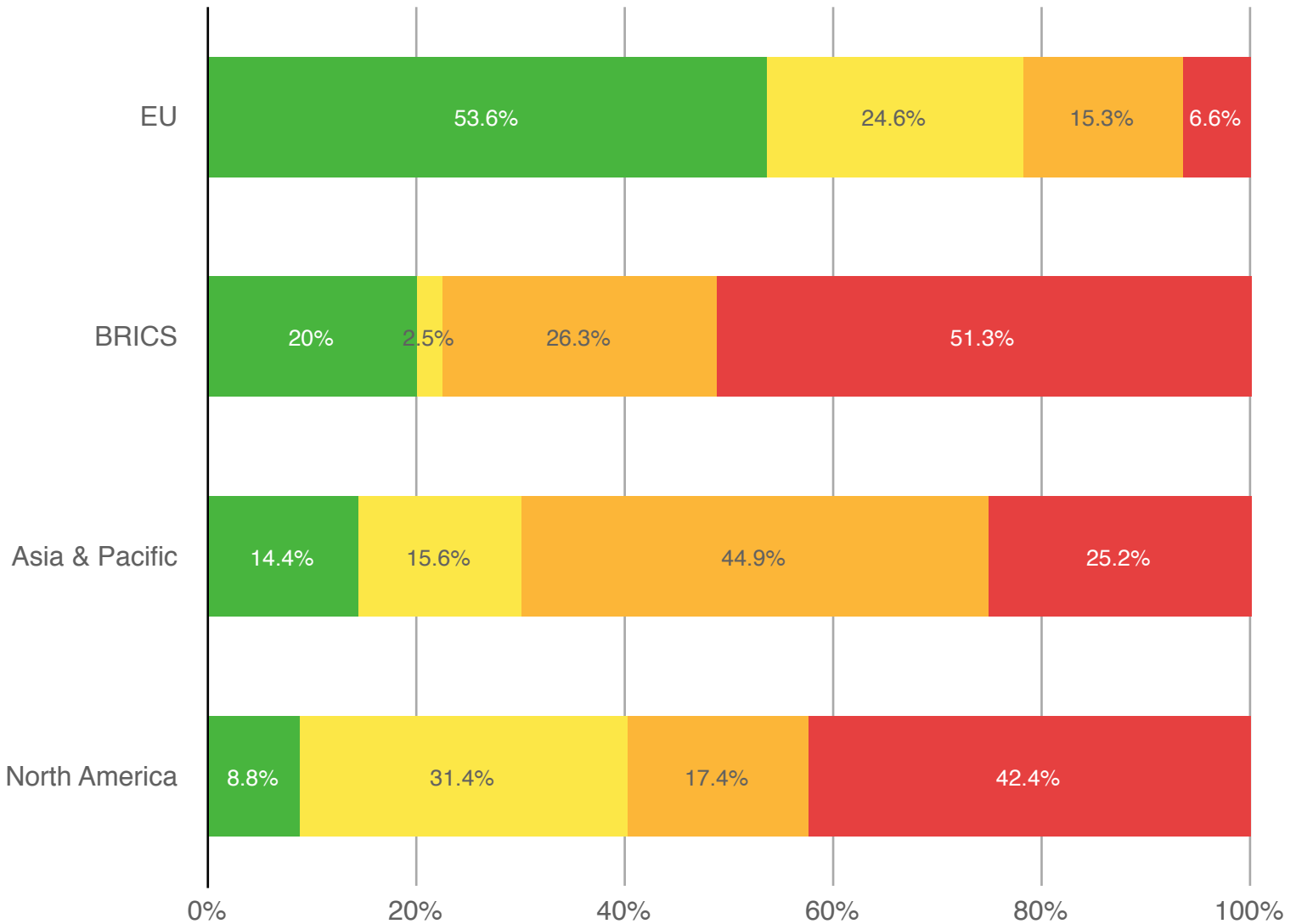
ANALYSIS

Summary

Regions leading the field of disclosure

- Public, Complete, Verified
- Public, Complete, Unverified
- Public, Incomplete
- No Public Data

Figure 13.



There are multiple ways of presenting the above information: ranking regions according to lowest levels of companies failing to report any data; combining the total number of companies reporting complete data (verified or unverified); and, by the total number of companies reporting public, complete and verified data.

Since the purpose of the ET Carbon Rankings is to incentivise all companies across all regions to report complete and verified data, the regions have been ranked by the total number of companies reporting public, complete and verified data..

Whilst it is perhaps of no great surprise that Europe is the leading world in terms of complete and verified disclosure of GHG data, it is perhaps more surprising that the BRICS rank above the Asia-Pacific and North America in terms of the number of companies reporting complete and verified data.

Clearly the BRICS still have a long way to go as slightly more than half of companies still fail to publicly report emissions data. However, this is only marginally worse than North America where just over 40% of companies fail to report public emissions data.

