

Digital tools that track organizationwide emissions data make net zero transitions possible by bringing visibility, transparency, and verifiability to information used in decision-making, progress-monitoring, and reporting.

Speeding Up Asia Pacific's Decarbonization: The Role of Emissions Tracker

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Falling Behind Net Zero 2050

The world is behind on its net zero targets. According to the United Nations Environment Programme (UNEP) 2023 Emissions Gap Report,¹ global greenhouse gas (GHG) emissions increased by 1.2% year-on-year to a record high 57.4 gigatons of carbon dioxide (CO₂) equivalent in 2022. All industry sectors, except for transport, and all countries contributed to this increase in worldwide emissions.

This rise in GHG and atmospheric CO₂ has resulted in 86 days when temperatures exceeded 1.5C above pre-industrial levels. Above 1.5C is the global warming level that is linked to increased frequency of extreme weather occurrence, which in turn leads to economic and human loss, and supply chain and business disruptions. This failure to reduce and limit emissions, and the fast-approaching target of net zero 2050 have prompted UNEP to declare that “unprecedented action is now needed”, and that getting to net zero must be done “as soon as possible”.

Definition

- » Net zero is humankind's collective strategy to keep the world livable for everyone for the foreseeable future. It means cutting carbon emissions to the smallest amount of residuals that Mother Nature can resolve through carbon sinks, or through carbon capture and storage (CCS) technology, leaving zero carbon in the atmosphere. For business organizations, net zero is a commitment to maximize business value today without sacrificing business growth in the future, by taking care of the environment.

AT A GLANCE

BUSINESS OBJECTIVE

Accelerate net zero transition and fulfill environmental, social, and governance (ESG) commitments.

CHALLENGE

Organizations grapple with poor quality and incomplete emissions data that prevent them from knowing where to start, and how to prioritize and address people, process, and technology challenges that hinder and slow down conversion of net zero ambitions to actions.

SOLUTION

Digital solutions like Emissions Tracker help organizations to compute accurately and completely emissions baselines, and monitor subsequent emissions levels. They do this by seamless integration with existing data collection IT systems such as ERP/EMS, thus enabling less error-prone automated input of material available real data, the plugging of data gaps, and the calculation of the full emissions picture. Accurate and complete emissions data allows organizations to locate pain points in operations, craft mitigating strategies, and monitor, analyze, and report the impact of decarbonization initiatives.

There are many reasons for the sluggish pace in meeting net zero commitments and decarbonization. Public institutions and businesses in Asia Pacific revealed the barriers they face, in IDC's 2023 *Sustainability Readiness Index Survey* (see Figure 1).

Figure 1: **Causes of Net Zero Inertia in Organizations in Asia Pacific**

Q What are the main organizational and technology challenges faced by your organization when attempting to become a sustainable business?



Source: IDC Global Sustainability Readiness Index Survey, August 2023 (Asia Pacific n = 445)

These barriers to net zero success — comprising people, process, technology — can all be overcome if organizations have better quality emissions data.

Emissions data must be accurate, complete, and verifiable, in order to be considered of good quality. This kind of emissions data allows all stakeholders to determine the amount of emissions the organization needs to reduce, how much time is needed for the entire operations to get to net zero, what parts of day-to-day operations are causing the most emissions, what intermediation strategies and technologies are needed for the net zero transition, what processes need to be changed or put in place to decarbonize and maintain net

zero, and the amount of resources needed to build a sustainability-first culture in the organization and sustain the net zero transition.

Baselines and the Scope 3 Data Challenge

At the heart of every net zero transformation is emissions data, and organizations must answer several compelling questions before they can convert their net zero ambition to action:

- » What is our baseline, or what is the amount of emissions generated from running the organization?
- » What are our Scope 1 direct emissions and Scope 2 indirect emissions?
- » What are our Scope 3 supply chain emissions?
- » Where is our emissions data?
- » Do we have complete emissions data?
- » How do we consistently calculate and track emissions when data is missing?

For large organizations with physical facilities in various geographic locations or with cross-border transactional activities (e.g., financial institutions and public institutions), the introduction of digital technology improves collection, calculation, interpretation, and reporting of emissions data. In fact, digital technologies can increase the accuracy and completeness of emissions data, and speed up the conversion of this data to insights. This is why a growing number of organizations are looking to invest more on sustainability solutions. According to IDC's 2024 *CEO Survey*, 44% of worldwide organizations plan to invest more on sustainability/ESG technologies in the next 12 months, placing sustainability/ESG as the number two priority IT investment area in organizations, second only to security at 48%.

