

The business benefits of third-party verification of environmental data

A CDP guide

Written in conjunction with Keramida, LRQA and Lucideon

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Foreword



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Never has scrutiny of companies' ESG information been higher. In 2018, the Intergovernmental Panel on Climate Change (IPCC) warned that global warming must not exceed 1.5°C to avoid the most catastrophic impacts of climate change. In order to achieve this, we need to change how our businesses operate.

Investors, customers, regulators, media and even employees are all taking a keen interest in what companies are doing to reduce impacts in line with the climate science limiting global warming to 1.5°C and with what's needed to create a nature-positive, deforestation-free world.

A key takeaway from COP27 put businesses at the forefront of the global negotiations, a position previously reserved for national governments. In [a report](#) from the UN High Level Expert group on net-zero emissions commitments from non-state entities, the group Chair highlights the need for honest, transparent accounting to be a critical part of what businesses do going forwards.

The amount of carbon-related regulation is increasing and, with it, a growing demand for reporting on emissions. The EU has set targets and measures for reducing emissions; the most notable being the recently adopted Corporate Sustainability Reporting Directive (CSRD). The CSRD means that large companies are expected to report on their carbon emissions, with SMEs also likely to be included. The plans of the EU go beyond GHG reporting, as auditing and validation of the results by an auditor are expected.

The EU isn't alone as the US has returned to the world stage on climate policy – from its re-entry into the Paris Agreement, to federal funding now available through the Inflation Reduction Act, to the [proposed climate disclosure rule by the US Securities and Exchange Commission](#) (SEC) pushing for mandatory corporate environmental disclosure. With more countries following suit globally, staying ahead of the curve on GHG reporting, particularly carbon accounting, has become critical.

The benefits of independent third-party verification are varied, from improving internal processes and identifying risks and opportunities, to increasing the reliability of data and even creating cost savings. Building a strong reputation relies on having a credible target, generated using a robust methodology consistent with limiting warming to 1.5°C, and verified by a third party (for example by the Science Based Targets initiative (SBTi)). Reporting progress towards this target, and on your emissions in general via publicly disclosed verified emissions data, will create a competitive advantage. Verification of water and forests-related data will also grow in importance given the [upcoming regulation relating to biodiversity](#) and the introduction of [science-based targets for nature](#).

If companies haven't started looking at verifying their environmental data – now is the time.

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The business benefits

Leading businesses recognize that data disclosure and independent verification offer vital benefits. Opportunities range from improved internal data management processes and risk management to enhanced credibility among stakeholders and ultimately greater potential for achieving sustainability objectives.

Credibility and reputation

Many companies and organizations report publicly on their environmental performance and claims. Taking the step of independent assurance to ensure the numbers are accurate adds credibility for all stakeholders - clients, employees, consumers and investors. Recent polls have shown that an increasing part of the work force will seek to work for organizations that have firm environmental credentials.

'Greenwashing' is a long-established term that stakeholders might wield either when they believe an organization's sustainability disclosures lack credibility, or when a company spends more on marketing itself as environmentally friendly than on actually minimizing its environmental impact. It has gained increased prominence in the public domain, even being mentioned specifically for non-state actors by COP27's key findings in 2022. A similar more recent concept is 'green hushing', when organizations deliberately choose to under-report or hide their green or Environmental, Social and Governance (ESG) credentials from public view to evade scrutiny.

Independent verification of your environmental and sustainability data is a vital tool for avoiding or countering such accusations.

Competitive advantage, marketing and brand image

Many vendor choices and procurement processes now demand third party verification of sustainability data (eg greenhouse gas (GHG) emissions) to proceed. Rather than a 'tick box' approach, organizations are required to show that their performance has been independently audited.

Communicating independently verified data can bring an organization a direct competitive advantage, including employee engagement and retention, new contract wins and increased credibility in the wider marketplace.

Verification statements have a crucial place in company reports, enhancing the report and showing more depth in company reporting.

Risk reduction and process improvement

Increasing environmental legislation worldwide is a fact. Having environmental data independently verified can assist this process and having historic verified data ready for this (and data you can trust) reduces the risk of misreporting. Furthermore, where organizations are already spending effort on compiling mandatory environmental data to be compliant with the regulation, it is possible to extract some additional value through independent assurance and reporting voluntarily.

Putting information into the public domain exposes it to a large stakeholder community and scrutiny. Having third-party verification before going public reduces risk and liability and improves transparency.

Environmental verifiers and auditors are experts and can share best practice on verification processes. When treated as partners and a productive relationship is developed, they can be part of your continuous improvement process. (Note that auditors are separate from consultants, and they will flag any situations where they are concerned about maintaining their impartiality and avoiding conflict of interest). Friendly pressure from an independent auditor can help focus action from companies and organizations.

Having a third party looking at your business systems and data flow may highlight areas where improvements can be made to your process or where additional checks would be pragmatic.

Reduction in costs and net-zero

In addition to the commercial benefits, rigorous emissions verification flags energy and carbon 'hot spots' and enables companies to target them for efficiency savings. This can have a direct impact on energy costs, which is especially crucial as these are becoming a key risk for organizations.

As reporting and verification moves from Scope 1 and 2 through growing Scope 3 categories, this verification can help highlight areas within the whole value chain that contribute to the overall emissions (and associated costs).

Additionally, being able to clearly establish these energy and carbon hotspots can enhance the continuous improvement of a company's environmental monitoring and reporting. The evidence may also be useful to inform investment proposals. Carbon reduction strategies and the recent focus on net-zero targets have motivated companies to look carefully at their emissions profiles and set out credible pathways for them to ultimately achieve net-zero. Rather than having targets aligned with

aspirations and possibly marketing pressure, verified data can help set credible carbon net-zero targets.

Multiple reporting frameworks

Nationally and globally, there are an increasing number of voluntary and mandatory reporting programs. Many companies now have a plethora of reporting requirements so doing it for CDP means it can be used for other platforms (GRI, CDP, SASB, GRESB) as well as the mandatory environmental reporting discussed earlier.

There is no requirement for data to be verified twice and so data that has already been verified for one scheme can normally be used for another.

Similarly, in addition to new reporting platforms there are an increasing number of frameworks that are related to environmental data assertions (eg the Task force for Climate Related Financial Disclosures (TCFD); Science Based Targets initiative (SBTi)).

Having data verified for any reporting or against any frameworks is recommended, but for some forthcoming programs, mandatory verification is required, for example the Securities and Exchange Commission (SEC). Having verified, historic data ready for these schemes and programs reduces risks and liabilities in reporting.



Rather than having targets aligned with aspirations and possibly marketing pressure, verified data can help set credible carbon net-zero targets.

