

Measuring the Journey towards a Low Carbon Economy

Malaysia targets to become a net zero greenhouse gas (GHG) emissions nation as early as 2050. Following this, the government is working to develop the Long-Term Low Emissions Development Strategy (LT-LEDS). The LT-LEDS aims to articulate actionable programs and policies which are needed today to deliver measurable GHG emission reductions aligned with the aims of the United Nations Framework Convention on Climate Change (UNFCCC). This will also support Malaysia's orderly and just¹ transition to a low carbon, climate-resilient economy as early as 2050. The LT-LEDS also helps to identify areas of opportunities for the different sectors. The LT-LEDS is therefore a crucial policy tool to enable businesses and financial institutions to align their own strategies to reduce their GHG emissions.

While the LT-LEDS is being finalised, the government has also laid out plans to put in place key enablers and infrastructure to facilitate the transition towards a low carbon economy. These include plans to introduce a legislative framework, and a carbon pricing framework. The launch of the Bursa Carbon Exchange (BCX), a voluntary carbon market, on 9 December 2022 is a further step forward. The BCX allows businesses to meet climate targets through trading of carbon credits from activities or projects that reduce or avoid GHG emissions. This article focuses on carbon accounting which underpins carbon pricing and trading systems and enables progress on climate goals to be reliably measured. It reviews key elements and approaches to carbon accounting, and its importance in the context of Malaysia's net zero ambitions.

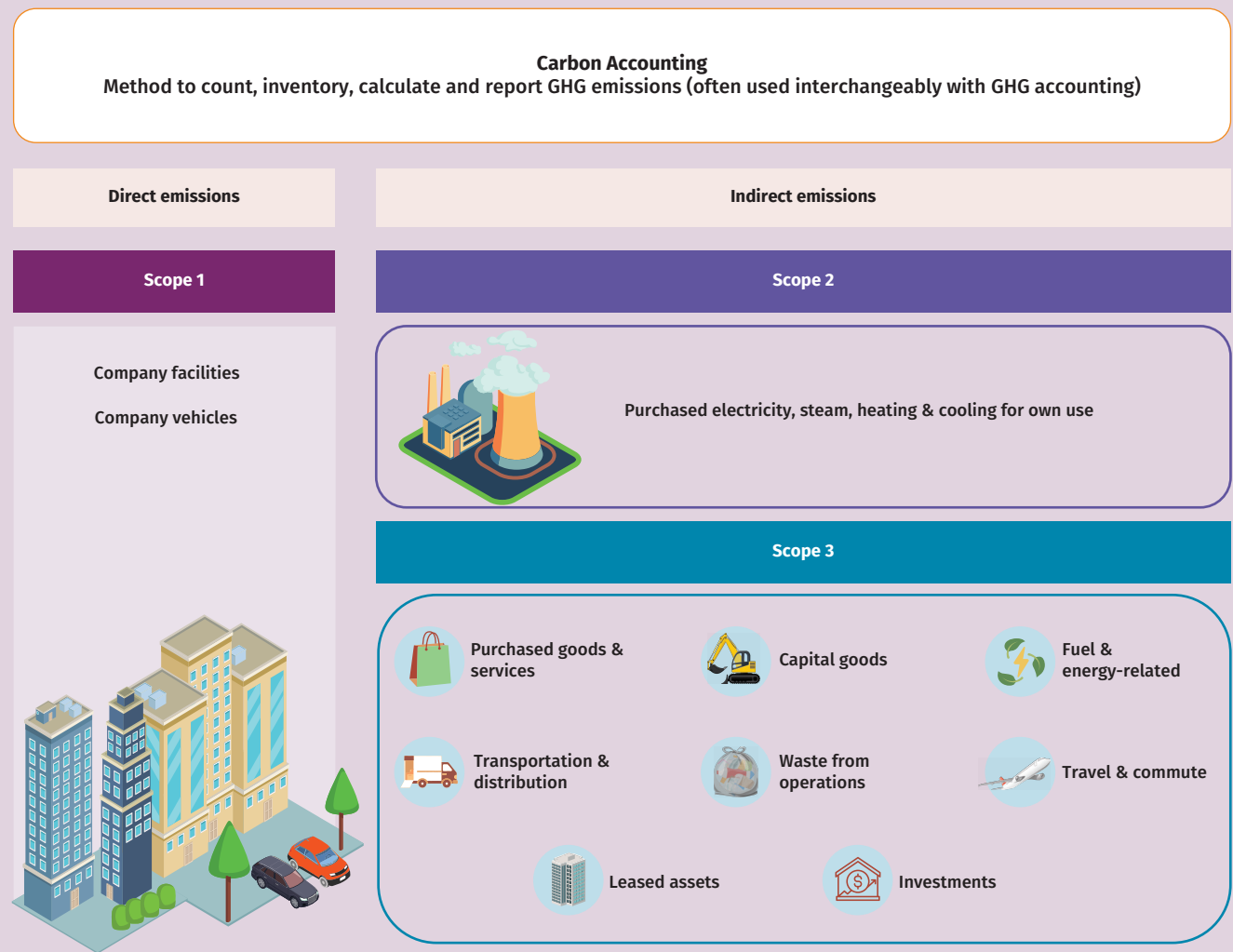
Carbon accounting as a critical enabler for transition