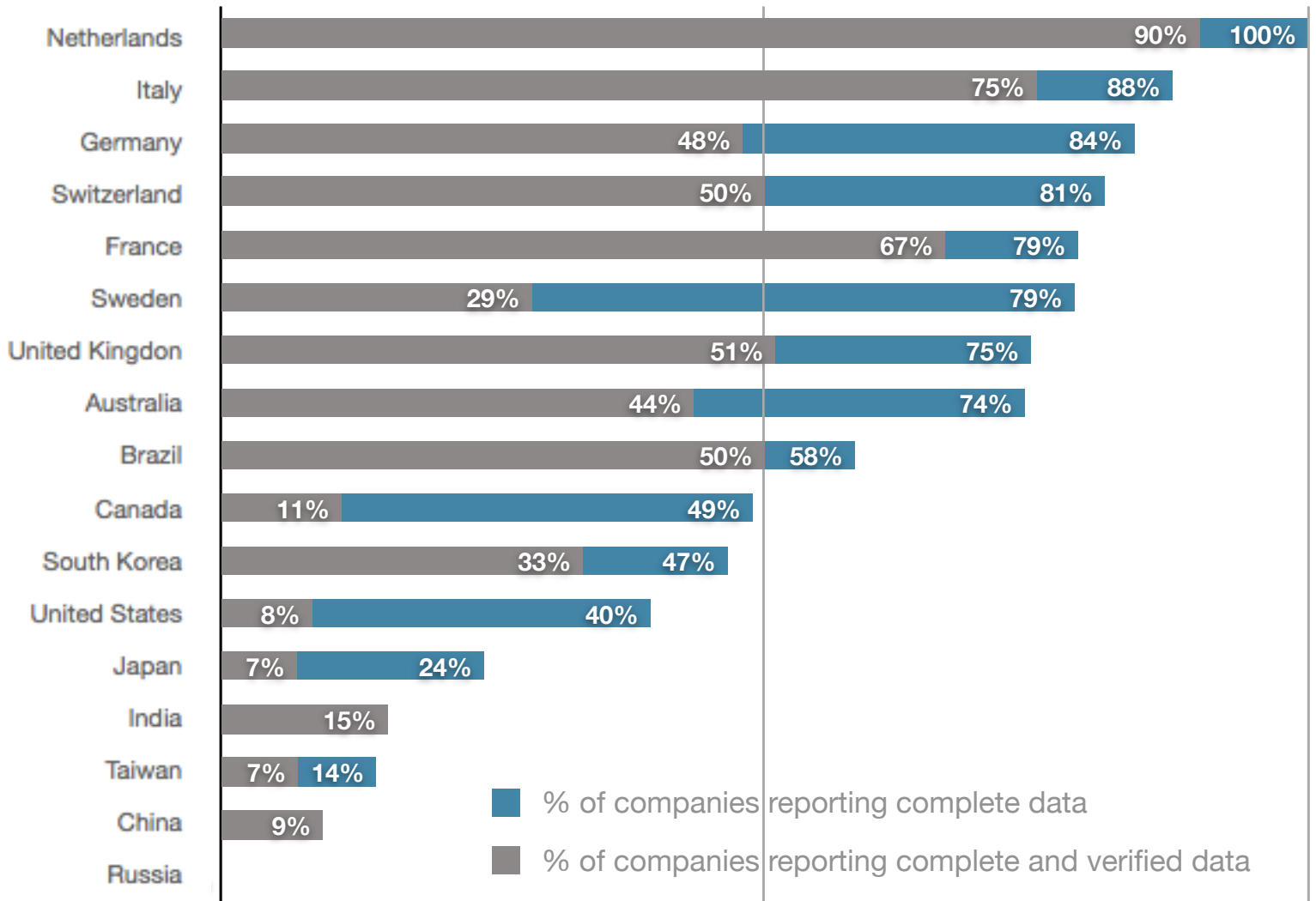
ANALYSIS

Summary

Please note that only countries with 10 or more companies in the ET Global 800 Ranking have been included in this analysis

Countries leading the field of disclosure

Figure 14.



The Netherlands is only country in which 100% of companies report complete GHG emissions data. It is also has the highest level of verification of any country in the world, with a total of 90% of companies having their data externally verified.

While intensity figures may to a certain extent be explained by different economic sectors, performance in terms of disclosure objectively measures how transparent companies in a particular geography are about their emissions. The results confirm the regional disclosure analysis on the previous page. European countries are clearly leading the way, with 7 of the

top 10 countries located in Europe. The worst placed European country, the UK, is well ahead of all the remaining countries, with the exception of Australia, in terms of public disclosure of complete GHG emissions data.

It is also interesting to note that all of the Chinese companies that disclose complete data also have their emission data verified. China has already overtaken the US in that regard.

Of a total of 16 Russian companies in the sample, none disclose complete or verified data.

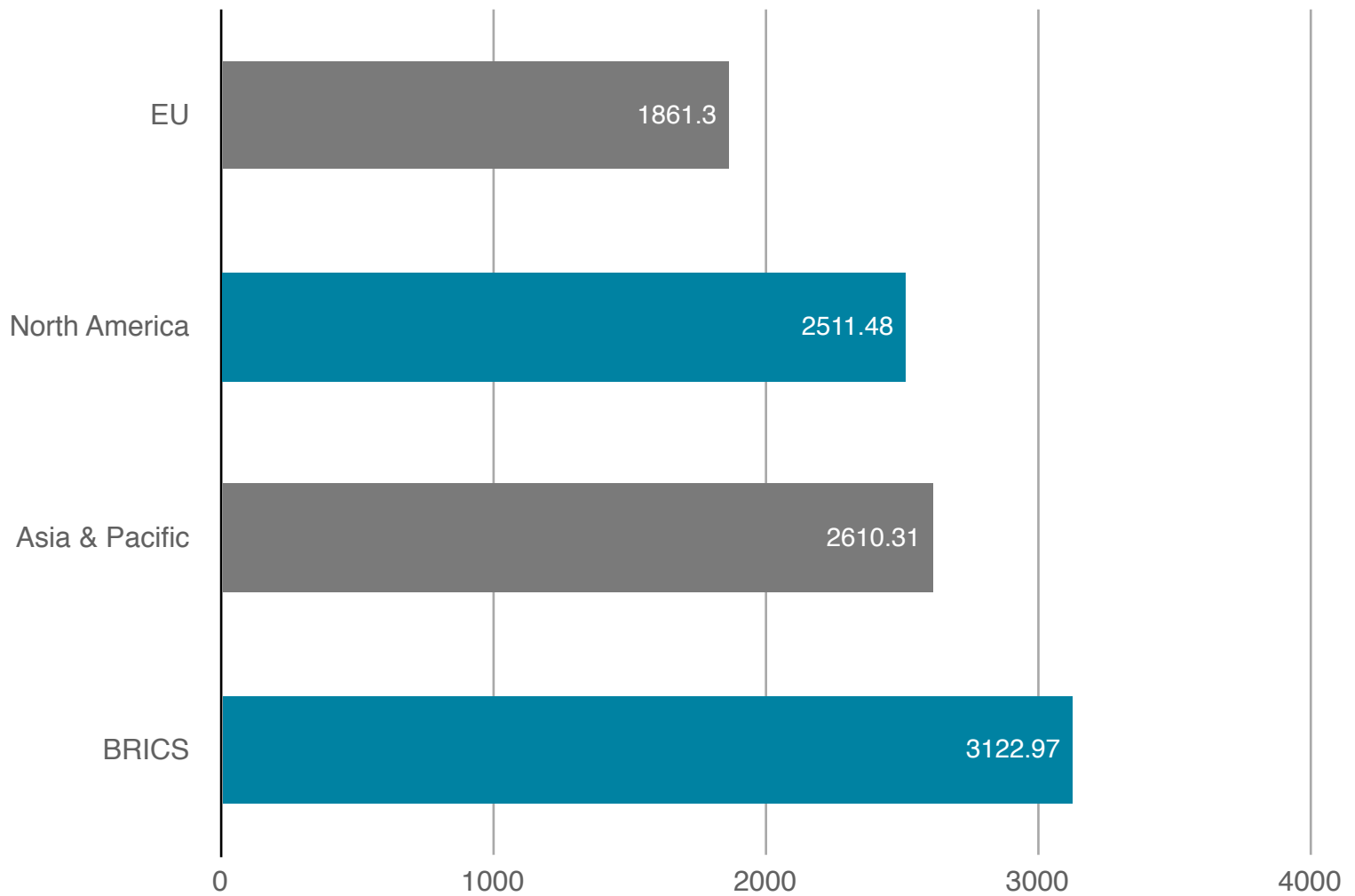
GEOGRAPHICAL 21

ANALYSIS

Summary

Average GHG intensity (in tCO₂e/\$M turnover) per region

Figure 15.



Europe is the most carbon efficient region, followed by North America and Asia-Pacific in terms of GHG emission per tCO₂e/\$M turnover. While real efficiency and investment in carbon saving technologies explain that difference to some extent, one has to consider that Europe and North America have outsourced many of their carbon intensive manufacturing and resource mining operations to the BRICS and other developing and emerging economies. Therefore available data does not reflect the true emission intensity of developed economies because many

indirect (Scope 3) emissions are not yet properly taken into account. This is a clear example of why the ET Carbon Ranking methodology has already begun to place the onus on companies to increase levels of reporting for Scope 3 data.

For a more in depth regional and country breakdown, please refer to the individual ET Regional Carbon Ranking reports, which are available on the EIO website.