Practical considerations

The practical aspects of verification have been laid out here as a step-by-step guide.

1



Timing

The key point in the whole reporting cycle. Work backwards from the date that your verification statement/report is required. The CDP reporting deadline is flagged early and provides a clear end point, but you may have earlier deadlines for company reporting or other programs that you need to comply with.

Get in touch with potential verifiers early (even if you have not yet conducted the following steps). The verification exercise may take a certain amount of time (eg two months) but a larger window is required for planning and contractual processes so typically a six-month period would be pragmatic.

2



Calculate your GHG emissions inventory

First and foremost, there must be clarity on your GHG emissions inventory as this will inform the verification process that's needed. This section very briefly flags the key components of your inventory that a verifier will look at.

Compiling the GHG emissions inventory ('carbon footprint') can be done in-house or via a growing number of independent consultants. While verification bodies/auditors are skilled and knowledgeable, to remain independent and impartial, they cannot offer advisory services. Of course, the relationship is two-way and constructive feedback is given.

The key considerations in this are:

▼ Reporting boundary and scope

A decision on whether Financial Control or Operational Control is employed.

▼ Choose your reporting methodology

There are a growing number of specialist methodologies for specific sectors/industries, but the key standards are:

- a. World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.
- b. ISO 14064-1:2018 Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

▼ Emission Factors

The emission factors used should be consistent from year to year although often improvements are observed as the factors may become much more targeted (eg from international factors to national or regional factors).

▼ Scope

The scope of reporting includes the geographies, types and number of assets, whether location or market-based emissions are reported, and the categories reported under Scope 3.

▼ Dataflow

The level of data handling and its movement through an organization is important. Similarly, the transparency of your data and the calculations performed on it are critical. A wide range of reporting software and packages is now in use. A verifier must be able to interrogate data flow and calculations as part of their assessment.

3



Choosing your verification body for the best fit

The mechanism for showing a prospective verification body your GHG inventory (section above) can involve questionnaires, copies of public reports and provision of samples of data and can be underpinned with meetings.

Verification bodies vary in size, scope and style. It is key that you choose one that you and your company have a good 'fit' with. This may be aligned with specific competencies or can be down to similar working practices. It may be useful to check with other organizations: who they use or obtain feedback from and any consultant involved.

Verifiers/auditors are partners in the engagement and are not just to be classed as 'homework checkers' at the end of the process.

4



Level of assurance

The two categories of assurance for GHG emissions are "Limited" and "Reasonable" and the reporter must decide which is required. CDP currently awards the same verification points for both limited and reasonable assurance engagements. Limited assurance can be useful, for example for those relatively new to verification, while companies will see added value in moving to reasonable assurance. For instance, in preparing for upcoming regulations which are increasingly moving towards reasonable assurance.

There is no standard approach and the cost and work required (eg sampling, interview) for different assurance levels for each reporter vary and will be the outcome of a risk assessment by the verification body. The approaches may involve a higher level of data sampling or site visits for some organizations and will also depend on the processes and procedures in place.

For a limited assurance engagement, the verifier, in general, collects less evidence than for a reasonable assurance engagement but sufficient for a 'negative' form of expression of the verifier conclusion. An example of a "Limited Assurance" statement is: "Based on the process and procedures conducted, there is no evidence that the assertion is not materially correct and is not a fair representation of data and information; and has not been prepared in accordance with (the related standard)."

An example of a "Reasonable Assurance" statement is: "Based on the evidence provided and the samples selected for verification, it is our opinion that the GHG assertion is materially correct based on the scope presented and is a fair representation of the GHG data and information; and was compiled in conformance with (the related standard)."

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5



Verification standard

Independent verification and assurance are now an expectation rather than a 'nice to have'. International standards have been introduced and a credible verification process should be underpinned by a robust international standard.

Common verification standards are ISO 14064-3 for GHGs or ISAE3000 for non-financial data. A full current list of acceptable standards is available [on the CDP website](#).

6



Accreditation

Accreditation is the assessment of the competence and impartiality of an organization and the compliance of their activity to internationally recognized standards or programs. If the verification body is accredited, then this should give the reporter confidence in the verifier's services.

CDP has its own accreditation process for the accredited verification providers it works with. This ensures that the verification body is accredited under an internationally recognized standard to perform verification under national and international schemes. Please see the section on CDP's accredited verification solutions providers for more information.

7



Deliverables

Assess what outputs you require from the verification process. At a minimum a verification statement will be needed such that you can inform CDP on the scope and outcome of the work (including any limitations).

Additionally, the reporter may benefit from a more comprehensive verification report including more detail on the engagement and recommendations to improve the verification process in future. This report can be part of the ongoing continuous improvement for the organization.

8



Timings ...again!

Typically, a verification process involves the following steps:

- ▼ Kick-off meeting
- ▼ Core verification (including closure of any issues)
- ▼ Independent peer review
- ▼ Report submission

Reporters must keep an eye on the clock to assess their long-term and short-term schedules. A verifier will advise what is required and when to ensure the verification statement can be produced on time.

Achieving the best results in the verification process

How do you ensure the verification process is as efficient and effective as possible? What preparation can you do internally to ensure everything runs smoothly?

Best practice

The organizations that get the most from their verifications are those that have fully embedded the processes, procedures and data retention for carbon reporting into the core management systems of their business. Not just looking at Environment, Health and Safety (EHS) and Environmental, Social and Governance (ESG), but integrating sustainability into the core long-term business strategy and planning.

Within these organizations: the roles and responsibilities relating to carbon reporting are clearly defined and understood; the processes and procedures are subject to internal audit; and any issues that are identified are able to be efficiently and effectively addressed and corrective action taken to prevent their recurrence. These types of organizations have the mechanisms to learn from both their internal audits and the verification process, to continually improve their processes and data accuracy and, as a result, streamline the verification process and potentially reduce verification time and cost.

Preparation

Planning and completing an efficient and effective verification process requires a good and open working-relationship between the organization and the verification body from the outset.

Prior to commencement the verifier will provide the reporting organization with their broad information requirements. This ensures that the company can locate and prepare all information and records that the verifier will require and identify all company representatives that may be needed to support the verification. Pulling all of this information together and ensuring the availability of key staff will enable the organization to respond to verification questions and

more specific information requests as they arise; and facilitate a smooth and efficient process.

During the initial stages of the verification, especially with new clients, the verifiers will be obtaining an understanding of the company, its operations, its boundaries, its management systems and their effectiveness and reporting lines. To support this stage, representatives from the organization will need to be available that are sufficiently informed to provide an accurate picture. From this information, the verifier will be analysing the risks posed by the verification and determining how to apportion their verification time. Therefore, providing the verifier with the confidence that internal quality assurance processes are robust can impact the amount of verification time required.