A clear, consistent and credible carbon accounting framework - also known as GHG accounting is a key enabler for the transition towards a low carbon economy. Carbon accounting provides a framework for measuring climate impacts of GHG emissions. This will therefore enable the setting of targets to limit and reduce emissions and to identify new growth areas. Conceptually, one can think of carbon accounting like financial accounting. Both are a form of measurement framework that promotes accountability. Both also allows one to compare performance across entities, industries and time in a consistent and reliable manner. Measuring the amount of carbon dioxide (and its equivalent) emitted by businesses from direct (scope 1) and indirect (scope 2 and scope 3) activities allows for credible monitoring, reporting and verification of GHG emissions (Diagram 1). This then enables carbon emissions to be priced accordingly based on emission targets.

Mandating carbon accounting can result in greater impact on GHG emissions reduction. To achieve this, several important preconditions must be present. The relevant regulatory and reporting systems and infrastructure need to be in place to support credible GHG reporting by companies. Having a legislation in place will facilitate effective enforcement. Further, a focus on building the knowledge and capabilities within businesses is also critical (Diagram 2). Having the relevant data to facilitate monitoring and verification will support future enhancements to the framework to ensure its continued relevance and effectiveness.

¹ A just transition aims for all segments of the business community and society to be able to benefit from the country's transition to a low carbon economy and that no-one is left behind. This involves providing the necessary support including tools, know-how and reskilling opportunities, to enable the more vulnerable communities such as the SMEs and lower income households to adapt and make the adjustments needed and minimise short-term impacts.

Diagram 1: Greenhouse Gas Protocol – Carbon accounting categories



Carbon accounting frameworks

There are several carbon accounting frameworks in use globally. The choice of framework is purpose-dependent. At the national level, countries follow the guidelines formulated by the Intergovernmental Panel on Climate Change (IPCC).² Based on the IPCC guidelines, countries need to prepare and submit GHG inventories in line with the core principles as shown in Diagram 3. Countries that are signatories to the UNFCCC, including Malaysia, follow the IPCC guidelines when submitting the biennial reports on GHG inventories to the UNFCCC.

