

Measurement and Reporting Divergence in Corporate Non-Financial Accounting



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*Development
International*



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Introduction

The Impact of the EU NFRD

Funded by [iPoint-systems](#), [Development International](#) recently released [a series of studies](#) on the quality of non-financial reporting pursuant to the EU Non-Financial Reporting Directive ([NFRD](#)) in Austria, Germany and Sweden. We evaluated 422 German reports, 245 Swedish reports and 84 Austrian reports applying more than 60 key performance indicators.

The systematic review of these statements led to a large body of findings, shedding light on the state of sustainability reporting by subject companies in these countries. Among these findings, measurement issues deserve particular attention, because they lay at the base of shortcomings in non-financial reporting.

This brief discusses some of the areas in which companies' reporting is opaque, even when attempting to disclose information that is meaningful to external stakeholders. We walk through a number of KPI measurement discrepancies between companies reporting on their greenhouse emissions, energy consumption, work-related injuries and the percentage of recycled input materials used.



Greenhouse Gas Emissions: Deliberate Obfuscation in Sustainability Reporting?

Our EU NFRD study reveals that companies potentially cherry-pick sustainability data in their non-financial statements. The choice of obscure units for greenhouse emissions consumption might constitute a strategy to hide non-financial impacts in plain sight.



GHG Emissions

Reporting Without Reporting: No Transparency Without Comparability

The EU NFRD requires firms to give an account of their non-financial impacts. Greenhouse gas (GHG) emissions constitute one such impact, for their contribution to climate change. We reviewed statements pursuant to the Directive and highlighted positive cases: firms that did a good job at painting a complete picture of their emissions. For instance, [Deutsche Telekom](#) distinguished between upstream and downstream Scope 3 emissions (p. 80). Similarly, [Ericsson](#) reported *future* emissions along the products lifetime (p. 55) among its indirect emissions.

However, not all firms were this transparent. Unlike most companies, that chose to reveal their absolute, aggregate GHG emissions in metric tons (or grams or kilograms) of CO₂ equivalent (CO₂e), some companies chose not to report gross values, but only intensity ratios.

Firm	Country	Page	Scope	Metric
AT&S Austria Tech System AG	Austria	19	1+2	metric tons of CO ₂ e per euro of added value
Eurogrid GmbH	Germany	64	1+2	MWh of energy consumption leading to emissions
Fuchs Petrolub SE	Germany	32	1, 2	kilograms of CO ₂ e per ton of produced goods
Handicare Group AB	Sweden	28	n.a.	grams of CO ₂ per vehicle
MKB Fastighets Aktiefbolag	Sweden	10	1+2 + "business trips"	tons of CO ₂ per apartment
Nobina	Sweden	52	n.a.	grams of CO ₂ per kilometer driven
SJ AB	Sweden	90	1+2+3	grams of CO ₂ e per "person kilometer"
Vienna Insurance Group	Austria	40	1	kilograms of CO ₂ e per employee
Wallenstam AB	Sweden	5	n.a.	percentage reduced per m ²
Warimpex Finanz- und Beteiligungs AG	Austria	25	1	kWh of electricity and GJ of heating demand per m ² of offices "including specific CO ₂ emissions"

The Problem

While the publication of intensity ratios is permissible and expected (see [GRI Guidelines for GRI 305-4](#)), the omission of gross GHG values is not justified.

True: without context, absolute values might unfairly disadvantage large but efficient firms, relative to smaller but inefficient firms (and, in the year-over-year variation, it might disfavor firms undertaking mergers or acquisitions and/or increasing output). Nonetheless, gross values *matter*.

First, the GRI – a voluntary, but widely adopted benchmark in the subject – requires¹ these values for GRI 305-1 to 305-3. Second, gross values permit easier aggregation. Third, overall, the factor behind global warming is the gross amount of GHG in the atmosphere, not emission intensities. Finally, if firms report their gross emissions, their conversion to a rate is relatively easy, as the typical denominators (e.g. per worker, per revenue) are easy to obtain. To the contrary, ‘reverse engineering’ intensity ratios to obtain gross values is not as straightforward: there are many possible denominators and some of them are particularly hard to aggregate (e.g. kilograms per *room*) across firms.