Having gained an understanding of the organization and thus the detailed scope of the verification, the verifier will then compile a more detailed plan for the verification. This will be communicated to the business, providing clear expectations of the specific information and individuals needed at each stage.

Planning

Planning the verification to be conducted at the most appropriate time of year for your organization will greatly ease the process. For all organizations, but particularly for those new to carbon reporting and/or verification, it is advisable to plan the verification in plenty of time before any internal or external submission deadlines. To facilitate this the verification can be completed in stages and can commence before the end of the reporting period to be verified.

The earlier the initial stages of the verification, the better. Such an approach will ensure that the systems, process and calculations in place are compliant with the reporting methodology as early as possible in their

implementation, as well as confirming the adequacy of control systems.

An appropriately planned verification in stages can:

- ▶ Prevent any loss of data and information that is required to confirm compliance, by ensuring that all correct data is being collected and retained from the outset;
- ▶ Identify issues in plenty of time to allow their correction prior to any reporting deadlines; and
- ▶ Avoid any unnecessary follow-up of verification findings and potentially additional verification days close to the reporting deadlines.

Post verification

To achieve the best results from the verification process there are a number of important actions that a reporting organization can take post verification:

- ▶ Ensure that the feedback provided by the verifiers is fully understood. Detailed reports of issues identified will be provided and only an accurate and complete understanding of these issues will ensure they can be acted upon effectively and thoroughly.
- ▶ Communicate this feedback to management. Request that your verifier provide an executive summary for communication to top management, and a brief presentation to feedback the key results and benefits. This will facilitate buy-in from top management to any improvements required.
- ▶ Utilise the management system functions for corrective action to ensure effective root cause analysis of any findings raised. This will ensure they are adequately addressed and recurrence prevented.

Expanding the verification

Carbon reporting and verification is a journey, and all organizations can and do look to expand upon what they report and have verified over time.

Companies not obligated to report under a regulatory regime have much greater flexibility. They can choose the boundaries to be reported, limiting them by organization structure, geography or scope of emissions for example and/or the level of assurance to be applied through the verification. Through such an approach an organization can start with reporting a smaller component and can learn much from this reporting and

verification process, applying those lessons learned to expand their implementation across the board and at their own pace. In addition, understanding what is required from verification at a limited level of assurance can greatly prepare an organization to increase the depth of verification to reasonable assurance at a later date, and provide stakeholders with the greater assurance that this provides.

Organizations under a regulatory regime will have the level of assurance, operational scope and geographic scope already mandated. Those under such regimes can look to expand out from that regulated coverage, increasing what they choose to report in addition to what is required by regulation.

For large organizations covering many facilities and regions, it may be more difficult to demonstrate that the systems and controls have been thoroughly implemented to the same degree throughout. It may therefore be easier to meet verification requirements by commencing with a limited geographical scope. Using this approach, the company can demonstrate to the verifier the accuracy and control of the central systems, prior to the demonstration of their implementation across all regions.

Overcoming obstacles when expanding the verification

There are some common obstacles to expansion of carbon reporting and verification. An experience of many companies is that they have different management systems and IT systems across geographies and/or functions. This is common for global organizations, and while this may be appropriate and necessary for many business operations, for gathering consistent data it can present a challenge. A simple way to overcome this challenge is to implement global Key Performance Indicators, against which all parts of the business are required to consistently monitor and report – setting both the units of measurement and the means of calculation or measurement.

In addition, many organizations have differing mandatory requirements in different geographies. This may require an inconsistent approach. To overcome such an issue, organizations frequently implement a company-wide, overarching process such as that defined by ISO 14064:1. This brings consistency while also enabling those geographical variations where necessary.

Scope 3 Reporting and Verification

Scope 3 elements cover a wide variety of GHG emissions sources both upstream and downstream of the reporting organization.

Simply speaking, the upstream emissions are those related to goods and services that are acquired by the company, such as from the extraction, production and transportation of purchases. The downstream emissions are those related to goods and services that are sold by the company, such as from the use of products and services and their end-of-life treatment. The wide-ranging elements of this Scope and the lack of direct control over them present challenges to all businesses, but by applying best practice and addressing the scopes that are key to your business, those challenges can be overcome.

Best practice

Organizations that have fully embedded their carbon reporting processes for Scopes 1 and 2 into their core management systems are ideally placed to extend those to their Scope 3 emissions and to reap the rewards of such an approach as already described in earlier sections of this whitepaper.

Addressing the range of aspects covered by Scope 3 will require the involvement of a wider range of organizational departments. Such a business-wide approach requires the reporting processes to be fully embedded in the core business systems.

To address upstream sources of emissions may require the input of procurement, R&D, design, engineering, production and human resources for example. Consideration must be given to what is required to be purchased, as well as from whom it is to be purchased. This will need to be factored into procurement policies and procurement decisions, while also acting on the emissions impacts at the R&D and product design stage, facilitating the design-out of emissions.

Engaging with organizations within the supply chain will also be essential to address upstream impacts. The supply chain will need to be involved in order to provide information to accurately calculate total emissions and to communicate to them the company standards relating to climate change. Working closely and partnering with supply chain companies is important to gain the information required and to move forward with improvements.

In addition to engaging with suppliers to address the upstream emissions, companies will also need to engage downstream with their customers and the end consumer. This may therefore also require the involvement of departments such as logistics, marketing and sales, and communicating with customers and consumers. For example, clear information on less energy-intensive options, how to reduce emissions during a product's use and to encourage product returns or recycling at end-of-life for example.

Unfortunately, common practice is currently for carbon-reporting to be purely the responsibility of environmental or sustainability departments, making obtaining accurate information very difficult and achieving reductions in Scope 3 emissions near impossible.

Determining which Scope 3 emissions are key to your organization

Embarking on addressing the Scope 3 emissions of your company may appear like a mountain to climb. However, as explained in earlier sections of this white paper, expanding on what is reported and verified in a gradual manner is a sensible and acceptable approach.

The most important first step is to determine which of the Scope 3 emissions are most material to your business. The GHG Protocol¹ and its Scope 3 guidance² describe 15 categories of Scope 3 emissions from raw material extraction to the

¹ The GHG Protocol – A Corporate Accounting and Reporting Standard.

² The GHG Protocol – Technical Guidance for Calculating Scope 3 Emissions.

operation of franchises. Clearly not all of these categories will be a material source of emissions for your organization, and some may not be applicable at all. Therefore, gaining a broad understanding of which of these categories present the largest contribution to organizational GHG emissions and which present the greatest risk to your company is key. It is these categories of Scope 3 emissions that should be addressed as a priority. They are most likely to be challenging to quantify and to improve upon, but they are the most important for an organization to reduce its emissions towards net-zero and to manage the business risks posed.