Diagram 3: Principles of a Good Carbon Accounting Framework



Source: UNFCCC

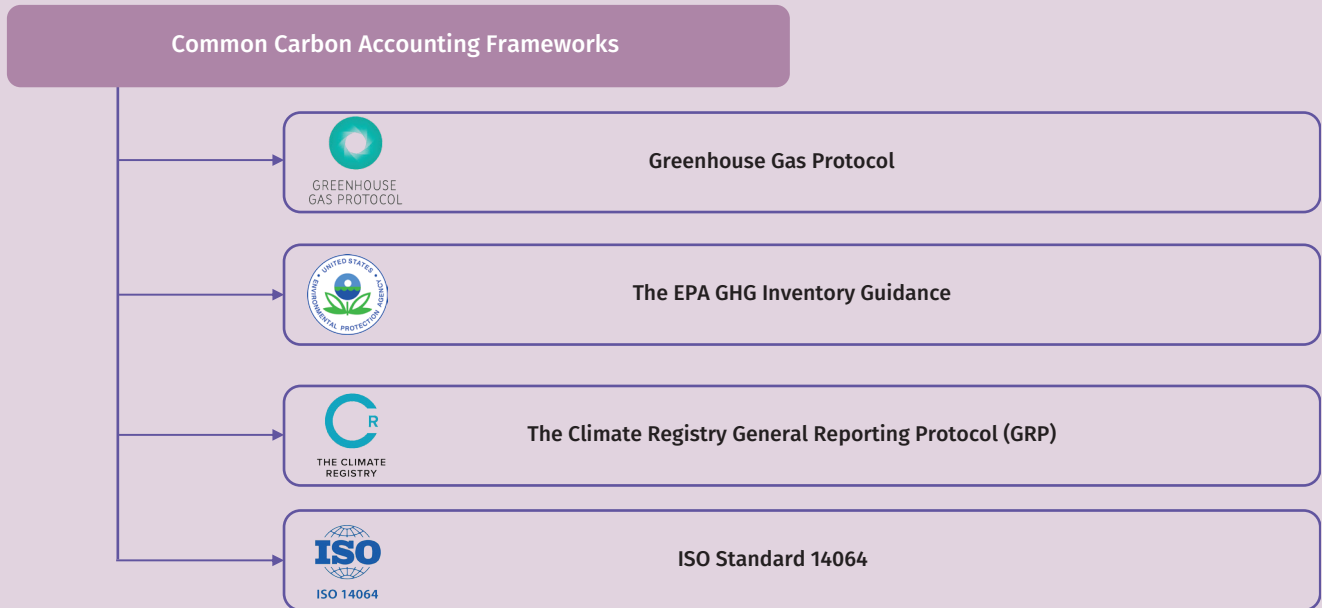
Malaysia's 2020 biennial update report to the UNFCCC highlighted that the major sources of GHG emissions were from the energy sector (79.4% of total emissions). This provides important insights for policy formulation. It helps direct the focus of policymakers to develop transition strategy for the energy sector.

The IPCC Guidelines is intended for use at the national level as it serves to facilitate country reporting. Its use at entity level is less appropriate as the IPCC Guidelines does not provide granular guidance on activity-based emissions. In addition, the IPCC methodology only includes direct emissions which is insufficient to inform operational and strategic decisions at entity level. As such, entities often adopt a different framework to measure their own emissions (Diagram 4). Each framework adopts a different methodology. For example, the Greenhouse Gas Protocol provides best practices for calculating GHG inventories. Meanwhile, ISO14064 focuses mainly on processes and is typically used for verification. Understanding the methodology underlying the frameworks and their limitations is important to ensure that the information captured and produced is fit-for-purpose, properly interpreted and analysed, and any responses are made on an informed basis.

Common carbon accounting frameworks typically adopt several approaches to measuring carbon emissions. The approaches are spend-based, activity-based, and/or a hybrid approach (Diagram 5).

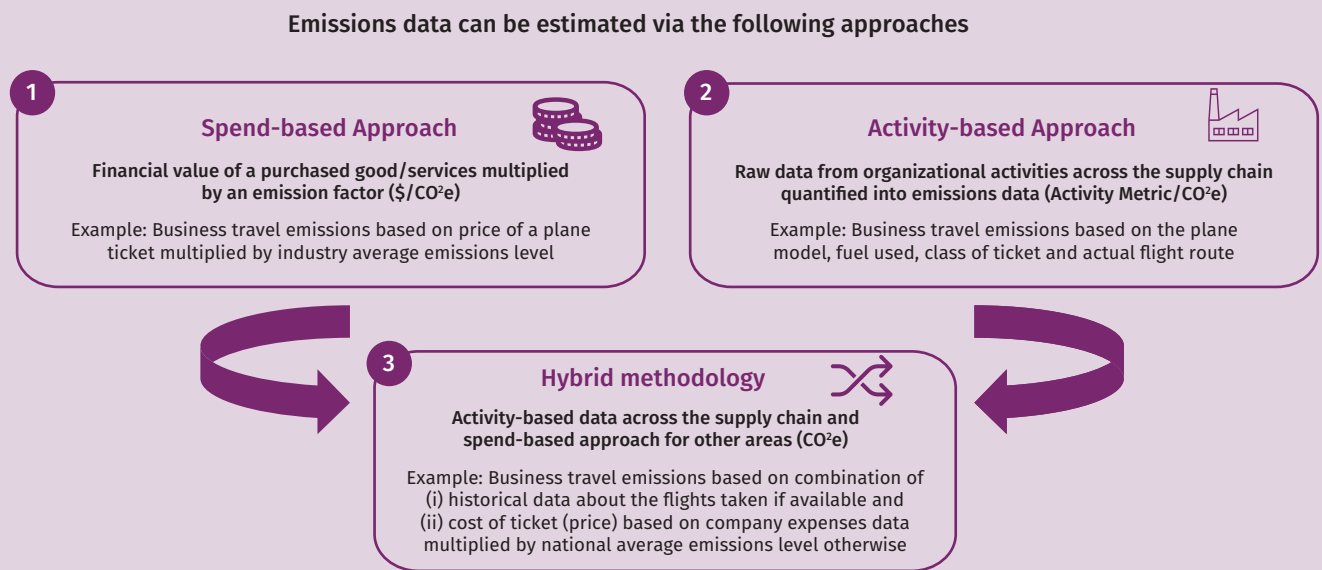
² IPCC is a scientific body commissioned by the UNFCCC