LANDSCAPE

Global Emissions Landscape

As early as the 19th century, scientists discussed the 'greenhouse effect' of gases in our atmosphere affecting the Earth's temperature. Over a hundred years ago, in 1896, Svante Arrhenius, a Swedish chemist, came up with a global warming hypothesis. He developed a theory that global temperatures would rise by trapping carbon dioxide emissions from burning fossil fuels in the atmosphere. Around 60 years later, Charles David Keeling, an American scientist, was one of the first to alert the world to the human impact on the greenhouse effect and global warming. He measured the carbon dioxide (CO₂) in the atmosphere and noted it was rising fast.

It took another 40 years to reach a global agreement that something needed to be done about rising CO₂. In 1997 an international agreement linked to the United Nations Framework Convention on Climate change was made: the Kyoto Protocol.

The Kyoto Protocol set binding targets for 37 industrialized countries and the European Community for reducing greenhouse gas (GHG) emissions. These targets average a 5% reduction against 1990 levels in the period 2008 - 2012, and should primarily be met through national measures. Under the Protocol, signatory nations agreed to monitor and report on their actual emissions. In addition to this, the Protocol offered three market-based mechanisms to meet emission targets: emissions trading, the clean development mechanism (CDM) and joint implementation (JI).

The Kyoto Protocol is considered to be a good first step in stabilising and reducing GHG emissions on a global scale. There are, however, several serious hurdles to ensuring a true global approach to the problem of climate change.

First of all there needs to be agreement between countries on the action needed, and once a specific route is chosen, all countries would need to agree to participate. Looking at the Kyoto Protocol, the largest emitter at the moment of signing the protocol - the United States of America - did not enter into the agreement. As climate

IN 1997 AN INTERNATIONAL AGREEMENT LINKED TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE WAS FORMED: THE KYOTO PROTOCOL

THE KYOTO PROTOCOL SET BINDING TARGETS FOR 37 INDUSTRIALIZED COUNTRIES AND THE EUROPEAN COMMUNITY FOR REDUCING GREENHOUSE GAS (GHG) EMISSIONS. THESE TARGETS AVERAGE TO A 5% REDUCTION AGAINST 1990 LEVELS IN THE PERIOD 2008 - 2012

LANDSCAPE

ALTHOUGH THE NUMBER OF COMPANIES REPORTING ON THEIR CORPORATE RESPONSIBILITY IS INCREASING, ONLY 45% OF THE COMPANIES ANALYSED IN THE ET GLOBAL 800 REPORT PUBLIC AND COMPLETE EMISSIONS DATA

change is a global problem, it should be addressed globally, not by individual nations. Therefore agreement and acceptance between nations is essential.

Secondly, in order to reduce emissions we have to monitor and compare emissions data first. To enable this, broad emissions reporting would need to be implemented. This can be done through the current system, but most countries have not yet implemented any legislation regarding corporate responsibility reporting, instead leaving it voluntary action. Despite the lack of regulations, the number of companies reporting on GHG emissions is increasing and so is the the quality of the data.

Although the number of companies reporting on their GHG emissions is increasing across the globe, only 45% of the companies sampled report public and complete emissions data. 23% of the companies report incomplete data. The remaining 32% do not report any data at all. Looking at the individual regions, Europe is clearly leading in term of complete reporting with 78% of the European companies included in the Global 800 providing complete and public GHG emissions data.

Europe is not only leading in terms of reporting, but also regarding the measures taken to address climate change. The European Commission takes a leading role in this by implementing the EU Emissions Trading Scheme (EU-ETS). By including the aviation industry in this scheme as of 2012, airlines worldwide have to comply with the EU-ETS. As a result of strong opposition from various countries around the world, developing the scheme into a truly worldwide emissions scheme is one of the options currently under investigation.

With the EU-ETS being reformed in 2009, the European Union has now set its targets for emissions reduction to 20% below 1990 levels by 2020. Furthermore, phase III of the scheme, starting in 2013, will bring an expansion of the scheme, lower emission caps and introduce new benchmarking methods to help reach these goals.

In other regions, emissions trading schemes are being developed as well. Japan has already implemented a voluntary scheme, and several states in the US have teamed up to form similar

LANDSCAPE

regional schemes. In the Regional Greenhouse Gas Initiative (RGGI), ten eastern states participate. On the west-side of the US, the Western Climate Initiative (WCI) has been founded, in which not only six US states participate, but also four Canadian provinces. Furthermore, several Mexican states are following the developments closely, and might join the scheme in the near future.

Australia has recently adopted legislation regarding the implementation of a carbon tax in 2012, which will evolve into a cap and trade emissions trading scheme in 2015. New Zealand already established a cap and trade system in 2008 and China has recently announced it will pilot such a scheme.

Technological developments worldwide have a great impact on the emissions landscape as well. With a growing focus on hybrid and electric vehicles in the transportation sector, a worldwide trend towards cleaner electricity production and increasing pressure from consumers to produce cleaner products and services, individual companies are taking action to improve their carbon footprint.

When looking at the potential for improvement, the biggest emitters generally have the biggest potential for decreasing their carbon footprint, especially when they are relatively wealthy. However, perceived cost is often used as an excuse not to make significant investments in the prevention of climate change. Yet technological improvements mean that the cost implications of low carbon models are reducing month by month, meaning the cost saving potential is ever-increasing. On the other hand, the smallest emitters are generally emerging markets. Their economic growth often results in strong growth of GHG emissions.

The main elements of the various regions are highlighted below. For more information, please refer to the individual ranking reports for each of the specific ET Carbon Ranking regions. These can be accessed at www.eio.org.uk.

EMISSIONS TRADING SCHEMES HAVE ALREADY BEGUN TO EMERGE OUTSIDE EUROPE

WITH A WORLDWIDE TREND TOWARDS CLEANER ELECTRICITY PRODUCTION AND INCREASING PRESSURE FROM CONSUMERS TO PRODUCE CLEANER PRODUCTS AND SERVICES, INDIVIDUAL COMPANIES ARE TAKING ACTION TO IMPROVE THEIR CARBON FOOTPRINT

TECHNOLOGICAL IMPROVEMENTS MEAN THAT THE COST IMPLICATIONS OF LOW CARBON MODELS ARE REDUCING MONTH BY MONTH

LANDSCAPE

JAPAN, BEING THE HOME-NATION TO THE KYOTO PROTOCOL, PLAYS A KEY ROLE IN THE GLOBAL EFFORT TO REDUCING GHG EMISSIONS

DESPITE SIGNING THE KYOTO PROTOCOL IN 1998, AUSTRALIA HAS STRUGGLED TO DEMONSTRATE A HARMONISED COMMITMENT TOWARD CARBON EMISSIONS ABATEMENT

IN 2009 NEW ZEALAND EXCEEDED ITS KYOTO PROTOCOL TARGETS BY 19.4% BETWEEN 1990 AND 2009

Focus on: Asia Pacific

Japan, being the home-nation to the Kyoto Protocol, plays a key role in the global effort to reduce GHG emissions. It has committed to a 6% reduction in GHG emissions below 1990 levels from 2008 to 2012, thereby obliging itself to reduce emissions by an average of 1.186 billion tonnes CO₂e a year over a five year period beginning in 2008. Based on the most recent data published by the UNFCCC, 2009 GHG emissions in Japan were 1,209 Mt CO₂e, thus giving Japan an average emissions reduction of 4.5% below 1990 levels between 1990 and 2009 (UNFCCC 2011b), which is still 1.5% behind target.