Effectively communicating your emissions reporting and verification

Companies are facing increasing calls and expectations for greater disclosure of their emissions, from regulators as well as non-governmental organizations, investors, governments, the public and employees; and they are also experiencing requests

for transparency regarding which claims have been verified by independent third parties. It is important therefore that communications on this subject are accurate and clear.

With the broad range of reporting requirements across different sectors and geographies, it is easy for readers of such communications to be confused regarding what has been quantified and what hasn't, and what has been verified and what has not. The absence of reporting and verification does not mean an absence of emissions.

Both organizational carbon reports and their verification statements must therefore be clear on: which scopes and categories within scopes have been reported and verified; which scopes and categories within scopes have **not** been reported and verified; together with the level of assurance and materiality provided by the verification process. It is only through communications that are clearly written for the reader, that understanding, confidence and assurance can be provided.



Verification of water and forests-related data

To ensure that we maintain the availability and sustainable management of our water resources, we must first all understand our impacts upon that aim, together with the risks and opportunities presented for our businesses.



Independent third-party verification of those impacts and risks can help to ensure that your organization is on the right path with regard to both its quantifications and its risk assessments. While there is no universally recognized verification standard for water disclosures, existing standards such as ISAE 3000³ are often used.

A good first place to start with water reporting and verification is with a standardized approach to both facilitate transparency and provide consistency and comparability for users of the reporting. Common standards for reporting of water-related data include GRI's 303⁴ or the CEO Water Mandate Guidelines⁵. These standards advise on considering your water withdrawal, consumption and discharge quantity and quality, first within your own operations and then within the value chain.

This first step goes a little way towards identifying the organizational impacts but does not paint the whole picture. Organizations then need to understand the locations of their water withdrawals in relation to areas of water stress and there are publicly available data sets to support companies in this, such as the CEO Water Mandate Database⁶ and the HydroSHEDS database. Only through mapping withdrawals against known catchments with water stress will the extent of the organizational impacts become clear.

Engaging verification at this stage will provide the organization with the assurance that the true impacts, risks and opportunities are correctly identified and quantified. From here business policy, strategy and improvement targets can be established, implemented, monitored and communicated to engage with all stakeholders for continual improvement of water disclosure.

There are several benefits of the verification of forest products to credible certification standards:



- ▼ Companies are assured the forest products are legal, deforestation free, and traceable to their original source.
- ▼ Consumers are assured that environmental considerations and sustainable development have been taken into account.
- ▼ Forests provide many direct and indirect goods and services, as well as societal benefits. Sustainably

managed forests ensure those services are protected and preserved.

CDP has a [technical note](#) on implementing commitments on deforestation and ecosystem conversion and this has a section on verification, please take a look here for more information.

³ International Standard on Assurance Engagements – ISAE 3000 - Assurance Engagements other than Audits or Reviews of Historical Financial Information.

⁴ GRI 303: Water and Effluents.

⁵ CEO Water Mandate – Corporate Water Disclosure Guidelines.

⁶ CEO Water Mandate - Interactive Database of the World's River Basins.

Common verification myths

Myth: Site visits are necessary for verification

Site visits are not necessary for all verifications; however, there are circumstances where a site visit is either necessary or strongly encouraged. The client and verifier should discuss whether a site visit is needed early in the scoping phase, regardless of the assurance level (ie limited or reasonable). Certain programs, like the Mandatory Greenhouse Gas Reporting Regulation, require site visits. However, the necessity of a site visit for most ESG related verification is not as straightforward. In certain instances, a site visit can be justified – for example, a site visit might be beneficial when emission and energy data are primarily constrained to a lone main manufacturing facility. In this circumstance, a site visit can strengthen the verification

opinion because the verifier is able to observe manufacturing processes and energy measurement procedures firsthand. On-site observations such as identification of electricity meters, fugitive releases of GHG during manufacturing, and a review of the energy-consuming processes could potentially be valuable and provide further confidence in the data. In situations where energy usage and emissions are spread across a wide population of emission sources, then the value of a site visit is diminished. An example where a site visit may not yield a benefit is the verification of data and emissions for retail banking or professional services, where their emissions inventory may include energy usage from hundreds or thousands of offices.

Myth: A positive verification statement means our data and GHG inventory are completely accurate

A third-party verification will reduce GHG data uncertainty, but a positive verification does not guarantee complete accuracy. Companies need to understand that there is more uncertainty and variability in GHG emissions calculations and data compared to financial data. Data and GHG calculations should constantly be evaluated year to year to incorporate the inclusion of better data, more accurate emissions calculation techniques, or

changes in the GHG protocol accounting standards. This periodic review needs to be incorporated into the company's procedures as part of their preparation for annual GHG emissions. Just because a verifier has issued a positive statement does not mean you do not need to continuously evaluate your emissions for better ways to obtain accuracy or to expand on your emissions inventory to accurately reflect your business operations.