Diagram 4: Commonly used carbon accounting frameworks



Source: Corporate Finance Institute

Diagram 5: Approaches to measure carbon emissions



Source: Greenhouse Gas Protocol

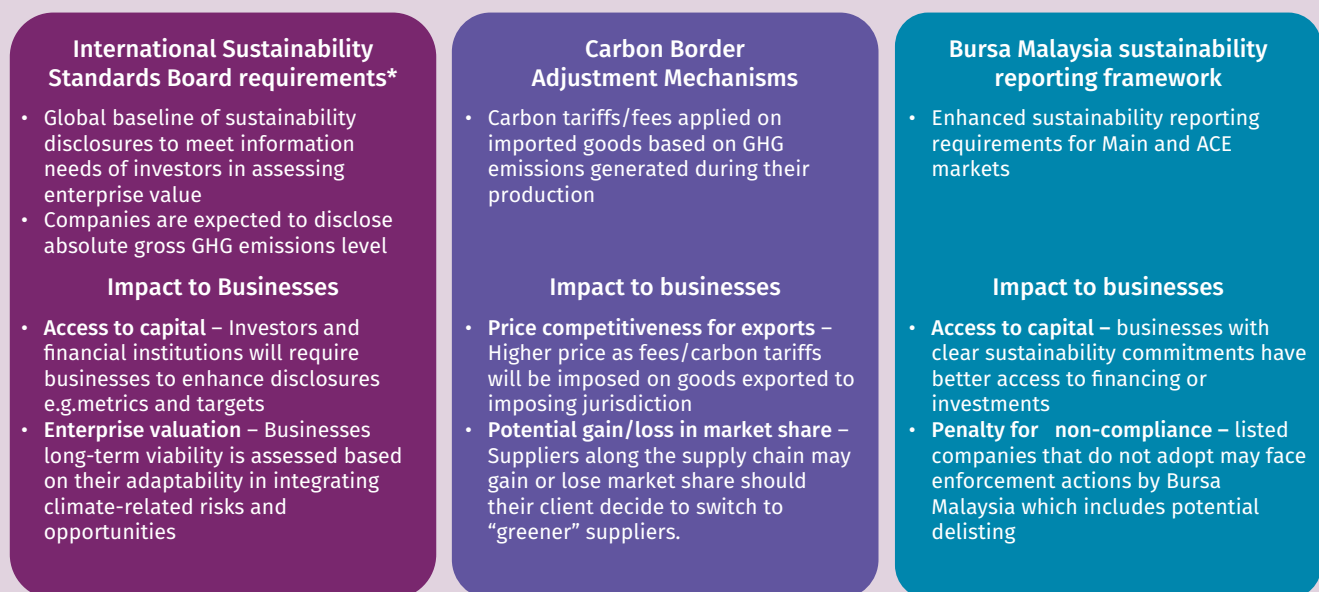
The Greenhouse Gas Protocol recommends the hybrid methodology, which is the most used carbon measurement methodology given its pragmatic approach.³

³ While it is usually more accurate to use information about activities of a business to measure how much carbon it is producing as compared to the spend-based data, such information is not as readily available and can be time consuming to gather.

Importance of carbon accounting for businesses

There is growing demand from shareholders and investors for climate-related disclosures from their investees. This includes disclosures on GHG emissions to facilitate their investment decisions and meet regulatory requirements. Financial institutions that have pledged net zero targets are similarly requiring GHG emissions disclosures as they start to assess and disclose GHG emissions from their loans and investments. Similarly, large asset owners and asset managers at the top of the investment chain are making significant strides to provide better climate-related financial disclosures that support climate targets. This is shaping financing and investment decisions. As a result, the ability of businesses to accurately measure and report emissions is becoming more important for businesses to tap the needed capital at a potentially lower cost. Governments and regulators around the world are also increasingly looking to accelerate progress on climate goals and improve disclosures on carbon emissions (Diagram 6).