¹ The GRI [Guidelines](#) (p. 4) establish “requirements” (mandatory instructions), “recommendations” (encouragements) and “guidance” (examples, background information and explanations for better understanding). Gross GHG values belong to the first category.

Further Opacity in GHG Reporting

A number of companies did not report their emission values for Scope 1, Scope 2 and Scope 3 separately (as they should). Rather, they aggregated (some or all of) these indicators into one, thereby precluding comparison.

[Centrotec Sustainable AG](#) (p. 16), [AT&S Austria Tech System AG](#) (p. 19), [Eurogrid GmbH](#) (p. 64), [MKB Fastighets Aktiefbolag](#) (p. 10), [Hexpol AB](#) (p. 59) and [SJ AB](#) (p. 90) were examples. On other occasions, firms disclosed CO₂ emissions without specifying the Scope to which they pertained (e.g., [Handicare Group AB](#), p. 16; [Nobina](#), p. 52; [Wallenstam AB](#), p. 5).

Moreover, although the GHG Protocol requires the simultaneous usage of *both* the location-based and the market-based methods of calculation for Scope 2 emissions (unless contractual data from the suppliers is unavailable), this was not the rule. In fact, firms often did not even specify a calculation approach.²

In addition, a number of companies only reported CO₂ emissions, not disclosing emissions of other greenhouse gases with their CO₂ equivalency,³ like they should. Other firms reported emissions arising from a particular activity only (e.g. business travel), which is included in a category (in this case, Scope 3 emissions) but does not exhaust it.⁴ This leads to underreporting emission values.

² See [Voestalpine AG](#) (p. 75) for an example.

³ For instance, [Handicare Group AB](#) (p. 16).

⁴ For example, [DO & CO](#) (p. 31).

What to Do

In sum, some firms are reporting non-financial impacts insufficiently or in such a manner that restricts comparison with other firms. This is precisely the consequence of restricting reporting to intensity ratios, resorting to seldom used units, and other practices identified throughout this article. This cannot be regarded as transparent.

To improve the quality of emissions reporting, firms ought to disclose the gross values of their absolute GHG emissions with an exact numerical value, disaggregate between Scope 1, 2 and 3, specify calculation approaches and closely follow the GHG Protocol. If they do this already, they can also disaggregate the figures and report specific emissions and emission intensities.