Analysis of CDP publicly reported verification data

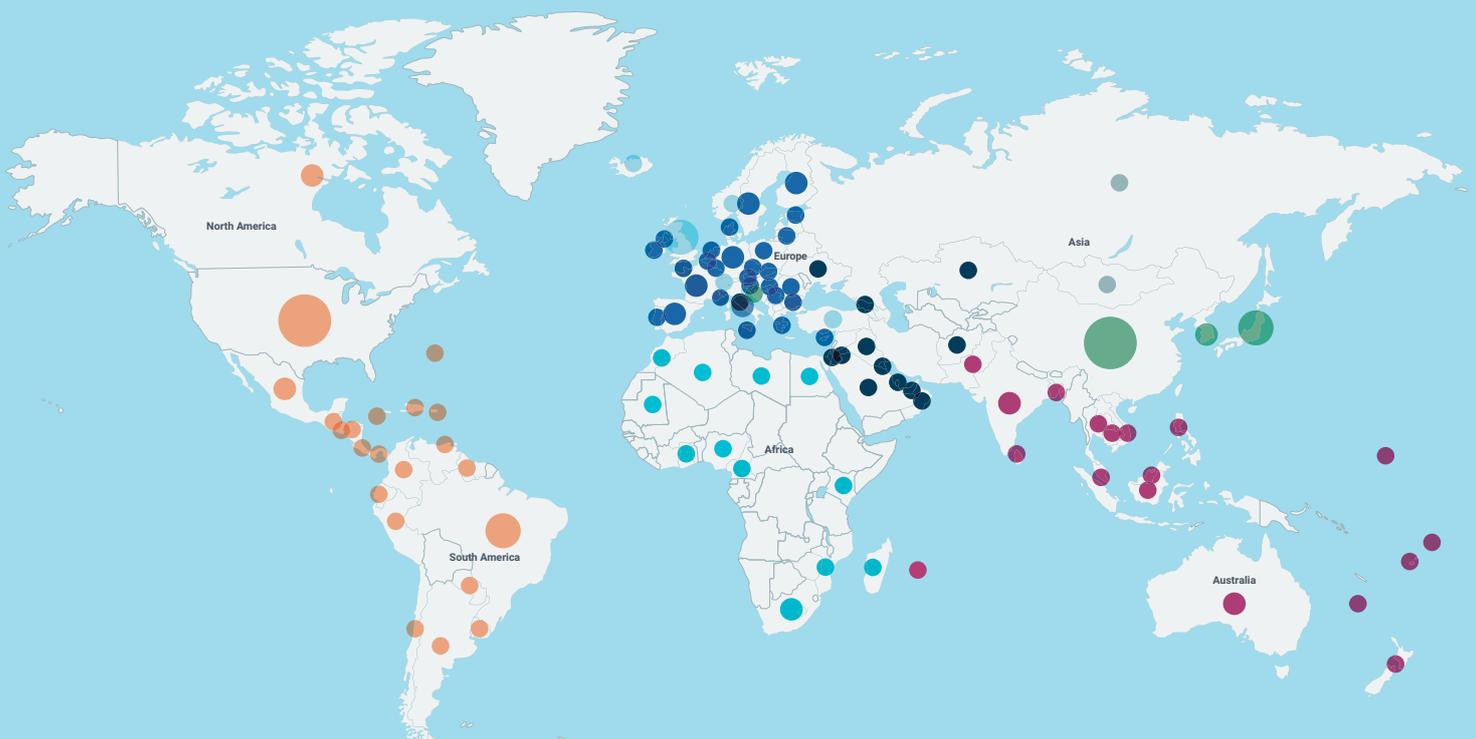
Upon analyzing data reported publicly through CDP in 2022, LRQA has uncovered noteworthy trends regarding the geographical distribution of reporters, the standards being utilized and the reporting methods employed by companies.

CDP is truly a global organization, as shown by the footprint of companies reporting through its platform. The top three countries where reporters are located are:

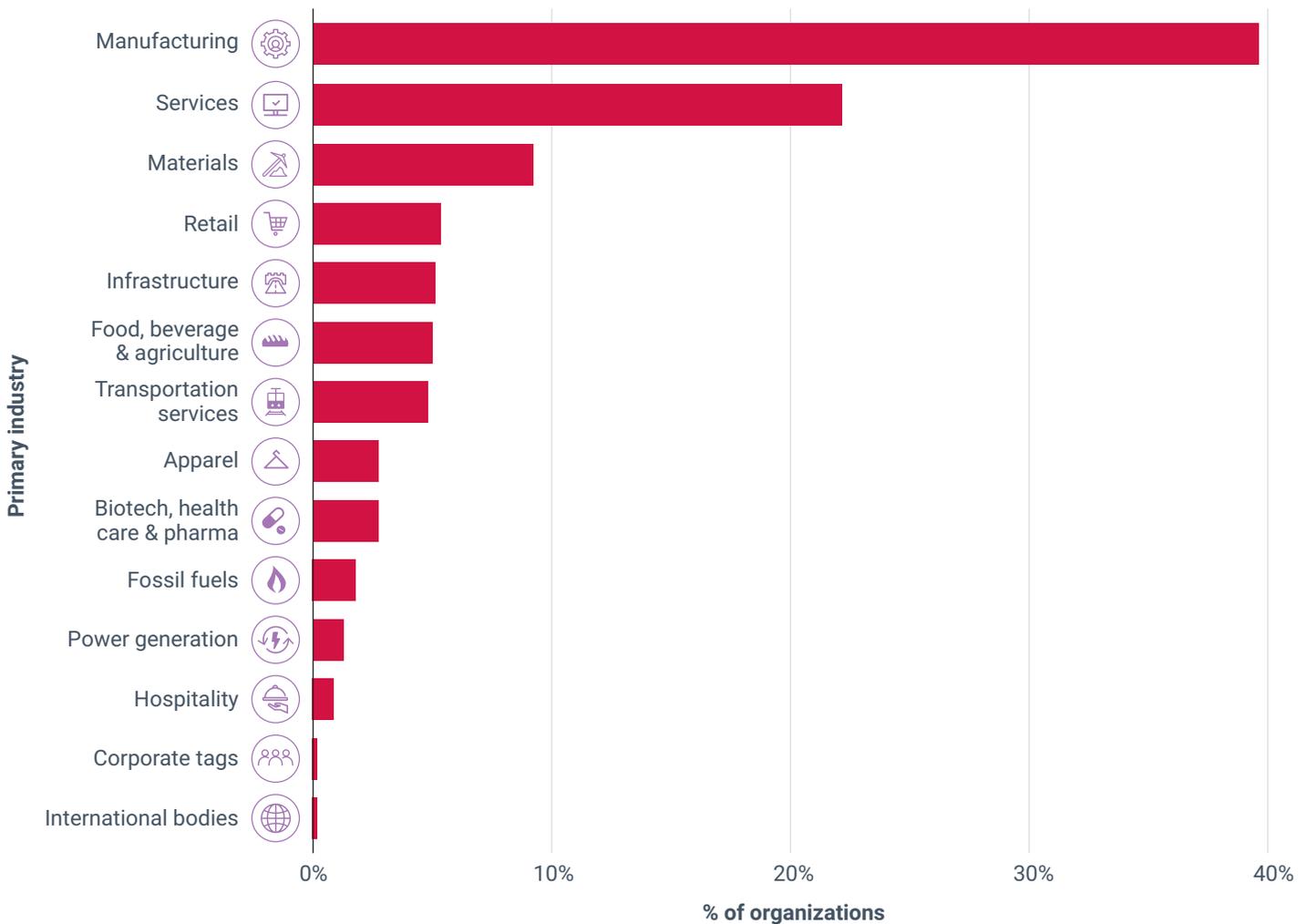
- United States at 16%;
- China at 15%; and
- Japan at 12%.

However, the grouping of the EU countries together tops all at 18% of reporters.

Country groupings	#Org.	%
EU	1,539	18.4%
United States of America	1,310	15.6%
China	1,242	14.8%
Japan	960	11.5%
United Kingdom of Great Britain and Northern Ireland	604	7.2%



One driving factor for companies to report through CDP is its Supply Chain program, reflected in manufacturing emerging strongly as the top primary industry reporting its data through CDP. See the table below for the full industry break-out.



