

Capturing efficiencies by preparing for verification throughout the assessment process

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Corporate greenhouse gas (GHG) accounting has become more prevalent as industries and governments around the world recognize the need to integrate comprehensive emissions data into business, policy and investment decisions. The International Organization for Standardization defines verification as the “systematic, independent and documented process for the evaluation of a greenhouse gas assertion against agreed verification criteria” (ISO, 2006), and it is a key step in the assessment process, providing increased confidence in the reliability and comparability of results. In recent years, the number of mandatory and voluntary programs requiring or rewarding third-party assurance has increased, resulting in a larger number of corporations seeking verification. Results from the CDP’s 2014 “S&P 500 Climate Change Report” demonstrate this trend; of the 348 companies responding, 52% publicly disclosed assurance activities associated with Scope 1 emissions and 47% disclosed assurance of Scope 2 emissions, while just over a third of S&P 500 respondents (36%) reported verification activities for Scope 3 emissions (CDP, 2014). Comparatively, only 23% of respondents reported verification activities associated with any scope in 2010 (CDP, 2010).

Given the amount of time and resources being spent preparing for, and undergoing, verification, it was apparent that insight into potential process efficiencies available to businesses would be of significant value. These efficiencies can be broadly categorized into three stages: assessment scoping, the GHG inventory process and verification. A fourth area, specific to the use of an audit-ready GHG management solution, is discussed as it relates to significant streamlining throughout each of the above three steps.

1. Clarity and foresight during scoping

As companies become more familiar with GHG accounting, whether due to previous experience, talent acquisition or an increase in available guidance & support, the scoping stage of each new assessment can become oversimplified or routine. And yet, it remains the single most important step in the assessment process due to the clarity it provides to each subsequent step. During assessment scoping, a company must first agree on the objectives – why is the assessment being undertaken? Is reporting a voluntary or mandatory exercise, and which protocols need to be considered? How will results be communicated, and to whom? These considerations directly impact the scope of the assessment and the resources required. Importantly, the objectives should also include whether verification of the assessment will be necessary; a company that has completed scoping without knowing if and when verification will be sought has lost out on numerous chances to increase the efficiency of this process.

Protocol Criteria

Once the goals are clearly defined, you need to determine which protocols & programs you're seeking compliance with – each protocol has its own distinct set of rules, a portion of which shape the assessment scope. Key elements defined during the scoping stage are the assessment period, consolidation approach, organizational and operational boundaries – which entities and sources, respectively, will be included –and GHGs considered. However, protocols & programs also contain rules regarding verification; if your company isn't sure whether its assessment will be verified, or by whom or to which program, you can't design your scope to account for these requirements and this may increase the frequency of omissions or errors in your report. It is therefore equally important to define your verification scope, along with your assessment scope, during planning. In fact, the European Greenhouse Gas Emissions Allowance Trading Scheme (EU ETS) strongly recommends that the verification process begin during the assessment period, rather than after the year has ended (The European Commission, 2012). Though there are many similarities between assessment and verification scope, the latter should always include two additional considerations: the materiality threshold and type of assurance sought.

Materiality

The concept of materiality is central to verification, which assesses the risks of material discrepancies in a GHG assessment. A material discrepancy is defined by the World Business Council for Sustainable Development and World Resources Institute as, "an error... that results in the reported quantity being significantly different to the true value to an extent that will influence performance or decisions" (WBCSD/WRI, 2004). A materiality threshold, therefore, is used to determine whether an error is, in fact, material. Some protocols set specific materiality thresholds while others require a threshold to be set but leave the specific value to the reporting company. For example, the US Climate Registry sets a separate threshold of 5% each for total entity direct emissions and total entity indirect emissions (The Climate Registry, 2014). The WBCSD/WRI's Corporate GHG Standard, on the other hand, recommends a threshold of 5% for the total inventory (WBCSD/WRI, 2004). Clearly, it is essential to know the materiality threshold of your chosen verification protocol from the onset so that you can make informed decisions on whether emissions from a missing or incomplete data source can be excluded due to immateriality, or whether an estimation method will be required.