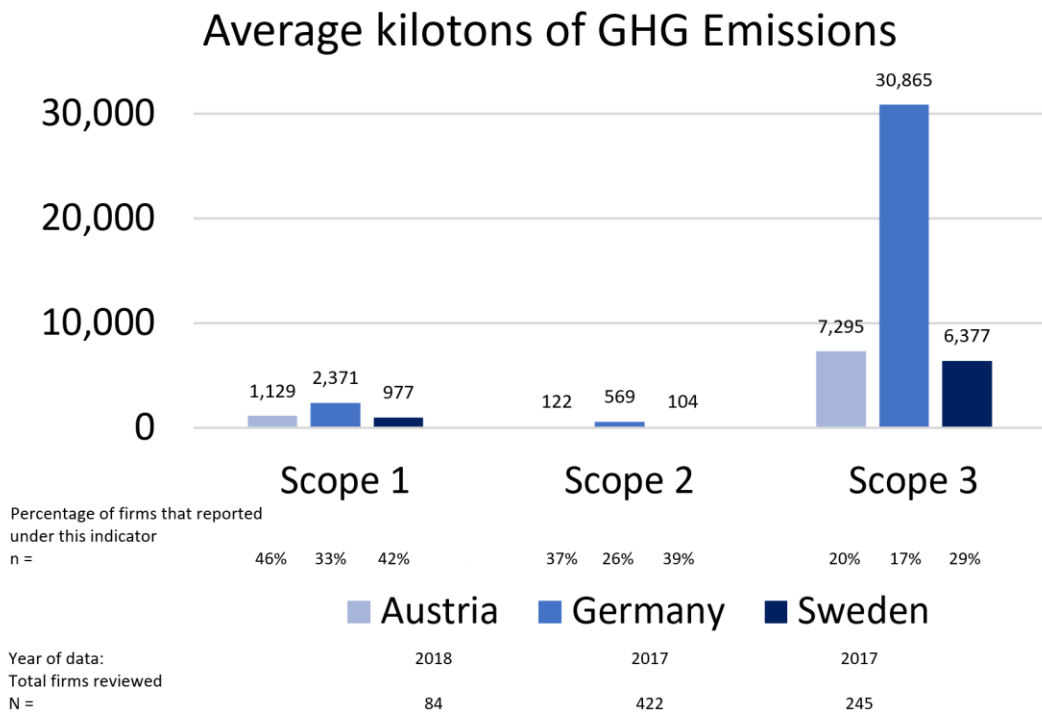


Figure 1: in Germany, the average large public interest entity was less likely to report its greenhouse gas emissions, which were larger than at their Austrian and Swedish counterparts.

INFOXICATION? NON-TRANSPARENCY IN ENERGY REPORTING

Reporting a non-financial impact does not always signal transparency. How so? Some firms report their energy intensity, but not their energy consumption. Furthermore, the choice of rarely used denominators precludes the comparability of the data.



Energy Reporting

Providing Information Without Providing Information

An interesting finding emerged in analyzing the quality of sustainability statements:

A number of firms did not report their energy consumption, but only their energy intensity ratios. Moreover, across most of these cases, each ratio had a different denominator. This seriously reduces comparability and, thus, transparency.

As required by the GRI (again, a widely used benchmark in the subject), a large number of firms reported their absolute energy consumption, which most did in watts-hour (less commonly, joules). Nonetheless, a few reported only energy intensities:

Firm	Country	Page	Metric
Aditya Group AB	Sweden	23	MWh per ton of pulp produced
Arjo Ltd Med. Aktiebolag	Sweden	30-31	MWh per million Swedish crowns in sales
Atlas Copco AB	Sweden	49	MWh over cost of sales
Deutsche Wohnen	Germany	28	kWh per m ² of rental inventory
Fastighets AB Balder	Sweden	52	kWh per m ²
Nederman Holding AB	Sweden	41	kWh per million Swedish crowns in turnover
Trioplast Industrier AB	Sweden	17	Percentage resulting of the division of energy consumption and approved production
University of Gothenburg	Sweden	80	kWh per m ²
Warimpex Finanz- und Beteiligungs AG	Austria	25	kWh (electricity) and MJ (heating) per hotel room

The publication of intensity ratios is certainly useful, as it allows to ascertain which firms are more efficient and which firms, less so. However, this is only possible when roughly the same ratios are used across companies, which is not the case. As the table above shows, companies publishing only intensity ratios did not use the same denominators. Furthermore, it is not easy to ‘reverse engineer’ intensity ratios in order to obtain the gross consumption values.

Energy Reporting

Moreover, energy consumption data is valuable for sustainability purposes not just due to efficiency considerations. Energy consumption is a proxy for other impacts, such as those on climate, like greenhouse gas emissions. Since the greenhouse effect depends on greenhouse gas concentrations, not on greenhouse emission intensities, gross energy consumption data is important.

In this context, not reporting absolute energy consumption values substantially decreases both transparency and the value of the information made transparent. Moreover, a number of companies also provoked opacity by reporting energy consumption, not in watts-hour or joules, but in rarely used units: liters of natural gas and petrol ([Rational AG](#), p. 26), tons of uranium ([Vattenfall Eldistribution AB](#), p. 178) or cubic meters of gas and oil ([Grimaldi Industri Aktiebolag](#), p. 3). This creates a sort of information overload or 'infoxication'. In addition, one firm presented the information visually in a graph without the exact numerical value ([Hexpol AB](#), p. 58). Finally, in one case, no unit was used at all ([Gunnebo AB](#), p. 32).