Diving further into the manufacturing industry, the primary sectors represented are electrical & electronic equipment and metal products manufacturing, followed by plastic product manufacturing and powered machinery.

Industries and sectors by region tell a slightly different story, however. Given that many of these reporters represent suppliers too, the industry and sector locations by country paint a picture, as expected, of the global supply chain.

Mainland China, Korea, and Taiwan are the highest reporters in the electrical & electronic equipment sector. China is solely responsible for 30% of the metal products manufacturing and 31% of the plastic product manufacturing. The United States, on the other hand, shows 29% of the IT & software development sector.

Standards

There are many standards when it comes to sustainability. CDP tracks standards that its reporters' verifiers follow to perform verifications and the most popular verification standard is ISO 14064-3, followed by a close second of ISAE 3000.

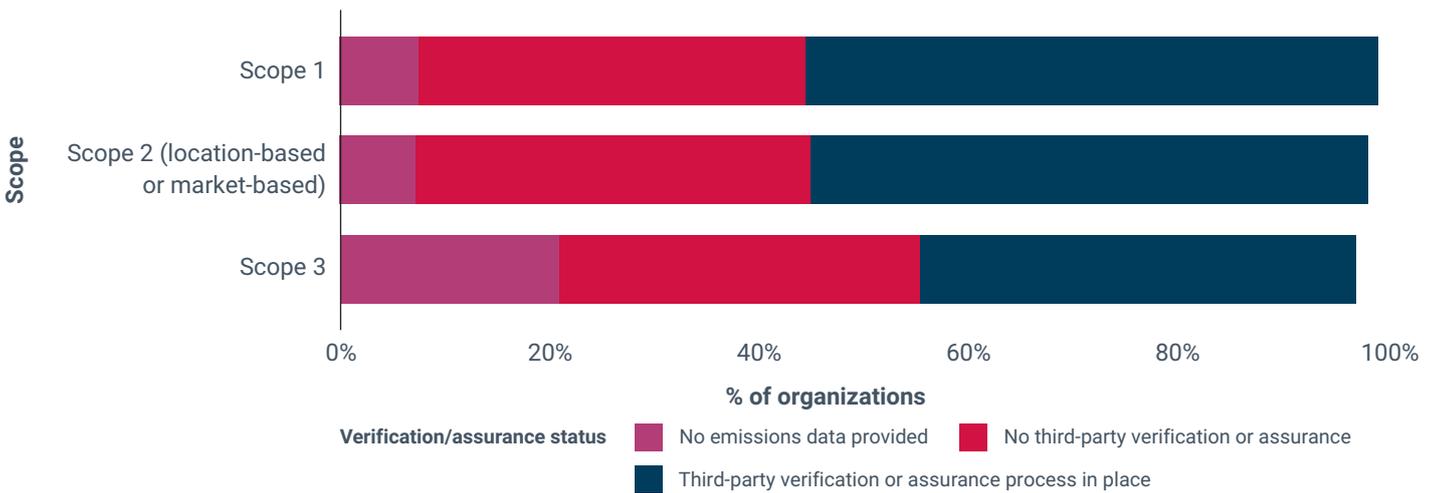
Assurance trends

With regulations requiring verification and claims of greenwashing, assurance is becoming a requirement for environmental data. Out of the **8,372** companies who reported to CDP in calendar year 2022:

33%
received third-party verification or had assurance processes in place for Scope 1 and 2 data.

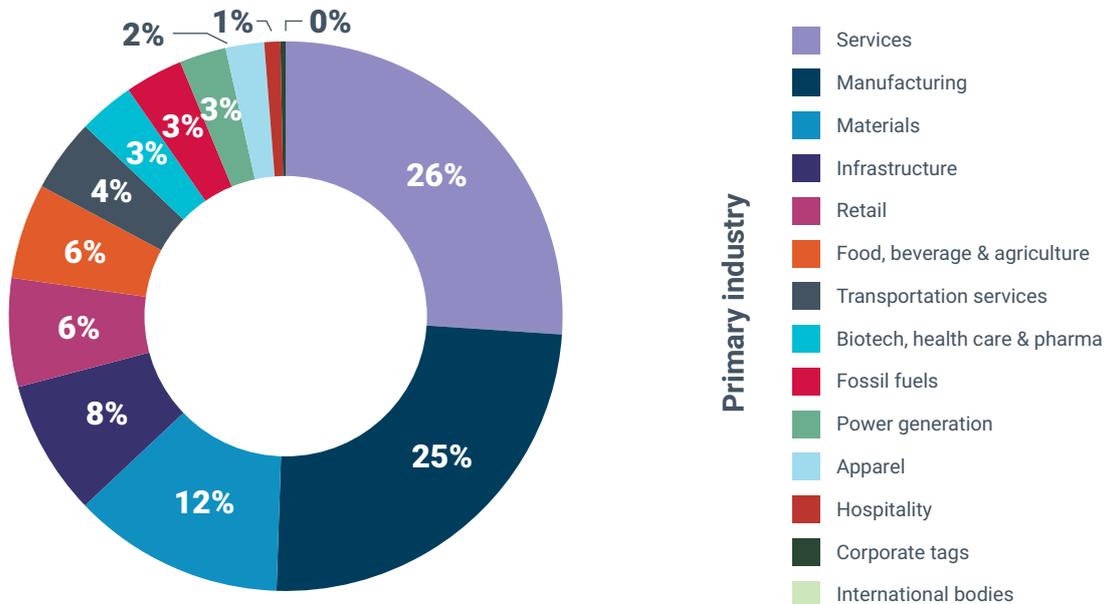
25%
of Scope 3 data received third-party verification.

Percent of scope by scope and verification/assurance status



The top industries going through verification are services and manufacturing, followed by materials.