Technology Spotlight: PwC's Emissions Tracker

Among the most recently available digital tools in the Asia Pacific market that enable organizations to track emissions is PwC's Emissions Tracker. This digital solution has several useful capabilities for net zero transition business strategies:

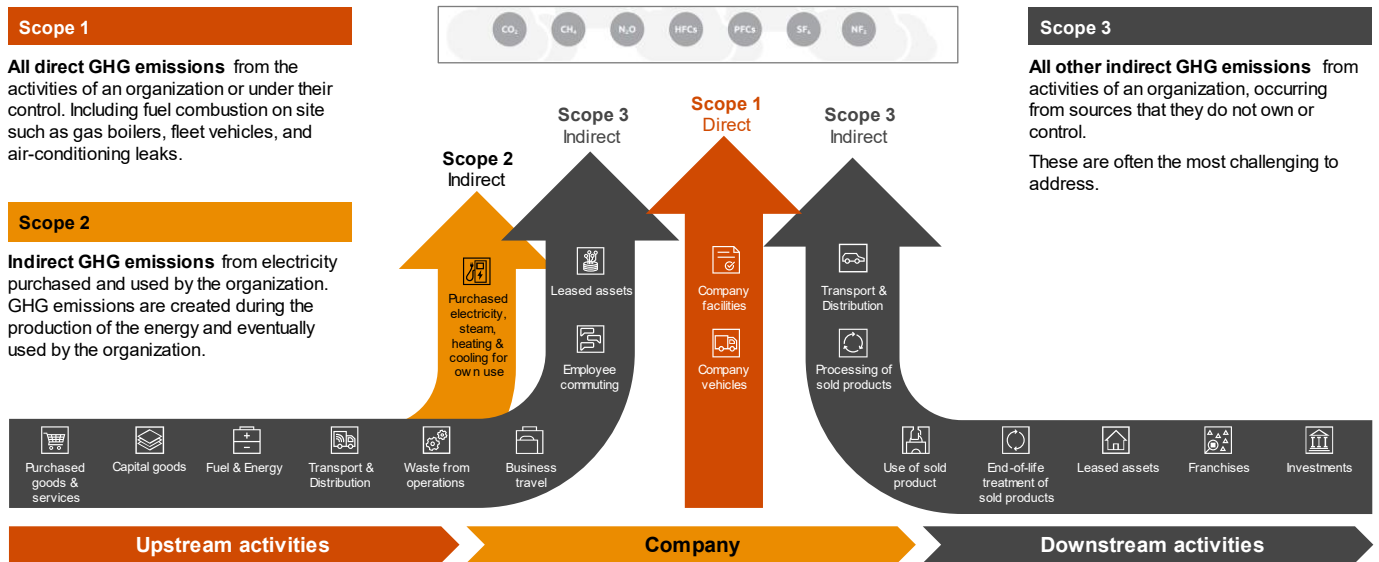
- » It has multilanguage capabilities ideal for Asia Pacific users and for specific country markets in the region that require compliance reports submitted in the local language.
- » It can determine baselines, calculate total emissions, and gives visibility to granular emissions data:
 - Emissions data is segregated by the three categories of GHG emissions that are important in ESG monitoring, decision-making, reporting, and certification: direct emissions (Scope 1), indirect emissions (Scope 2), and indirect supply chain emissions (Scope 3).
 - Beyond Scope 1, 2, and 3 emissions, the tool maps emissions to the upstream and downstream activities of an organization, such as procurement supply chains for goods, services, and capital goods; fuel and energy

purchase and consumption; logistics and travel; waste generation; end-user consumption of products; disposal and repurposing of sold products; leased assets, franchises and investments (see Figure 2).

- » It creates an audit trail for the organization's net zero transition through data transparency and traceability.
- » It integrates third-party industry benchmarked emissions factors with organizational data to plug in emissions data gaps for a more complete computation of baselines and emissions levels at any given time.
- » It has the ability to perform transition trajectory analysis of current emissions status versus future emissions status to meet carbon neutrality goals and science-based targets (SBT). This enables organizations to predict carbon offsets requirements and the plausibility of hitting net zero at a specific end-date.
- » It allows ESG reporting agility as it can slice and dice emissions data, compute and analyze granular data across various organizational functions, and present the emissions data in a form that is compliant with various reportorial frameworks such as Global Reporting Initiative (GRI), Task Force on Climate-Related Financial Disclosures (TCFD), International Sustainability Standards Board (IFRS-ISSB), Sustainability Accounting Standards Board (SASB), stock exchange compliance reports, and other reports needed for ESG certification and accreditation or eco-labelling and eco-ratings.
- » It stays on top of the ever-changing compliance reporting landscape by the continuous expansion, collection, and analysis of other quantitative and qualitative sustainability data, taking into account the requirements of IFRS-ISSB, GRI, and allowing for local regulatory customizations. This will help multinational users generate sustainability disclosures to comply with different regulations or frameworks.