What to Do

A number of firms are choosing not to report their energy consumption values, but only the energy intensity ratios. Moreover, these ratios differ across companies, which makes meaningful comparisons especially hard. Even if this is just an unfortunate shortcoming in a sincere attempt to report efficiency, it seriously impairs transparency. Reporting absolute energy consumption data (in watts-hour or joules) fixes this, and we encourage companies to do so.

RECYCLING REPORTING: APPLES AND ORANGES?

Our NFRD study revealed poor reporting of recycling figures. Moreover, even when companies reported relevant information, they often produced incomparable data that is useless from a policy and governance perspective.

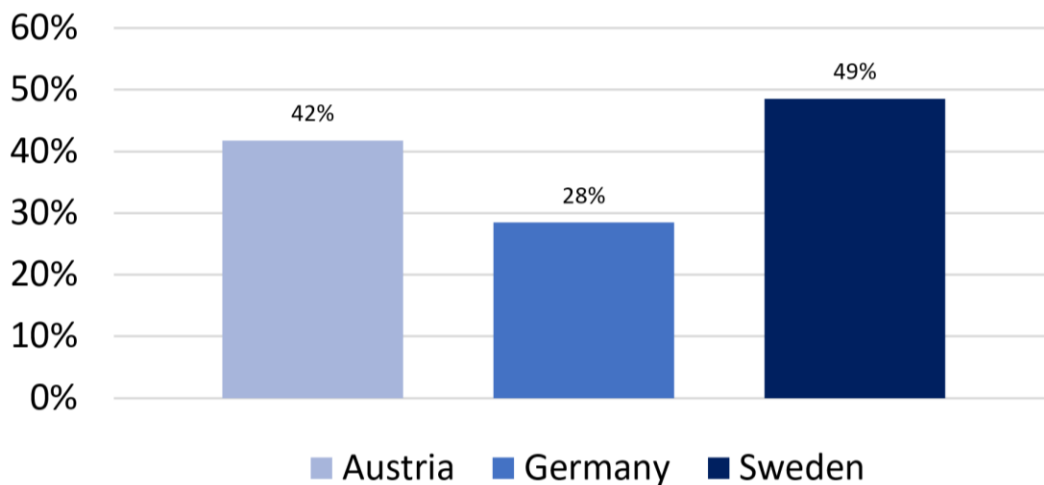


Transparency in Recycling: Two Challenges

In studying the quality of reporting pursuant to the EU NFRD, one of the 60+ key performance indicators selected was the percentage of recycled input materials used (drawn from the GRI G4 EN2 / GRI Standard 301-2).

The following results emerged. First, a relatively low number of firms chose to disclose a value under this indicator. Second, even for those statements covering this indicator, the data produced was of very little value to the external stakeholder.

Average percentage of materials used that are recycled input materials



	2018	2017	2017
Year of data:	2018	2017	2017
Percentage of firms that reported under this indicator	7%	2%	14%
n =	84	422	245
Total firms reviewed	84	422	245
N =	84	422	245

Figure 2: The percentage of recycled input materials is both higher and reported more often in Sweden than in Austria and Germany.

Challenge #1: Finding a Common Unit and Denominator

Many firms chose not to disclose the percentage of recycled input materials, but rather how much material was reportedly saved through recycling. Others highlighted what percentage of the total waste generated was recycled. Others indicated the percentage of production coming from recycled material. Some chose to provide the percentage of recycled content in a particular type of material or production.

But this is a problem: these variables are simply not the same. Hence, the data is not comparable. Therefore, it is often not possible to meaningfully say that a firm performed better than another one.

Aggregating different inputs requires a common unit. [Sandvik AB](#), for instance, reported 79% of recycled steel in its production, but the value rose to 84% for tungsten carbide (p. 7). Calculating a 'total' value of recycled input materials requires aggregating units of steel and of tungsten carbide, but the common unit of choice affects the final value.

Two problems emerge. First, the choice of a common unit for recycled materials may be arbitrary. Second, comparability requires that the same unit is chosen across firms.