Type of Assurance

It is similarly useful to decide on the level of verification you'll be seeking, which is akin to the degree of confidence the verifying body has in your GHG assertions and underlying data. The ISO verification protocol (14064-3) categorizes the level of assurance provided by the verifier as either 'reasonable' or 'limited', where the former signifies a higher level of confidence in reported results and assertions (ISO, 2006). While the level of assurance is used by a verifier to develop the verification plan, it ultimately impacts the resources required from your company during verification. A reasonable assurance engagement will require a larger amount of data to be sampled and reviewed, the presence of – or increase in – site visits, and the engagement of more of your personnel who worked on the inventory. Beginning in 2015, the CDP will only award full points in the relevant sections of the questionnaire to

companies that have had 70% or more of both Scope 1 and Scope 2 emissions third-party verified to an approved protocol; in addition, meeting this threshold will be one of the mandatory criteria for eligibility into the Carbon Performance Leadership Index (CPLI) (CDP, 2014). Knowing which level of assurance is being sought will allow you to ensure that responsibilities and time commitments for all personnel are clear from the start and help to ensure that verification activities occur efficiently and on schedule.

2. Rigorous inventory documentation

In terms of ensuring a more efficient verification process, detailed documentation and centralized organization of data during the assessment cannot be overstated. Regardless of the level of assurance being sought, the same information is generally required – it is simply that more of this data will be sampled and reviewed during a reasonable or more rigorous assurance. The easiest way to track and organize data and supporting evidence is by creating a thorough data plan and outlining the appropriate place to find, calculate or measure, and store collected data. Companies should clearly define the responsibilities of all personnel involved in the inventory and verification processes, as well as outline data retention policies – where and for how long supporting evidence will be kept.

Inventory Data and Metadata

The fact that raw data underlying GHG calculations will need to be provided to a verifier during assurance is generally well-understood; companies recognize that documents or physical evidence (during site visits), such as utility invoices or meter readings for electricity consumption, will likely be requested. However, fewer companies realize that verifiers will, in addition to data evidence, also ask for supporting metadata regarding the data and data systems. Simply put, metadata is data about your data; it includes such information as where, when and by whom the data was collected, and the processes and training in place to support this. Metadata allows verifiers to gauge the accuracy and consistency of processes and systems put in place to collect inventory data. For each piece of data collected in the course of the inventory, it is crucial to consider and document the following:

- i. Personnel: name and contact information; specific description of data responsibilities, including complete list of facilities and sources; description of training received related to this task; experience with task; ancillary personnel and their contact information and tasks
- ii. Process: location of meters/measurement devices; maintenance and calibration records for measurement devices; location of data within internal systems; steps for collecting data; steps for ensuring completeness and accuracy of data; frequency of system review

Having metadata readily available increases efficiency enormously. Firstly, the presence of detailed metadata in a company's inventory generally indicates a level of organization and preparedness that can speed up project quoting and reduce costs. Secondly, if questions arise regarding a specific data value or source, it is easy to determine who collected the data and how, and to direct verification questions appropriately. Lastly, when processes are laid out in detail, it is easier for a verifier – especially in instances without site visits – to understand the data systems and identify trouble areas prior to the provision of raw data; this translates into potential time and cost savings during sampling and subsequent review, one of the most time-consuming aspects of assurance.

In regards to inventory data, it's worth noting that verifiers will likely ask for evidence of your organizational structure and the application of your chosen consolidation approach; this includes building leases, contracts (e.g. with data centres, suppliers), financial reports, joint venture agreements and sub-tenant lease agreements. It is extremely important for your company to also document any changes to the structure over the reporting period, such as the acquisition or closure of facilities, changes to space occupied and presence of sub-tenants.

Assumptions and Exclusions

In addition to evidence of the data value and metadata surrounding its collection, companies also need to carefully document assumptions & exclusions made for each site and source considered. Assumptions can take many forms, but include non-standard conversions (e.g. electricity price, fuel efficiencies), company or industry-specific intensity values (e.g. energy per unit area, waste per employee), inter- and extrapolation techniques, allocation, and assumptions in factor application (e.g. class of air travel, fuel type or size of vehicles, geographic validity). Generally speaking, two things are true regarding GHG assessments: first, that most calculations involve an assumption of some kind and, secondly, that there is no such thing as too much detail. Assumptions should be detailed clearly in all three related documentation areas: raw data documents, calculations spreadsheets or tools, and assessment reports. Assumptions should be categorized by site and/or source, and it should be easy to review a summary of assumptions and find the data and calculations affected. The alternative is an inefficient situation requiring verifiers to continually ask for specific assumptions as they review sampled data and systems.

