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What does the GHG Protocol say about dual reporting and the RSF?

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The GHG Protocol encourages New Zealand organisations to use dual reporting & the BraveTrace Residual Supply Factor

A note on terminology: shall, should, may, required

The **GHG Protocol Scope 2 Guidance** "*uses precise language to indicate accounting and reporting requirements, recommendations, and allowable options that companies may choose to follow*" (p.9). Before examining this guidance it is important to understand this terminology in context, it is laid out as follows:

This guidance uses precise language to indicate accounting and reporting requirements, recommendations, and allowable options that companies may choose to follow.

- **The term "shall" is used throughout this document to indicate what is required in order for a GHG inventory to be in conformance with the Scope 2 Guidance and by extension the GHG Protocol Corporate Standard.**
- **The term "should" is used to indicate a recommendation, but not a requirement.**
- The term "may" is used to indicate an option that is permissible or allowable.
- The term "required" is used in the guidance to refer to requirements. "Needs," "can," and "cannot" may be used to provide recommendations on implementing a requirement or to indicate when an action is or is not possible.

1. Dual reporting is required under the GHG Protocol

The **Scope 2 Guidance** from the GHG Protocol states:

*"Companies with any operations in markets providing product or supplier-specific data in the form of contractual instruments **shall** report scope 2 emissions in two ways and label each result according to the method: one based on the location-based method, and one based on the market-based method. This is also termed 'dual-reporting'*" (p.8)

The GHG Protocol Scope 2 Guidance introduces a dual reporting requirement for companies operating in markets where product-specific or supplier-specific data is available through contractual instruments, such as Renewable Energy Certificates (RECs) or

supplier-specific emission factors. This means that organisations must report their Scope 2 emissions using both:

I. **The location-based method** – which calculates emissions using the average emissions intensity of the electricity grid in a given region (e.g. New Zealand's National Supply Factor).

II. **The market-based method** – which accounts for specific procurement choices, such as renewable energy purchases, using instruments like New Zealand Energy Certificates (NZ-ECs).

This ensures transparency and comparability, allowing stakeholders to see the difference between an organisation's emissions under business-as-usual grid conditions versus what they have actively procured through contracts. Importantly, organisations that do not have contractual data for every site are still compliant as long as they follow the hierarchy of emission factors outlined in the guidance.

By following dual reporting, companies in New Zealand and beyond can provide a more accurate and transparent picture of their emissions, distinguishing between emissions reductions from actual renewable energy procurement and grid-average factors.

2. Use of the Residual Supply Factor

The **Scope 2 Guidance** from the GHG Protocol states:

> *"The emissions from all untracked and unclaimed energy comprise a residual mix emission factor. Consumers who do not make specified purchases or who do not have access to supplier data **should** use the residual mix emission factor to calculate their market-based total" (p.27)*

Companies without NZ-ECs or other renewable energy contracts should use a residual mix emission factor (known in New Zealand as the Residual Supply Factor or RSF) for market-based reporting and the National Supply Factor (NSF) for location-based reporting. The reasoning behind this recommendation aligns with the broader intent of the GHG Protocol:

Aligning with Market-Based Accounting Principles

- The market-based method requires that emissions be calculated based on contractual instruments where available.
- If a company lacks such instruments, it should use the residual mix because it represents the portion of electricity generation that remains after other claims have been made.

Preventing Double Counting of Renewable Energy

- The residual mix removes the portion of the grid mix that has already been claimed through renewable energy certificates and other contracts.
- If companies without RECs used the full grid mix instead of the residual mix, they could inadvertently understate their emissions by including renewable energy attributes they did not purchase.

Ensuring Accurate and Fair Emissions Reporting

- Since the GHG Protocol is built on principles of **completeness, consistency, and transparency**, using the residual mix ensures that emissions reflect the actual electricity sources available to companies without contractual claims.
- The Protocol advises that companies should not apply the average emissions factor of the total grid mix when a residual mix factor is available, as this would lead to double counting of renewable attributes.

  "*To prevent double counting of GHG emission rate claims tracked through contractual instruments, the market-based method requires an emission factor that characterizes the emission rate of untracked or unclaimed energy… Depending on the region and percentage of tracked electricity, this residual mix may closely resemble a "grid average" data set, or may be significantly different." (p.56)*

The GHG Protocol's use of "should" regarding the residual mix indicates it is the recommended approach for ensuring fair, accurate, and transparent emissions reporting. Companies that do not use contractual instruments should follow this guidance to avoid misrepresenting their emissions and to align with best practices in GHG accounting.

3. Applying this guidance to the New Zealand context

In New Zealand, the principles outlined by the Greenhouse Gas (GHG) Protocol regarding the use of the Residual Supply Factor (RSF) are particularly pertinent due to the country's unique electricity market and renewable energy initiatives.

Understanding New Zealand's Residual Supply Factor

The RSF in New Zealand represents the carbon intensity of electricity consumption **after accounting for renewable energy claims made through instruments like New Zealand Energy Certificates (NZ-ECs)**. As more organisations purchase NZ-ECs to claim renewable energy usage, the RSF becomes more carbon-intensive, reflecting the remaining electricity mix. For instance, in the reporting period of 2024, the RSF was **77.95 kg CO_2-e/MWh**, which is **4.46% more carbon-intensive than the National Supply Factor (NSF).** (*Source:* Brave Trace)

Recommended Reporting Practices for Organisations

To align with the GHG Protocol's guidance and ensure accurate emissions reporting, it is required that New Zealand organisations use dual reporting, and recommended that they:

1. **Utilise the residual mix emission factor, known in New Zealand as the Residual Supply Factor (RSF), for market-based reporting**: If an organisation has not procured NZ-ECs or other contractual instruments, it should use the RSF (issued by BraveTrace) to calculate its market-based Scope 2 emissions. This approach accurately reflects the emissions associated with the electricity consumed. (*Source: KPMG Assets).*
2. **Refer to the grid-average emissions factor, known in New Zealand as the National Supply Factor (NSF), for location-based reporting**: For location-based emissions reporting, organisations can use the NSF, which represents the average emissions intensity of the national grid. The Ministry for the Environment provides these emission factors, updated annually. *(Source: Ministry for the Environment).*
3. **Stay informed on emission factor updates**: Emission factors can change annually based on shifts in energy production and consumption. Organisations should consult the latest publications from BraveTrace and the Ministry for the Environment to ensure they are using current data.

By adhering to these practices, New Zealand organisations can ensure their GHG emissions reporting is both accurate and reflective of their actual electricity consumption, in line with the GHG Protocol's recommendations.