Despite signing the Kyoto Protocol in 1998, Australia has struggled to demonstrate a harmonised commitment toward carbon emissions abatement. The commitment for Australia is an increase of 8% above 1990 levels, however, emissions in Australia from 1990 to 2009 increased by 30.5% (UNFCCC 2011a), thereby overshooting the commitment binding target by 22.5%. In 2009, the Australian government responded by announcing that it was downgrading efforts to combat climate change in the light of the global recession with emissions projected to be 20% above the 1990 base level by 2020.

Under the Kyoto Protocol, New Zealand agreed to reduce its greenhouse gas emissions back to 1990 levels by 2012 or pay for any excess. In 2009 GHG emissions in New Zealand were 70.5 MtCO₂e showing that New Zealand overshoot its Kyoto Protocol targets by 19.4% between 1990 and 2009. This increase in emissions is mostly as a result of increased electricity production and rapid growth in the use of road transport.

Focus on: BRICS

The BRICS (Brazil, Russia, India, China, and South Africa) are a group of emerging economies which have shown rapid economic development in recent years, and have adopted regulatory policies aimed at liberalising their economies. Already, the BRICS represent over 25% of the world GDP, up from

LANDSCAPE

18% in 1990. In 2008, these five countries represented 31% of global energy use and 35% of CO₂ emissions from fuel combustion, with these shares being likely to rise in coming years (IEA, 2010).

With Russia being the only BRICS Annex 1 country in the Kyoto Protocol, Brazil, South Africa, India and China have formed a geo-political alliance known as BASIC (Building and Strengthening Institutional Capacities on Climate Change). These countries have taken a united position on emission reductions, supporting the establishment of quantified emission reduction commitments for the continuation of the Clean Development Mechanism (CDM) with no gap between the first and second commitment periods. Domestically the BASICs are all exploring market-based mechanisms. For example, India is currently setting up a Perform-Achieve-Trade (PAT) scheme promoting energy efficiency, and Brazil is considering the development of regional carbon markets.

The BASIC governments also agree that without support from the developed world, it will not be possible for developing countries to implement policies and take appropriate measures to mitigate climate change. In 2010, the Cancun summit established the Green Climate Fund (GCF) for this purpose. The final details of the administration of the GCF, as well the need for the internationally standardised measurement, reporting and verification of greenhouse gas emissions, are on the agenda for COP17 in Durban in November 2011.

Focus on: Europe

The EU's most prominent initiative to reduce Greenhouse Gas emissions is the European Union Emissions Trading Scheme. This EU-wide cap and trade scheme covers the most carbon intensive industries in the 27 EU Member States, as well as Iceland, Liechtenstein, and Norway. It covers carbon dioxide (CO₂) emissions, plus nitrous oxide (N₂O) emissions from certain processes. The c. 11,000 installations covered by the scheme account for 40% the EU's Greenhouse Gas emissions. By gradually reducing the number of allowances, the EU aims to lower emissions

THE BRICS (BRAZIL, RUSSIA, INDIA, CHINA, AND SOUTH AFRICA) ARE A GROUP OF EMERGING ECONOMIES WHICH HAVE SHOWN RAPID ECONOMIC DEVELOPMENT IN RECENT YEARS

THE BASIC GOVERNMENTS AGREE THAT WITHOUT SUPPORT FROM THE DEVELOPED WORLD, IT WILL NOT BE POSSIBLE FOR DEVELOPING COUNTRIES TO IMPLEMENT POLICIES AND TAKE APPROPRIATE MEASURES TO MITIGATE CLIMATE CHANGE

LANDSCAPE

THE EU'S MOST PROMINENT INITIATIVE TO REDUCE GREENHOUSE GAS EMISSIONS IS THE EUROPEAN UNION EMISSIONS TRADING SCHEME

IN 2009, THE EU LAUNCHED THE CLIMATE AND ENERGY PACKAGE. THIS AIMS TO REDUCE GHG EMISSIONS BY 2020 BY 20% COMPARED TO 1990 LEVELS

WHILST AMONGST THE LARGEST ECONOMIES IN THE WORLD, THE UNITED STATES, CANADA AND MEXICO, EACH OF THEM LAGS BEHIND IN IMPLEMENTATION OF SUSTAINABILITY REGULATION IN COMPARISON TO THE REST OF THE DEVELOPED WORLD

covered by the scheme in 2020 by 21% compared to 2005.

In 2009, the EU launched the Climate and Energy Package. This aims to reduce GHG emissions by 2020 by 20% compared to 1990 levels, to deliver 20% energy consumption 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 (ETS), 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 bringing in the new Effort Sharing Decision (ESD) to supplement existing legislation. The aim of the ESD is reduce GHG emissions from non-ETS sectors across the EU by 10% in 2020, compared to 2005 levels. The decision whether to implement the ESD is left to individual EU Member States (European Commission 2010).

Together with a 10% 2020 emissions reduction target over 2005 levels in sectors not covered by the EU ETS, the ESD is aimed at reducing overall EU emissions by 14% compared to 2005, or 20% compared to 1990 levels, in line with Kyoto Protocol targets. The EU as a whole is on track to meet its targets, with a GHG emissions reduction of 8% on 1990 levels by 2008-2012. Austria and Italy are the only two Member States likely to face difficulties meeting their individual targets (European Commission progress report 2010).

Focus on: North America

Over the course of the last two decades, sustainability in North America has evolved from a concept to an integrated business practice. The United States, Canada and Mexico are ranked among the largest countries in terms of GDP by the IMF and World Bank, yet each region lags behind in implementation of sustainability regulation in comparison to the rest of the developed world, ranking them in the top fifteen highest global GHG emitters.

With estimated GHG emissions of 6,663.2 million tonnes CO₂e in 2009, the US saw emissions increase by 7.3% from 1990 to 2009. In more

LANDSCAPE

recent years however, the US has actually decreased its GHG emissions by 6.1% from 2008 to 2009. This decrease in emissions, however, is not necessarily due to intentional GHG regulations introduced by the US-government, rather due to the impact of the economic circumstances resulting in lower productions and energy consumption.

Canada accounts for just 2% of global GHG emissions, yet its per capita emissions are among the highest in the world. Industry accounts for approximately 50% of Canada's total emissions, with just 350 facilities responsible for 33% of that total. In April 2007, Canada committed itself to reducing its total GHG emissions through the unveiling of the 'Turning the Corner plan', aiming to reduce GHG emissions to 20% below 2005 levels by 2020. In 2010 this was reduced to 17% below 2006 levels by 2020.

In the year 1990, CO₂e emissions in Mexico were at 300.45 Mt. In recent decades, drastic population growth and shifts in the industrial sectors of Mexico have seen a rise in CO₂ emissions. Surprisingly, in 2007, Mexico's total CO₂ emissions from fossil fuel combustion amounted to 449.98 Mt. Although this represents a 50% rise on 1990 levels, it is relatively low for a rapidly developing and growing nation. Of the total 2007 CO₂ emissions for Mexico, energy contributes the most towards emissions, representing 43% of the total, with transport in close second at 35%. Manufacturing and 'other sources' contribute a further 14% and 8%, respectively.