Diagram 6: Current and Emerging Regulatory Requirements on Climate and Sustainability Disclosures



*Draft standards

Source: Compilation from various regulatory announcements

Carbon accounting is key to Malaysia’s journey towards achieving its net zero ambitions

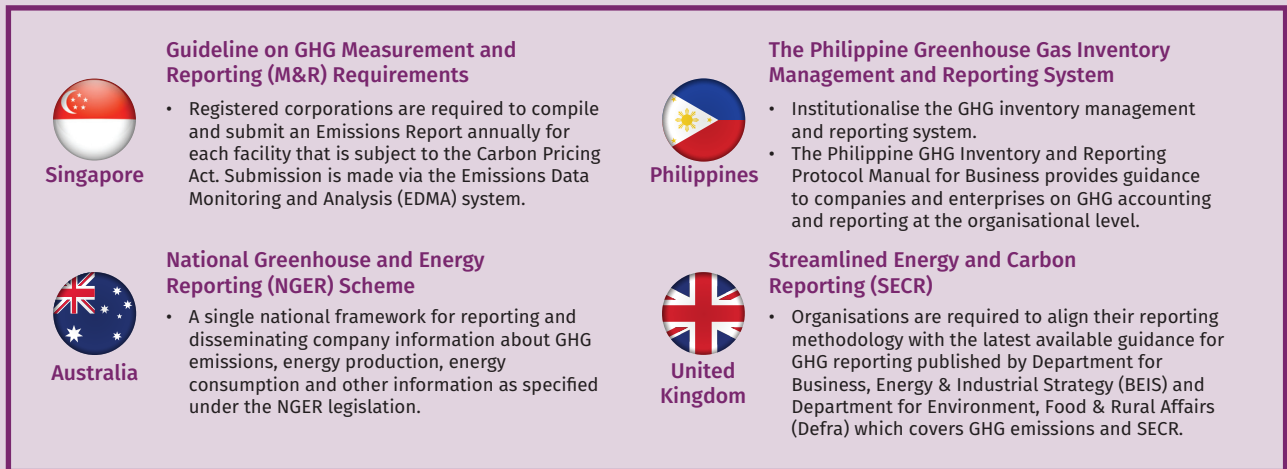
At present, some form of sustainability disclosure is already required for listed entities in Malaysia. Plans are underway to enhance such disclosures to include GHG emissions.⁴ For financial institutions, mandatory disclosure based on the TCFD⁵ recommendations will commence from 2024. Broader mandates that also include other entities to measure and disclose their carbon emissions would complement these efforts in ensuring that commitments are turned into action.

A national carbon accounting framework provides a consistent approach for assessing GHG emissions and enables targets to be set at the entity, sector and national levels to limit these emissions. More jurisdictions, including in this region, have recently introduced GHG reporting frameworks (Diagram 7). Carbon emissions can then be priced accordingly based on these targets to influence business decisions and behaviours.

⁴ Bursa Malaysia requires listed entities to disclose Sustainability Statement which covers among others, aspects on governance and strategies since 2016.

⁵ The Task Force on Climate-Related Financial Disclosures (TCFD) under the Financial Stability Board has developed a framework to help entities provide more effective financial disclosures relating to climate. The framework comprises four components namely governance, strategy, risk management, and metrics and targets.

Diagram 7: GHG Reporting Frameworks and Systems In Selected Jurisdictions



Source: Respective government websites

In Malaysia currently, measurement is based on data obtained through various sources such as the relevant government agencies and publications. For example, data to measure emissions for the energy sector is sourced from the National Energy Balance (NEB), other government agencies and the private sector. In areas where national level data is not available, international data is used. Extrapolation as per the IPCC Guidelines would be carried out in instances where data for certain periods is not available. There are now plans to develop country-specific emission factors⁶ for key sectors. This would form a good basis for the government to develop the national level carbon accounting framework going forward. In the long run, the framework will provide a baseline for the government to develop and scale market mechanisms such as compliance carbon markets. This in turn will be critical to further accelerate climate action in Malaysia towards its net zero goals and mitigate adverse impacts from a disorderly transition.

⁶ Country-specific emission factors are developed by taking into account country-specific data, such as carbon content of the fuels used, carbon oxidation factors and fuel energy content.

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