Recycling Reporting

[DMG MORI AG](#), for example, reported the percentage of the final product that were recycled input materials. What was the common unit for different inputs? Weight (p. 22-23).

However, is this the only 'right' way to report? True, kilograms are important because they reflect physical mass flows. But if the importance of recycling each material (or the negative impact of not recycling them) is not identical, the use of weight as a denominator distorts the resulting figure. Using the price in dollars of each material may reflect scarcity more adequately, which is inherent to recycling. Resorting to liters may be more meaningful when volume is a more relevant unit. And so on.

Hence, the choice between liters, dollars, kilograms, etc. (or ways to construct a weighted average) may be seen as arbitrary. Moreover, not aggregating different inputs does not solve the problem.

Take the example of [Verallia Deutschland AG](#). The company indicated that 60% of the materials for glass packaging were recycled, but that the proportion rose to 90% for green glass (p. 18). The latter point constitutes interesting information, but not very relevant for the comparison with most other firms. If we desire to compare the recycling rates of different firms, the denominator will most often need to be the total materials. Therefore, aggregate figures (and thus, the choice of a common unit) are necessary.

This applies not only to the choice of a common unit, but also to the choice between different relevant quantities (primary material, secondary material, final product, paper, etc.). Taking [Sandvik AB](#) again, the value drops to 15% if the figure at issue is the percentage of waste going to recovery, and goes to 79% if it is the share of metallic raw materials from recovered materials (p. 7, 37, 136).

Recycling Reporting

Challenge #2: Standardizing the Choice

Some companies did report the average percentage of total input materials that was recycled. However, a number of other companies chose to slightly modify this indicator (perhaps considering that, though suboptimal, this was preferable to total non-disclosure). This resulted in different metrics of recycling, with different content being omitted from the calculation in each case:

Firm	Country	Page	Metric	Excludes
AMAG	Austria	44	Recycled content in primary material	Recycled content in secondary material
ASFINAG	Austria	58-59	Reused excavated material	Recycled content in other material
ERGO Group	Germany	n.a.	Recycled paper	Recycled input materials that are not paper
Fabege AB	Sweden	45	Waste recycling	Recycled material that is not the firm's waste
Ottakringer Getränke AG	Austria	28	Recycled content in packaging	Recycled content in non-packaging materials
PORR AG	Austria	67	Recycled content in secondary material	Recycled content in primary material
SSAB AB	Sweden	116	Recycled scrap in steel production	Recycled input material in non-steel production
STRABAG SE	Austria	102	Recycled asphalt in bituminous mixtures	Recycled content in other material
Trelleborg AB	Sweden	25	Internal and external waste recycling	Recycled material that is not the firm's waste

This may be evidence of insufficient reporting, but is also symptomatic of a second problem: the choice of common unit and relevant denominator has to be the same among companies for the data to be comparable. Otherwise, better-and-worse performing firms are impossible to identify. The status quo precludes comparison, missing much of the point of sustainability reporting.

Recycling Reporting

What to Do

We have on our hands a serious collective action problem: sustainability data is almost meaningless, from a governance and policy point of view, without coordination of common units and relevant quantities. This places responsibility on legislators and/or standard setters, which are in a position to coordinate the way out of these issues.

But this does not mean there lies no responsibility on the shoulders of individual firms. Firstly, most firms are not reporting their percentage of recycled input materials. They should. Secondly, firms ought to report the percentage of *total* input materials recycled (and not a subset), since this is necessary to compare across-firms. Thirdly, it is conceivable that a firm may act as first-mover, choosing a common unit/relevant denominator, with the remaining firms following suit. Spontaneous coordination is thus possible, and there is no excuse for inaction.

INJURY REPORTING: VARIANCE IN MEASUREMENT

The ways in which worker injuries are reported can seriously differ from case to case. From the choice of the type of injury rate, to the definition of accident itself across statements. This affects the consistency and comparability of the data disclosed.