Conclusion

In the light of the above and the findings of all of the EIO's research, there is a great need for those in authority to explore new avenues, if we are to avert the worst consequences of the Greenhouse problem.

CANADA ACCOUNTS FOR JUST 2% OF GLOBAL GHG EMISSIONS, YET ITS PER CAPITA EMISSIONS ARE AMONG THE HIGHEST IN THE WORLD

SURPRISINGLY IN 2007, MEXICO'S TOTAL CO₂ EMISSIONS FROM FOSSIL FUEL COMBUSTION AMOUNTED TO 449.98 MT, ONLY A 50% RISE ON 1990 LEVELS, WHICH IS RELATIVELY LOW FOR A RAPIDLY DEVELOPING AND GROWING NATION

SECTORAL 29

ANALYSIS

Figure 17.

Sector: Oil & Gas

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	Hess	US	9,000,000	265.78	3	2,388.94	Complete & Verified
2	ENI	IT	62,570,000	472.77	2	2,595.92	Complete & Verified
3	Royal Dutch Shell	NL	85,000,000	228.38	1	2,351.54	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	25,000,000	292.38	15	1,077.70	Complete & Verified
2	Anglo American	GB	2,000,000	70.54	8	4,344.11	Complete & Verified
3	Gold Fields	ZA	6,400,000	1,157.06	8	5,430.63	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	United Parcel Service	US	12,630,000	255.41	5	3,320.68	Complete & Verified
2	Vallourec	FR	1,375,568	229.84	4	3,295.10	Complete & Verified
3	Toshiba	JP	3,002,000	43.93	2	3,109.19	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	Reckitt Benckiser Group	GB	250,000	19.96	4	1,077.84	Complete & Verified
2	Sony	JP	1,617,295	20.37	3	1,078.25	Complete & Verified
3	LVMH	FR	304,382	11.19	2	1,069.07	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	Baxter Intl	US	851,000	66.25	6	149.70	Complete & Verified
2	AstraZeneca	GB	630,000	19.24	2	102.69	Complete & Verified
3	Roche Holding	CH	899,533	17.70	1	101.15	Complete & Verified

Intensity is measured as tCO₂e/\$Million turnover

SECTORAL 30 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	Wesfarmers	AU	5,515,399	127.48	4	1,460.12	Complete & Verified
2	Kingfisher	GB	472,000	28.09	3	1,360.73	Complete & Verified
3	Woolworths	AU	2,944,668	67.79	3	1,400.43	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	Telstra	AU	1,482,493	71.10	4	103.35	Complete & Verified
2	KPN KON	NL	263,700	14.78	2	47.04	Complete & Verified
3	BT Group	GB	710,000	22.07	2	54.32	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	Centrica	GB	10,714,959	306.31	4	1,305.56	Complete & Verified
2	RWE	DE	170,200,000	2,506.59	3	3,505.84	Complete & Verified
3	Fortum	FI	25,700,000	3,049.22	3	4,048.47	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	Santander	BR	19,563	0.56	6	103.83	Complete & Verified
2	Westpac Banking	AU	200,165	5.29	5	108.55	Complete & Verified
3	Commerzbank	DE	207,238	5.59	5	108.86	Complete & Verified

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	246,400	4.34	4	556.03	Complete & Verified
2	Ericsson	SE	200,000	6.60	3	558.29	Complete & Verified
3	SAP	DE	202,700	12.15	3	563.84	Complete & Verified

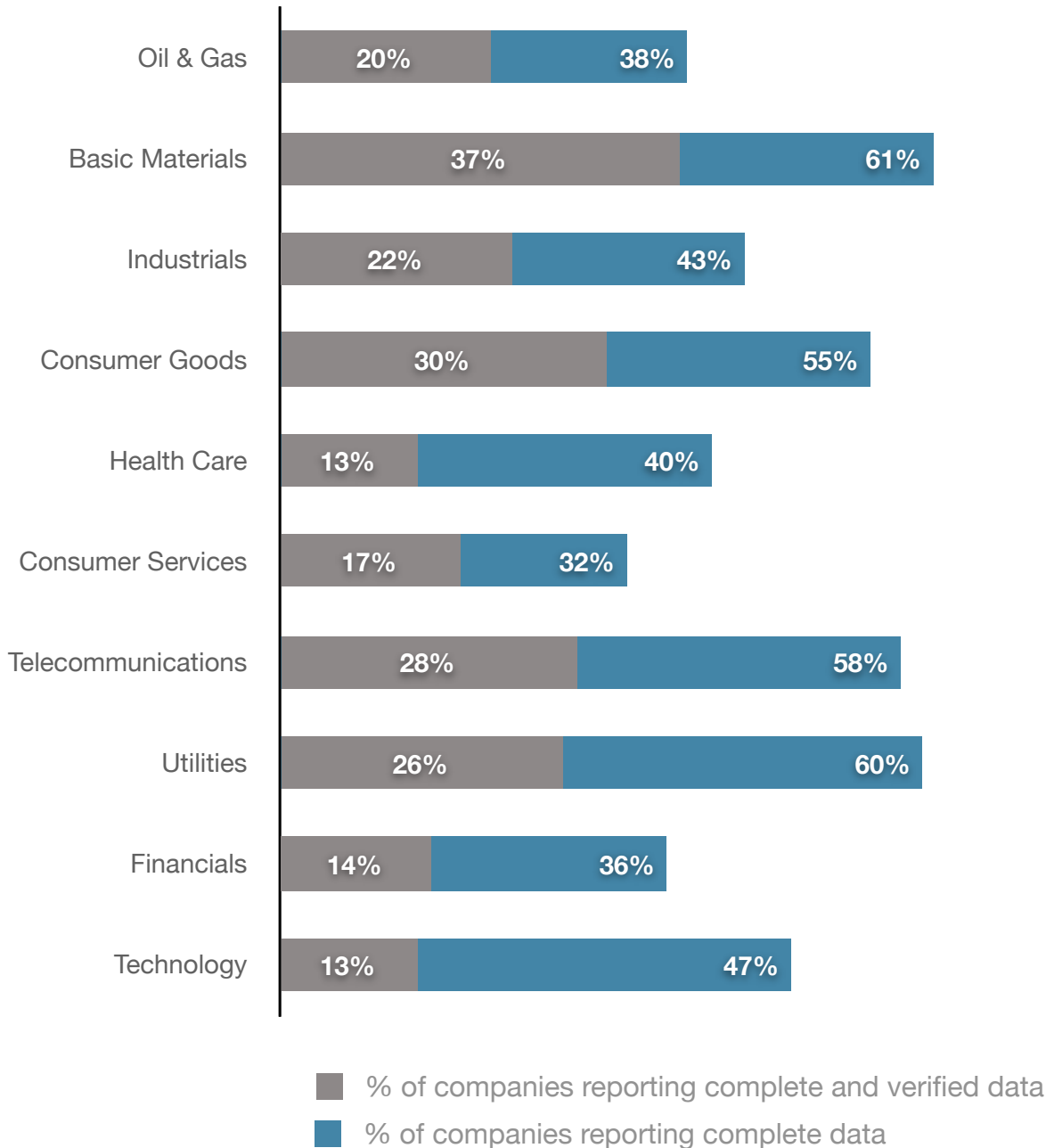
Intensity is measured as tCO₂e/\$Million turnover

SECTORAL 31 ANALYSIS

Summary

Sectors leading the field of disclosure

Figure 18.