Of equal, if not greater, importance is the documentation – and justification – of any exclusion within the assessment boundary. Most protocols, including the Corporate GHG Protocol, ISO 14064-1, Climate Registry and EU ETS, allow for the exclusion of emission sources on the basis of immateriality in an effort to focus resources towards sources that contribute most significantly to total company emissions. While many protocols leave the process of determining which sources are immaterial to the reporting company, some protocols provide specific guidance. For example, the Climate Registry refers to these sources as 'miniscule sources' and provides a list of pre-approved exclusions by sector (The Climate Registry, 2012). The CDP allows exclusions from Scope 1 and 2 emission totals but can apply penalties during the scoring of verification questions as a result, particularly once the new verification threshold is introduced in 2015. During verification, a verifier will review the boundary and confirm whether an exclusion is justified using the chosen materiality threshold, rough calculations performed by your company proving immateriality, and the requirements of the protocol(s) being considered. Therefore, when collating and organizing inventory data, each exclusion needs to have a folder of documentary and testimonial evidence that can easily be provided to your verifier to support these decisions.

Language Considerations

For multinationals, it is extremely likely that a portion of your sites will be conducting the inventory and verification processes in a non-native language. Subsequently, the provision of evidence in a foreign language can increase the time and cost of verification. To reduce such inefficiencies, it is useful to highlight the data values being used on supporting documentary evidence and provide a translation of

identifying features of the evidence (e.g. document name, date, column/row headings, units, general description) for the verification team.

Referencing

Last to be discussed in terms of evidence is clear, complete referencing. GHG assessments, especially those relying on the use of published emission factors in lieu of direct emission measurement, use a large number of researched values in order to convert activity data into emissions. Examples of values requiring a referenced source include applied emission factors, global warming potentials, conversion factors, assumptions (see above), LCAs or other studies, industry or source-specific methodologies, protocols and references to previously completed assessments. While providing the institution, name and year of the sourced document is occasionally sufficient for the verifier to confirm the applied value, supplying additional information significantly increases the success and efficiency of this task, and reduces the amount of support your team will need to provide. Additional data could include page or cell reference, full name, temporal period of the value and the date that the value was researched and/or downloaded by your company. For example, a reference to 'Defra/DECC 2014' for an applied vehicle fuel factor is moderately useful for a verifier; in contrast, a reference that also includes 'passenger vehicles tab - small car, diesel; accessed October 30, 2014' is complete and will allow the referenced value to be located and confirmed without additional support from your team (Defra/DECC, 2014). The units of applied emission factors should also be clearly stated and include the numerator unit and GHG and denominator unit; for example, "kgCO₂/km". These are seemingly minor considerations, but translate into significant time and cost savings when compounded across complex, multinational assessments using a myriad of sources.

3. Resource allocation for verification

Once your assessment inventory is completed, chances are that most of your inventory team considers the process finished for another year. However, if your company is seeking third-party verification, a portion of inventory personnel will be needed to lead the process, while an additional group may be called upon in the event of questions, clarifications or discrepancies. It should be made clear to these individuals from the start of the assessment process that their responsibilities will extend into verification, and what will be required from them.

Inventory Management Personnel

Ideally, the same team managing and leading the inventory process will lead the verification internally, for obvious reasons – they are most familiar with the overarching objectives and criteria of the assessment, and will have already developed professional relationships with the personnel involved. Prior to the engagement of a verification body – and ideally during initial assessment scoping – it is the management team's responsibility to answer several straightforward questions concerning the assurance: what is the timeframe and budget for verification? What level of assurance is being sought, and what criteria considered? Which personnel are both knowledgeable and available to support the verifiers? During verification, at least one member of the management team needs to be available to support the inventory personnel, liaise with the verification team, and keep uninformed upper

management informed. This individual should expect to answer verification questions associated with inventory scope, verification scope, and process development and evolution, and also those associated with any past assessments and verification exercises (e.g. if current assessment data is being reviewed against a base year or targets). Importantly, this representative should also be able to provide a documented overview of changes to assessment criteria, internal data systems and personnel over your company's carbon accounting history.

Site Visits

Data collection contacts at each facility should expect questions on the information systems and controls, as well as specific assumptions and calculations. Site contacts should also know whether a site visit is possible, an activity that corresponds to the level and criteria of assurance being sought. Since the selection of facilities to visit is influenced by several main criteria, it is possible to create a short-list of likely candidates prior to receiving the ultimate list from your verifiers. Factors that tend towards site visitation include unique or industry-specific GHG sources, a significant percent contribution to total entity emissions, and an overall complexity in data, data systems or calculations (WBCSD/WRI, 2004); small, leased sites with standard emission sources are rarely selected. Facilities that fall into one or more of these categories should be flagged early on in the assessment process; you can further increase efficiencies during verification by assigning an overall data coordinator to these sites from the onset and reviewing the inventory and verification criteria with them to prepare them for the process.