#Scope 1 org. by primary industry



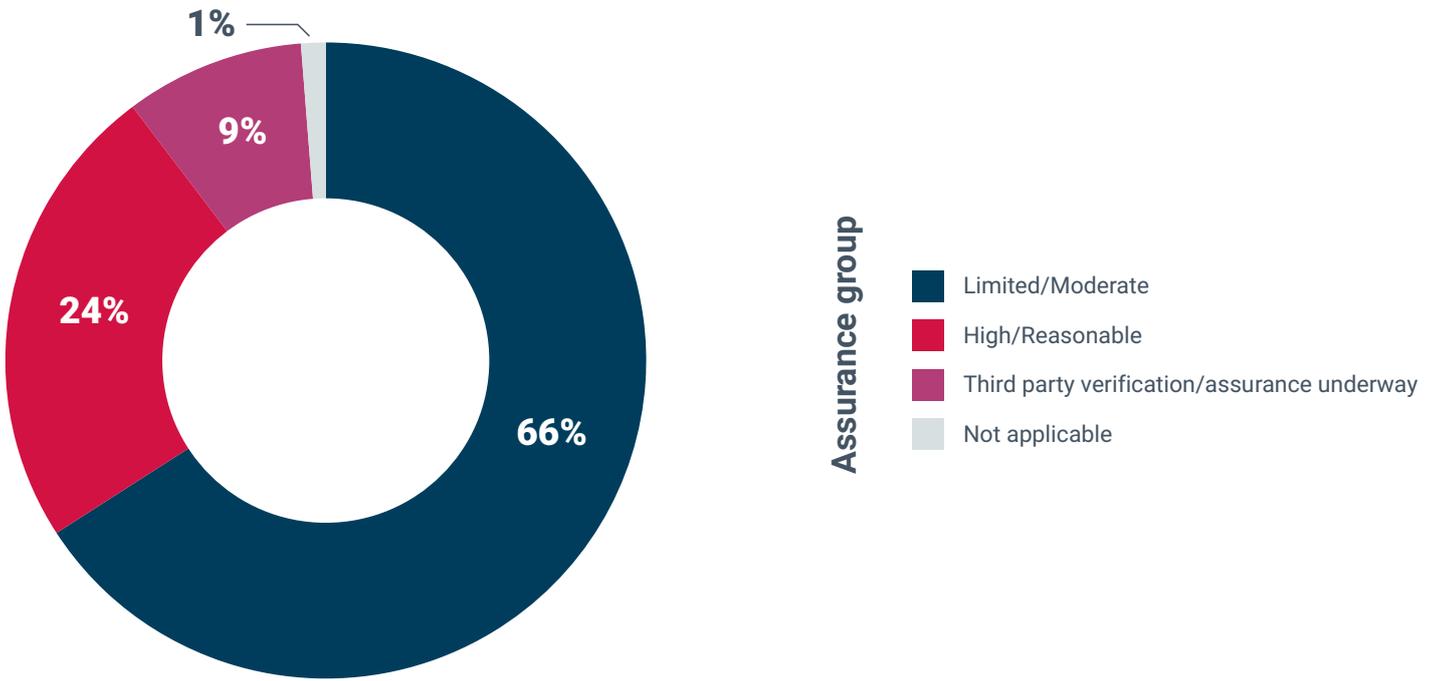
Verification activities are not all equal. The standard differentiator in verification is the level of assurance achieved, which can either be limited or reasonable assurance. The different levels of assurance determine how deep the verifier dives into the data and the acceptable level of risk, as defined in both ISAE 3000 and ISO 14064-3. Typically, companies start out with limited (or moderate) assurance and transition to reasonable (or high) assurance. Both the SEC Proposed Rule and the CSRD require limited assurance first with a transition to reasonable, for example. Out of the CDP reporters who did go through assurance activities, most used limited/moderate assurance.

In CDP's experience, most companies go through limited assurance when verifying for the first time.

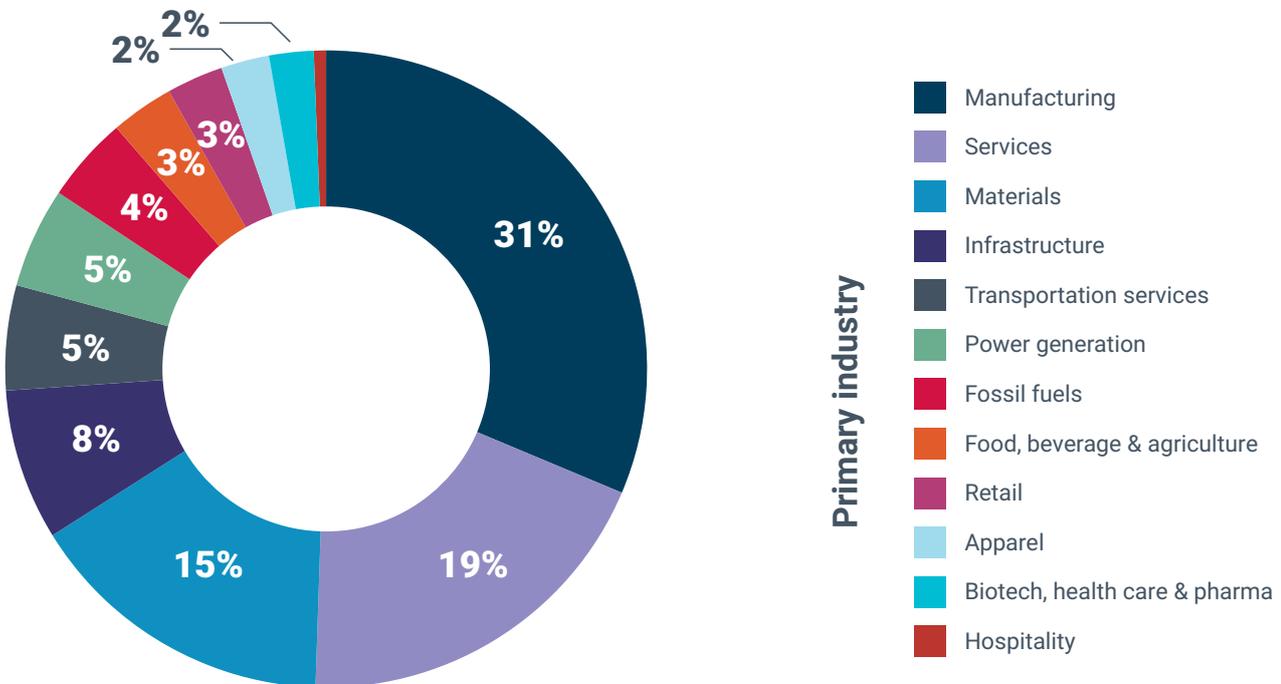
It helps ensure systems are robust and in place to adequately manage the large quantities of data required to calculate GHG emissions. However, companies experience major challenges when transitioning to reasonable assurance. We have seen it take a good two to three years to transition, as reasonable assurance requires verification down to the primary level of data for a specific sample size. When companies test data this deep, often material findings are identified that can be difficult to address – either in just the nature of how data is handled, how data quality is evaluated, or how changes are managed. For example, even with all of the smart IT systems and AI, every inventory is plagued by unit conversions and typos due to how the data is collected and managed.

The following charts show the overall levels of Scope 1 Assurance along with a breakdown of the industries with High/Reasonable levels of assurance.