The Global Rankings show that there is vast room for improvement of GHG emissions reporting and verification in the dominant industry sectors. Basic Materials and Utilities, despite being carbon intensive industries, have the largest percentage of companies reporting complete data. Interestingly, Basic Materials also has the highest

percentage of companies reporting verified data, followed closely by the Consumer Goods, Telecommunications and Utilities sectors. The sector with the lowest percentage of companies reporting complete data was Consumer Services.

VERIFICATION 32

ANALYSIS

Verifier Analysis

The breakdown of the top 7 verifiers shown in figure 19 is taken from companies which have been categorised as having complete and externally verified emissions under the ET Carbon Ranking methodology.

With around 21% of the reports being verified, the verification level is relatively low. KPMG and PwC are the biggest players in this growing market, with market shares of 20.7% and 19.2%, respectively. In total 44 different verifiers were identified.

The wide range of verifiers in the market also results in different approaches and verification guidelines being employed by verifiers. Whilst diversification may be an advantage, it can also make it more difficult for the users of the reports to interpret verification statements.

Figure 19.



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 34

LANDSCAPE

Global Reporting landscape

Despite significant action being taken in the past twenty years, we still have a long way to go. With large differences between regions, large differences between developed and developing countries as well as large differences between companies, there is vast room for improvement, innovation and collaboration. But in order to improve, we should first know where we are. That is why monitoring of and (complete) reporting on GHG emissions is crucial to taking the next steps.

Sustainability Reporting

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.

SUSTAINABILITY REPORTING HAS GROWN RAPIDLY OVER THE PAST TWO DECADES AS COMPANIES SUPPLEMENT THEIR ANNUAL REPORTS WITH ISSUES PERTAINING TO CORPORATE SOCIAL RESPONSIBILITY

AS THE ET GLOBAL 800 CARBON RANKING HIGHLIGHTS, THERE ARE MAJOR DISCREPANCIES BETWEEN COMPANIES IN REGARD TO THE QUALITY OF REPORTING

► **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

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 42-43) for suggestions on the EIO’s recommendations for how companies can report their GHG emissions more clearly.

REPORT

IBM

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)	2010	2009	2008	2007	Company has targets for year:	C1
CO2 Direct	276,721	235,656	296,768	301,993		
CO2 Indirect Scope 2	2,125,986	2,380,946	2,381,447	2,445,791		
CH4 Direct						
N2O Direct	17,441	11,235	5,386	6,685		
HFCs Direct	42,289	14,566	13,060	10,570		C6
PFCs Direct	232,290	181,907	256,667	251,617		
CF6 Direct	9,549	13,291	8,452	9,066		
Subtotal Direct (Scope 1)	546,245	456,655	580,343	579,931		
Scope 1 data coverage (e.g. owned and as % of revenues, employees, etc...): leased operations	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):						
Subtotal Indirect (Scope 2)	2,125,986	2,380,946	2,381,447	2,445,791		
Scope 2 data coverage (e.g. owned and as % of revenues, employees, etc...): leased operations	100					
Scope 2 estimated total (for 100% data coverage)						
Scope 2 emissions intensity per 100K revenue						
Total Direct and Indirect GHG Emissions	2,672,231	2,837,601	2,961,790	3,006,271		
Subtotal Scope 3 (from GRI EN17 "GHG Scope 3 Emission")						
Total GHG Emissions	2,672,231	2,837,601	2,961,790	3,006,271		

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 181 in the ET Global 800 (35 in the ET North America 300) and discloses 4 Scope 3 categories.

TEMPLATE



3.12 Table identifying the location of the Standard Disclosures in the report. Identify the page numbers or web links where the following can be found: * Strategy and Analysis 1.1 - 1.2; * Organizational Profile 2.1 - 2.10; * Report Parameters 3.1 - 3.13; * Governance, Commitments, and Engagement 4.1 - 4.17; * Disclosure of Management Approach, per category; * Core Performance Indicators; * Any GRI Additional Indicators that were included; and * Any GRI Sector Supplement Indicators included in the report.

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).

3.2 Date of most recent previous report (if any).

Using a GRI index helps anyone reading a report to navigate it quickly and easily.

It is strongly advised to clearly label where any verification statement can be found within the report.



EN14 Strategies, current actions, and future plans for managing impacts on biodiversity. (Additional)

EN15 Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk. (Additional)

EN16 Total direct and indirect greenhouse gas emissions by weight. (Core)

EN17 Other relevant indirect greenhouse gas emissions by weight. (Core)

EN18 Initiatives to reduce greenhouse gas emissions and reductions achieved. (Additional)

EN19 Emissions of ozone-depleting substances by weight. (Core)



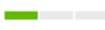





EN20 NO_x, SO_x, and other significant air emissions by type and weight. (Core)

Clear labeling of where GHG emissions totals, calculated as tCO₂e (metric tonnes of CO₂ equivalent) is extremely important for a member of the general public to be able to find the data easily.

EXAMPLES

 = Fully reported
 = Partly reported
 = Not reported

Emissions, effluents & waste

EN16 Direct and indirect greenhouse gas emissions		Key indicators/Environment, page 56
EN17 Other relevant indirect greenhouse gas emissions		Key indicators/Environment, page 57
EN18 Initiatives to reduce greenhouse gas emissions		Environment, page 45 Environment, page 46
EN19 Emissions of ozone-depleting substances		Not reported.
EN20 NO, SO, and other significant air emissions		Not reported.
EN21 Total water discharge		Not reported.
EN22 Waste by type and disposal method		Key indicators/Environment, page 57
EN23 Number and volume of significant spills		Additional facts, page 64

This example shows a company making good use of an online GRI index which provides quick links to the relevant indicators. It also provides a clear key to indicate whether the information is fully reported or not.

2010 Global Enterprise CO₂e Emissions by Business Segment
(‘000 metric tonnes)

	U.S. Domestic Package		International Package		Supply Chain & Freight		Totals	
	2010	2009	2010	2009	2010	2009	2010	2009
Scope 1	6,649	6,566	4,022	3,720	1,042	1,151	11,713	11,437
Scope 2	683	702	75	63	159	159	917	924
Total Scope 1 & 2	7,332	7,268	4,097	3,783	1,201	1,310	12,630	12,361
Scope 3	2,464	500	1,997	1,266	5,404	4,607	9,865	6,373
Total Scope 1, 2 & 3	9,796	7,768	6,094	5,049	6,605	5,917	22,495	18,734
Carbon Offsets Retired							3.1	
2010 Net Global CO ₂ e Emissions							22,492	

UPS continues to increase the breadth and depth of carbon reporting. This is particularly evident with regard to Scope 3 emissions. In 2010, UPS began reporting on 5 of 15 categories in the new WRI Scope 3 (corporate value chain) standard.