Reporting Injuries

Measurement Variation in Reporting Injuries at Work

In order to evaluate the statements, we retrieved key performance indicators as reported by companies. In doing so, we found that firms did not always resort to the same metrics even if they were attempting to report under the same indicator. This poses certain challenges for transparency, as it affects the consistency and comparability of the data disclosed.

One such indicator was the number of worker injuries. In the three countries, the preferred metric of choice was the absolute, aggregate number of injuries. However, a sizable number of reports preferred to report the injuries as a rate. The following were found:

1. “Lost Time Injury Frequency Rate” or “Lost Time Injury Frequency Rate” (LTIFR or LTIR): number of work-related accidents leading to death, permanent total disability and absenteeism ([OMV AG](#), p. 32) per million hours worked (e.g. [Voestalpine AG](#), p. 100) or, less commonly, per 200,00 hours worked (e.g. [RHI Magnesita AG](#), p. 34). This constituted the most used rate.
2. “Total Recordable Incident Rate” (TRIR), also named “Total Case Incident Ratio” (TCIR) and “Total Recordable Injuries” (TRI): number of work-related accidents leading to death, permanent total disability and absenteeism, as well as to cases of reduced ability to work and cases requiring medical treatment ([OMV AG](#), p. 32), per million hours worked (e.g. [Borealis](#), p. 5) or, less frequently, per 200,000 hours worked (e.g. [AMAG Austria Metall AG](#), p. 4).
3. Accidents per million hours worked (other): a sizable number of firms reported the number of accidents per 1,000,000 hours worked, without specifying the rate name ([STRABAG SE](#), p. 46).

Reporting Injuries

4. Accidents per hundred workers: an example was [MANZ AG](#) (p. 21). Another variant of this was reporting the number of accidents as a percentage of the number of employees.
5. Accidents per thousand workers: [KRONES AG](#) (p. 12) reported a rate consisting in the number of injuries times 1000 employees over the total number of full-time employees. [Castellum AB](#) (p. 62) reported the number of injuries “per mille”, which was assumed to mean accidents per thousand workers, but was nonetheless unclear.
6. Days of sick leave per employee: this was the case of [Uniqo Insurance Group AG](#) (p. 26).
7. Unclear rates: [Buwog AG](#) reported a 1.2% “injury rate” (“Verletzungsrate”, p. 100) without specifying what the rate consisted in.

This shows a wide variability in the metrics, which decreases comparability. Matters are further complicated by the usage of different definitions of accident or injury. While a very large number of firms did not define what an “accident” or “injury” was, some did. The following were found among those definitions:

1. Accidents causing a loss of more than three days ([Andritz AG](#), p. 184).
2. Accidents causing a loss of more than three days per million hours ([Andritz AG](#), p. 184).
3. Accidents causing a loss of one or more days per million hours ([Andritz AG](#), p. 184).
4. Accidents resulting in lost working time of more than 8 hours ([RHI Magnesita AG](#), p. 184)
5. Accidents leading to a day of lost work ([Inwido AB](#), p. 13).
6. Injuries according to the US National Advisory Committee for Aeronautics (NACA) II scoring system: includes occupational accidents involving medical treatment

Reporting Injuries

going beyond first aid and other work-related injuries according to GRI 2018 ([Egger Holzwerkstoffe GmbH](#), p. 117).

7. Serious injuries according to the NACA III-IV scoring system ([Egger Holzwerkstoffe GmbH](#), p. 117).
8. Days of sick leave ([Uniq Insurance Group AG](#), p. 26).
9. Accidents resulting in first aid.
10. Unexplained terms such as “incidents”, “recordable incidents”, “injuries”, “accidents”.
11. Other thresholds of lost time or lost working time.

What to Do

In conclusion, with such a variance in measurement, comparison becomes particularly hard. An increase in the transparency of employee injuries at work is required. The easiest way for individual firms to act in this direction would consist in disclosing the absolute number of employees (if possible, also a widely-used rate such as the LTIF per million hours worked), as well as in clearly stating the definition of accident or injury at issue. Since this is a ‘coordination game’ however, standard setters could play their part establishing a default, recommended metric.

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