Scope 1 organizations by assurance group



High/Reasonable assurance: Scope 1 organizations by industry



Scope 3

Not surprisingly, business travel remains the top reported Scope 3 category as companies may see it as one of the easiest to calculate. However, purchased goods and services are a close second, though most companies may still be using a

spend-based approach to calculate the emissions. Spend-based approaches are extremely helpful in benchmarking exercises, but more accurate and data-informed decisions can be made from actual supply chain data.

Categories	#Scope 3 Org.	% verifying Scope 3
Business travel	1,529	75.3%
Purchased goods and services	1,313	64.6%
Flue and energy-related activities (not included in Scope 1 or 2)	1,155	56.9%
Waste generated in operations	1,154	56.8%
Employee commuting	1,052	51.8%
Upstream transportation and distribution	1,025	50.5%
Capital goods	703	34.6%
Downstream transportation and distribution	619	30.5%
Use of sold products	588	29%
End-of-life treatment of sold products	440	21.7%
Upstream leased assets	340	16.7%
Downstream leased assets	309	15.2%
Investments	289	14.2%
Processing of sold products	203	10%
Franchises	150	7.4%



CDP's accredited verification solutions providers

In order to get your data verified for disclosure to CDP, you can work with any verification body verifying data using one of the standards accepted by CDP: see a list of these [here](#).

CDP partners with – and would recommend – several verification providers who have gone through our own accreditation process. This ensures we are working with leading verification providers. You can find CDP's accredited verification providers on our [Accredited Solutions Provider page](#) by selecting 'Verification' in the ASP Category filter. As well as being accredited themselves against recognised standards, these providers carry out the verification of GHG emissions for their clients against CDP-approved standard(s). They are experts in the field of verification and work closely with CDP to stay up to date with all verification-related news and updates relevant to CDP disclosure.

Three of CDP's accredited verification providers – [Keramida](#), [LRQA](#) and [Lucideon](#) – have co-written this whitepaper with us and we are grateful for the expertise and insight they have given us.

If you would like to find out more about CDP's accredited verification providers or be introduced to one, please contact partnerships@cdp.net.

If you are a verification body interested in joining CDP's [Accredited Solutions Provider program](#), please contact partnerships@cdp.net.

Case Studies

Multiple benefits of verification for a company in the power sector

One client of a verification partner in the power sector wanted to have their global GHG Scope 1 and 2 emissions verified, together with a limited number of Scope 3 categories, water and waste-related data. They wanted guidance on what was considered industry best practice and to gain a better understanding of the verification requirements in order that they could expand their reporting and verification to additional data sets in future years.

To facilitate this process the verification partner held meetings and discussions to problem-solve around how best to organize and analyze their data, identifying key data points needed and new data that would need to be collected in the future. The verifier also helped identify gaps and opportunities to improve the quality, reliability, and accuracy of the data, enabling them to ensure their reporting complied with international standards.

Improvement of business management systems through verification for a hospitality company

A global reporter in the hospitality industry engaged with a verification partner over eight years ago to provide limited assurance of their GHG data, energy, water use and other select environmental performance indicators. Through the good, close working relationship with the verifiers, and the improvements identified through the annual verifications completed, the reporter has now improved their business management systems sufficiently to enable achievement of verification to a reasonable level of assurance. This has provided enhanced confidence in the quality, reliability, and accuracy of the organization's sustainability data and improved the credibility of their reports.

Improved accuracy of data through verification for a services company

The reporter is a global multi-site business in the services sector. They gradually increased the accuracy of their reporting in line with improvements in the quality and availability of source data.

From early beginnings that relied on simplified methodologies using a floorspace metric, the organization has improved its harvesting of source data (natural gas usage) and now predominantly uses this primary data for reporting and verification. A better focus on fuel usage promotes ownership of energy and emissions and the action that can be taken to reduce them.

Verification of market and location-based Scope 2 data for a chemical manufacturing company

The reporter is a global business in the chemical manufacturing industry. The reporter has improved its emissions reporting over the years as the quality and scope of available data and supporting emissions factors have increased. One particular area is the reporting of Scope 2 using market-based as well as location-based reporting.

The organization has sourced low-carbon electricity and used its own on-site generation. This is clearly seen in the company's emissions portfolio - its overall emissions and carbon-intensity have declined and having this verified independently has demonstrated this independently to its stakeholders.

The role of data analytics in a verification project

Often companies reporting their data and GHG emissions have operations that span across the globe and can include energy usage from an enormous amount of emission sources. In situations such as this, the role of data analytics is absolutely critical. The identification of data that does not adhere to the normal correlation of energy or GHG metrics may provide insight into potential data errors. One simple and useful data analytics check is to plot either energy or GHG emissions per square footage for every location included in a company's emissions inventory. Taking into account regional differences in energy usage and variability in energy consumption for different types of businesses (manufacturing vs non-manufacturing), one may expect that this metric should yield consistent results across the entire business portfolio. Any instances of anomalous data should be hot spots for further investigation into the supporting data for that site. This is a great way to identify potential data and emissions issues for large companies.

The impact of non-material findings

It is very important for a company to review the issues log or verification report to understand the impacts of all observations and findings, including the non-material findings. Just because a finding is non-material for a current year, does not mean it will be non-material in the future, so it is best practice for clients to understand all findings. For example, a building material manufacturer has a small business division that sprays foam for insulation. Currently those insulated products are minor in comparison to the rest of their products so calculated fugitive emissions are, at the time, minor. Even though minor, the verifier does make non-material comments on how the estimation procedures can be improved upon by better tracking of foam usage. As this manufacturer's business grows, and more focus is given to insulated products, those findings that were immaterial at one point, will become significant if the client does not put practices in place for better collection of data on the foam-based product.

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About CDP

CDP is a global non-profit that runs the world's environmental disclosure system for companies, cities, states and regions. Founded in 2000 and working with more than 680 financial institutions with over \$130 trillion in assets, CDP pioneered using capital markets and corporate procurement to motivate companies to disclose their environmental impacts, and to reduce greenhouse gas emissions, safeguard water resources and protect forests. Nearly 20,000 organizations around the world disclosed data through CDP in 2022, including more than 18,700 companies worth half of global market capitalization, and over 1,100 cities, states and regions. Fully TCFD aligned, CDP holds the largest environmental database in the world, and CDP scores are widely used to drive investment and procurement decisions towards a zero carbon, sustainable and resilient economy. CDP is a founding member of the Science Based Targets initiative, We Mean Business Coalition, The Investor Agenda and the Net Zero Asset Managers initiative.

Visit cdp.net or follow us @CDP to find out more.