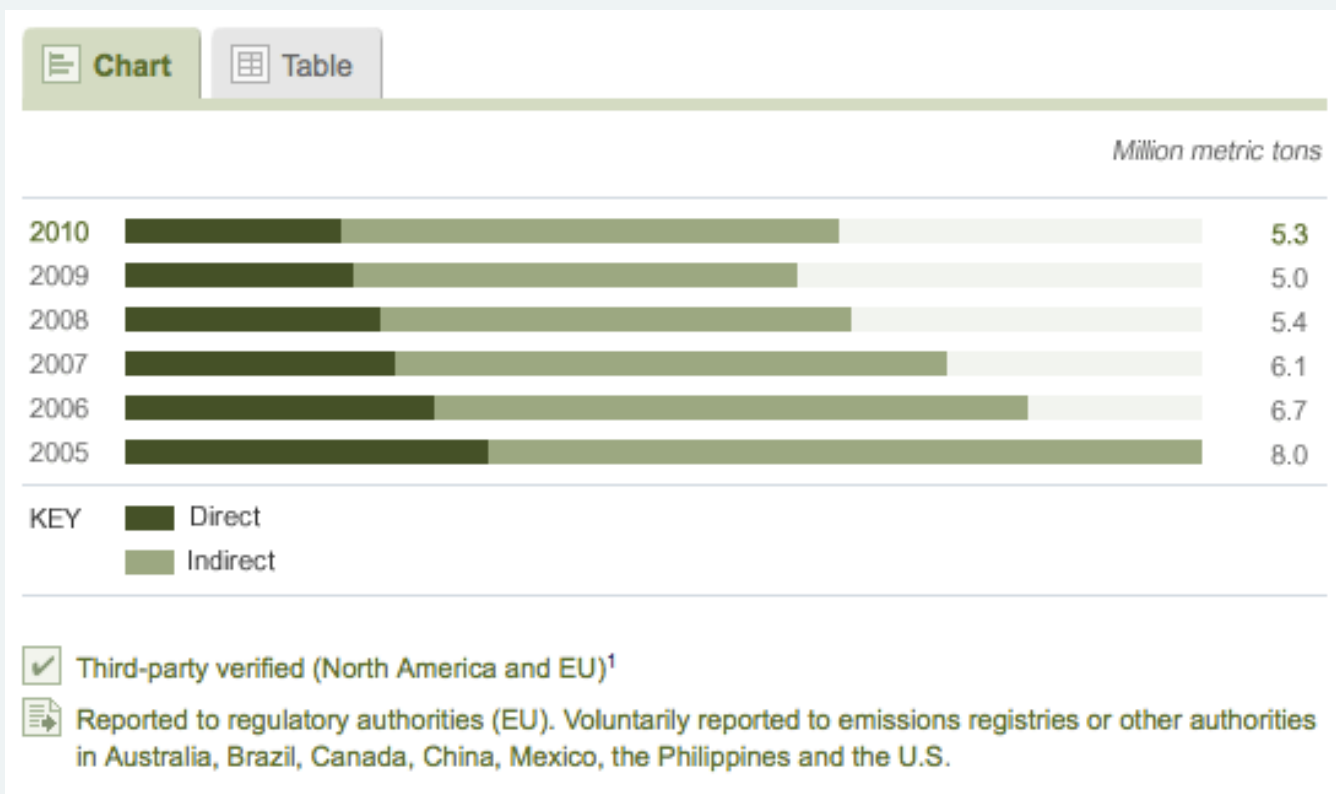
This example shows an emissions statement clearly reporting the total CO₂e emissions data according to Scopes 1, 2, and 3. And additionally, providing the previous year for comparison.

EXAMPLES

Chart Table

Million metric tons

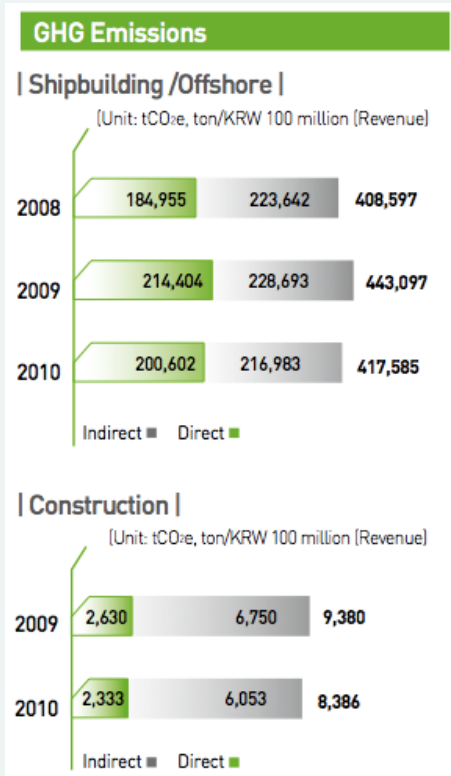
	2005	2006	2007	2008	2009	2010
Direct	2.7	2.3	2.0	1.9	1.7	1.6
Indirect	5.3	4.4	4.1	3.5	3.3	3.7
Total	8.0	6.7	6.1	5.4	5.0	5.3



In this example the company provides its CO₂e emissions data in tabular and chart format making the data easier to comprehend. It also clearly reports its emissions data in terms of direct or indirect emissions. A further improvement would be to report according to the Scope 1 and 2 categories.

REPORTING 40

EXAMPLES



This example shows a company failing to report its emissions data in absolute terms as specified by the GHG Protocol Corporate Standard, which required emissions data to be expressed as tonnes of CO₂e.

Like many reports, this example has chosen its own metric. Whilst this is better than no disclosure at all, non-standardised metrics can prevent direct emissions comparisons between companies, and can also prevent a meaningful quantitative understanding of the emissions data.

A simple improvement would be to report both an absolute and relative figure.

YEAR	SCOPE 1	SCOPE 2	SCOPE 3	TOTAL
2000	143,280	19,876	909	164,065
2001	160,106	19,500	1,083	180,689
2002	130,525	19,590	927	151,042
2003	153,140	23,162	791	177,093
2004	139,954	24,659	851	165,464
2005	122,319	24,385	752	147,456
2006	119,939	26,959	763	147,661
2007	138,934	14,203	2,874	156,011
2008	156,804	24,007	1,339	182,220
2009	155,742	12,035	1,010	168,787
2010	218,534	39,267	38,468	296,269

This example shows unclear reporting. Emissions are reported according to Scopes 1, 2 and 3, however the unit of measure is not identified. The units of emissions data should always be clearly given, preferably expressed as tonnes of CO₂e.

REPORTING 41

GUIDANCE

- ▶ **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 easily available to the publicly**

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 suggestions for how companies could and should report their emissions going forward.

TEMPLATE



REPORTING TEMPLATE

ENVIRONMENTAL TRACKING REPORTING TEMPLATE

Reporting Period:

1 January 2009 to 31 December 2010: Yes/No? _____

If other please specify _____

The reporting template below provides guidance on how companies can report their Greenhouse Gas emissions in a **simple, clear** and **cross comparable** format. It is intended to integrate with the existing and widely used GHG Protocol standard of reporting emissions in terms of Scope 1, 2 & 3. Crucially, it seeks to provide a framework by which companies can report their key GHG information in one place covering three core areas: **total GHG emissions**; **scope of reporting**; and, **verification**. The EIO is currently exploring how it might be able to link the reporting of such data directly to the ET Carbon Rankings.