External Suppliers

Finally, your company should inform external suppliers about upcoming verification, including a rough timeframe of verification activities and what their role would be if required. Suppliers can include data suppliers external to your company (such as travel agencies, couriers and building managers), contractors, and greenhouse gas technical providers. If your company has made use of a GHG accounting tool for the assessment, it is wise to request a description of the general and technical features of the tool prior to verification; you should also identify a contact with this supplier who can describe the tool in detail and respond to ad hoc questions that arise during verification.

4. Capitalize on the audit-ready capability of *Our Impacts*

Carbon management solutions are available to companies seeking to measure and report GHG emissions and governing organizations advocate that such tools can be extremely advantageous in streamlining the verification process. These systems "can allow the verifier to more efficiently assess the information if all relevant GHG information is more centralized", especially if they "...include clear hierarchical management structures and libraries that help standardized calculations" (CDP, 2011). However, it is important to acknowledge that not all solutions are created equal in their capacity to streamline the verification process.

Our Impacts, the sustainability and GHG accounting platform produced by Ecometrica, was designed to efficiently manage both the inventory and verification processes and has been independently certified as 'audit-ready' by PricewaterhouseCoopers for the past two years. A concept unique to this solution,

'audit-ready capability' ensures that all system outputs are fit for purpose and can be subjected to independent assurance without the need for your company to dedicate personnel to costly 'pre-assurance' work. As a result, efficiencies associated with verification are captured during project scoping, inventory processes and assurance.

Scoping

Companies conducting inventories using *Our Impacts* are partnered with a member of Ecometrica's expert team of analysts, who advise on each aspect of the assessment from scoping through verification. During scoping, assessment objectives are discussed and Ecometrica's significant experience applied in the selection of protocols, boundary setting and reporting & verification criteria. Custom report templates available through the solution are built for compliance with a variety of common program protocols, including the CDP, ISO 140640-1, WBCSD/WRI and Carbon Reduction Commitment; this embedded automation eliminates the need for your company to spend time researching criteria or producing compliant inventory reports. It is also mandatory for companies using *Our Impacts* to select the source of applied global warming potentials, ensuring consistency in application across all applied factors and calculations. Lastly, analysts pre-emptively identify protocols requiring the selection of a base year and provide guidance on selection, while *Our Impacts* is capable of presenting base year emissions for comparisons between assessments and the setting and tracking of targets.

Inventory

Offered as a software-as-a-service model, *Our Impacts* is a single, centralized location online for all inventory data, calculations and reports. The system requires that personnel are assigned specific data collection responsibilities and tracks user activity, greatly facilitating the verification of personnel organization and preparedness. It also offers the capacity to upload evidence and enter custom comments for each question; raw data, assumptions and calculations for each emission source are therefore accessible to verifiers instantly. *Our Impacts* combines a number of innovative technologies, most notably a comprehensive database of emission & conversion factors and unique algorithms that automatically select and apply the most appropriate factors to inputted data. This means that the time-intensive task of researching and applying factors is automated by the system, a process that was independently verified by the Greenhouse Gas Management Institute in 2010. Companies with successive assessments in *Our Impacts* can make use of the variance indicator, which displays the percent change from the previous year's emissions for each question.

Data and calculations are reviewed by Ecometrica's analysts during the intensive quality assurance process, which acts as a pre-audit throughout the inventory process and pre-emptively catches errors or omissions in entered data prior to assurance, saving time and reducing costs during assurance. Once the assessment is finished, a comprehensive spreadsheet is available for download that includes every detail of assessment calculations: raw data, extrapolation, assumptions, emission and conversion factors applied, and a wide variety of results breakdowns; PDF reports in compliance with the chosen criteria are similarly provided. Both the spreadsheet and reports are meticulously referenced, introducing a level of transparency across all results that streamlines data and calculation verification enormously.

Verification

Ecometrica analysts are on-hand to support each company throughout verification of *Our Impacts'* produced inventories, providing an experienced resource for relevant assurance questions regarding scope, program criteria and system databases. Verifiers are assigned specific 'auditor' permissions in *Our Impacts*, granting immediate access to fully centralized and transparent inventory data and calculations. The powerful Analytics feature guides the development of verification plans – specifically site visits and sampling plans – by providing the flexibility necessary to easily identify material facilities and sources, useful for both reporting companies and auditors. Finally, *Our Impacts* expedites the typically iterative nature of assurance exercises by simplifying and automating required changes to data, calculations and reports; errors or omissions identified by verifiers are quickly corrected and updated results instantaneously available.

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