	Metric tonnes of CO2e (tCO2e)	
	2010	2009
Scope 1	25,000	23,000
Scope 2	350,000	370,000
Scope 3	11,000,000	9,600,000
Total gross emissions	11,375,000	9,993,000
Green tariff Energy Purchased	(28,000)	-
Total net emissions	11,347,000	9,993,000

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 of the 15 Scope 3 categories, as defined by the GHG Protocol, 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.

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

ET GLOBAL 1200

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

GLOSSARY 44

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

JI: 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

BIBLIOGRAPHY 45

OF SOURCES

- American Lung Association Energy Policy Development: Transportation Background Document, February 2011. Available from: <http://www.lungusa.org/healthy-air/outdoor/resources/transportation-backgrounder.pdf>
- Canada's Continental Action. Available from: <http://www.climatechange.gc.ca/default.asp?lang=En&n=A4F03CA6-1>
- Canada's Greenhouse Gas Target and Emissions Projections. Available from: <http://www.climatechange.gc.ca/default.asp?lang=En&n=DC025A76-1>
- Climate Change Performance Index 2011. Available from: <http://www.germanwatch.org/klima/ccpi.htm>
- Conference Board of Canada. Available from: <http://www.conferenceboard.ca/hcp/details/environment.aspx>
- CSR Trends 2010. Available from: <http://www.pwc.com/ca/en/sustainability/publications/csr-trends-2010-09.pdf>
- Designing and Managing Energy Innovation Institutions. Available from: <http://www.iea.org/work/2010/accelerate/Marlay.pdf>
- Ecobici. Available from: <https://www.ecobici.df.gob.mx/home/home.php>
- Environmental Law Resource: Power Plants, Petroleum Refineries and Landfills Take Note: USEPA Electronic Greenhouse Gas Reporting Tool Launches. Available from: <http://www.environmentallawresource.com/2011/08/articles/climate-change/power-plants-petroleum-refineries-and-landfills-take-note-usepa-electronic-greenhouse-gas-reporting-tool-launches>
- Environmental Protection Agency: Green Power Partnership. Available from: <http://www.epa.gov/greenpower>
- Environmental Protection Agency: HCFC Phaseout Schedule. Available from: <http://www.epa.gov/ozone/title6/phaseout/hcfc.html>
- Environmental Protection Agency: Mandatory Reporting of Greenhouse Gases (40 CFR part 98). Available from: <http://www.epa.gov/climatechange/emissions/downloads09/FactSheet.pdf>
- Features & Benefits of ENERGY STAR Qualified New Homes. Available from: http://www.energystar.gov/index.cfm?c=new_homes.nh_features
- GHG Protocol (<http://www.ghgprotocol.org/>); GHG Protocol (2010) Corporate Value Chain (Scope 3) Accounting and Reporting Standard Executive Summary. Available from <http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-scope-3-standard-executive-summary1.pdf>
- Greenhouse Gas Protocol: Mexico. Available from: <http://www.ghgprotocol.org/programs-and-registries/mexico-program>
- History of Energy Consumption in the United States, 1775-2009. Available from: <http://www.eia.gov/todayinenergy/detail.cfm?id=10>
- Mexico GHG Program. Available from: <http://www.geimexico.org/english.html>
- Mexico to present plan for emissions reductions at COP15, August 6, 2009. Available from: http://www.greenmomentum.com/wb3/wb/gm/gm_content?id_content=3420
- Mexico Wind Project Gets Obama Seal of Approval, 10 June 2011. Available from: <http://www.renewableenergyfocus.com/view/18515/mexico-wind-project-gets-obama-seal-of-approval>
- National Inventory Report 1990-2008: Greenhouse Gas Sources and Sinks in Canada. Available from: <http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=492D914C-2EAB-47AB-A045-C62B2CDACC29>

BIBLIOGRAPHY 46

OF SOURCES

Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations, September 23, 2010. Available from: <http://www.gazette.gc.ca/rp-pr/p2/2010/2010-10-13/html/sor-dors201-eng.html>

Paul, Karen. Corporate Social Reporting Practices in Mexico: Two Paths. Available from: <http://www.slideshare.net/globalreporting/gri-conference-27-may-paul-sustainability-reporting-panel>

President Obama Announces Historic 54.5 mpg Fuel Efficiency Standard, July 29, 2011. Available from: <http://www.whitehouse.gov/the-press-office/2011/07/29/president-obama-announces-historic-545-mpg-fuel-efficiency-standard>

Reducing Transport Greenhouse Gas Emissions: Trends & Data 2010. Available from: <http://www.internationaltransportforum.org/Pub/pdf/10GHGTrends.pdf>

Regulatory Framework for Air Emissions. Available from: http://www.ec.gc.ca/doc/media/m_124/report_eng.pdf

Regional Greenhouse Gas Initiative. Available from: <http://www.rggi.org/design>

Smart Planet: Mexico City slashes greenhouse gas emissions; on track for 2012 target, 26 July 2011. Available from: <http://www.smartplanet.com/blog/smart-takes/mexico-city-slashes-greenhouse-gas-emissions-on-track-for-2012-target/17913?tag=search-river>
http://siteresources.worldbank.org/INTLAC/Resources/MEDEC_ExecutiveSummary_Eng.pdf

Turning the Corner: Detailed Emissions and Economic Modelling. Available from: http://www.ec.gc.ca/doc/virage-corner/2008-03/571/p1_eng.htm

The Western Climate Initiative. Available from: <http://www.westernclimateinitiative.org>

U.S. Energy Information Administration: International Energy Statistics (2005-2009). Available from: <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>

Wired: Bali Meeting Ends; Mexico Emerges as a Leader on Climate Change, 14 December 2007. Available from: http://www.wired.com/science/planetearth/news/2007/12/mexico_climate

The World Bank: Electric Power Consumption (2006-2010). Available from: <http://data.worldbank.org/indicator/EG.USE.ELEC.KH.PC>



T: +44 208 801 0570

E: info@eio.org.uk

www.eio.org.uk

Report Authors:

Sam Gill

Jan Ludolf Heeres

Aurel Schmid

Antonia Weitzer

Désirée Lucchese

Douglas Herling

Rachel Whittaker

Myriam Neaimeh

Catherine Pargeter

Matthew Caville

Michael Gill

Report Researchers:

Adam Smith, Ali Stoddart, Alison Richardson, Alla Novick, Asif Rahman, Bryn Stott, Chris, Rowohlt, Dana Galiyeva, Daniel Durham, Daniel Hammond, Douglas Herling, Eid Ahmaro, Ewa Susek, George Koukopoulos, Guglielmo Savarese, Harini, Manivannan, Honor Cowen, Itnuma Subba, Jillian Watt, Joe Dorfman, Kristin Wilson, Krystyna Kowalczyk, Leia Achampong, Liam Campbell, Lisa Zentner, Luca Tanadini, Nashwan Nasir, Oliver Bubb-Humfryes, Richard Arnold, Ruth Apps, Samantha Parsons, Samuel Adjei, Sebastian Hoeg, Simon Jones, Thomas Barrett, Tom Pritchard, Yiannis Bartzilas, Zankhana Shah

© 2011 EIO. All rights reserved.

All information within this report is subject to the terms and conditions on the EIO website.