In future enhancements, the solution will include product-level carbon footprint assessment and computation to assist companies in their product development phase.

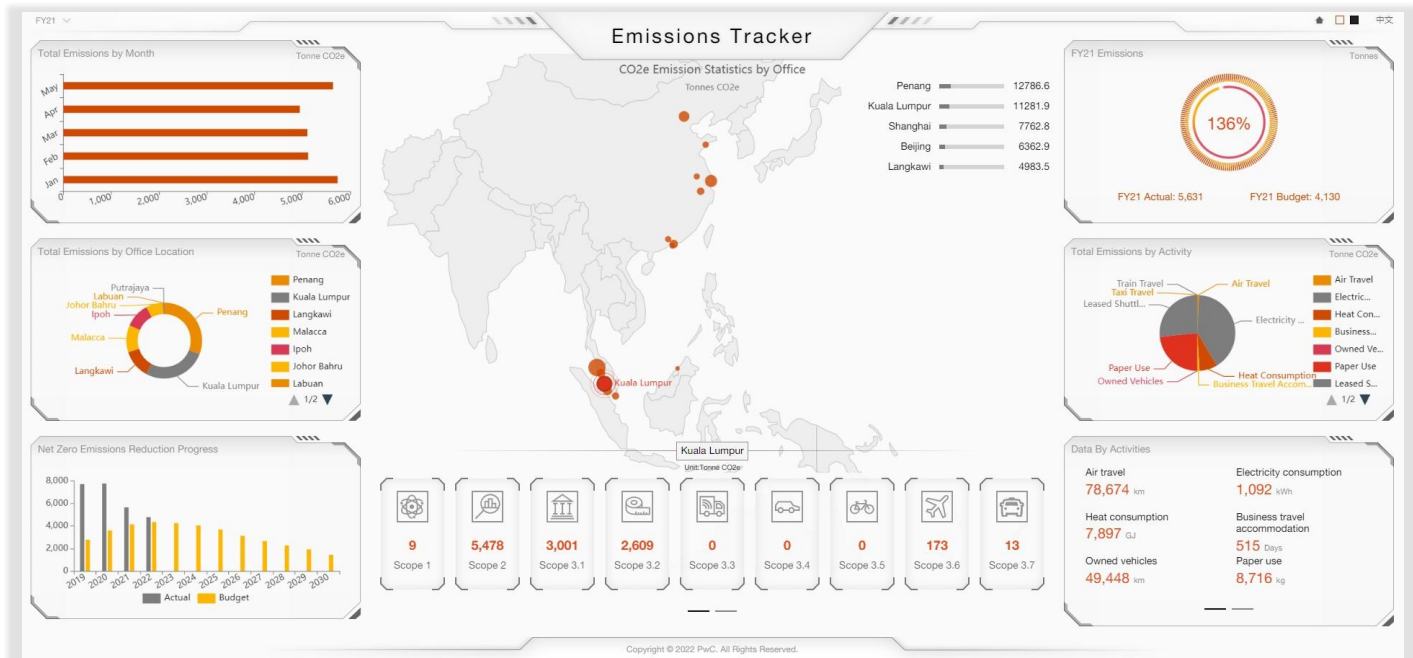
FIGURE 2: *Emissions Tracker DataScope*



Source: GHG Protocol

PwC's Emissions Tracker has a robust framework that showcases not only what data it tracks but also shows the calculation methodologies used to aggregate, analyze, and report GHG data. This transparency in emissions calculation methodology gives users explainability of data, which is important for internal strategy development, compliance reports, and certifications.

Its usefulness also extends to intuitiveness and visualization (see Figure 3). Intuitiveness of emission tracking solutions allows employees with no IT or ESG subject matter expertise to participate in an organization's net zero transition programs, democratizing the tedious task of regularly monitoring outcomes against targets, and improving line-of-business (LoB) ownership in emission mitigation projects. Meanwhile, visualization cuts the time and resources that an organization needs to spend to decide on mitigation strategies or start/conclude a decarbonization program initiative.

FIGURE 3: *Emissions Tracker Dashboard*

Source: PwC, 2024

Key Technical Features

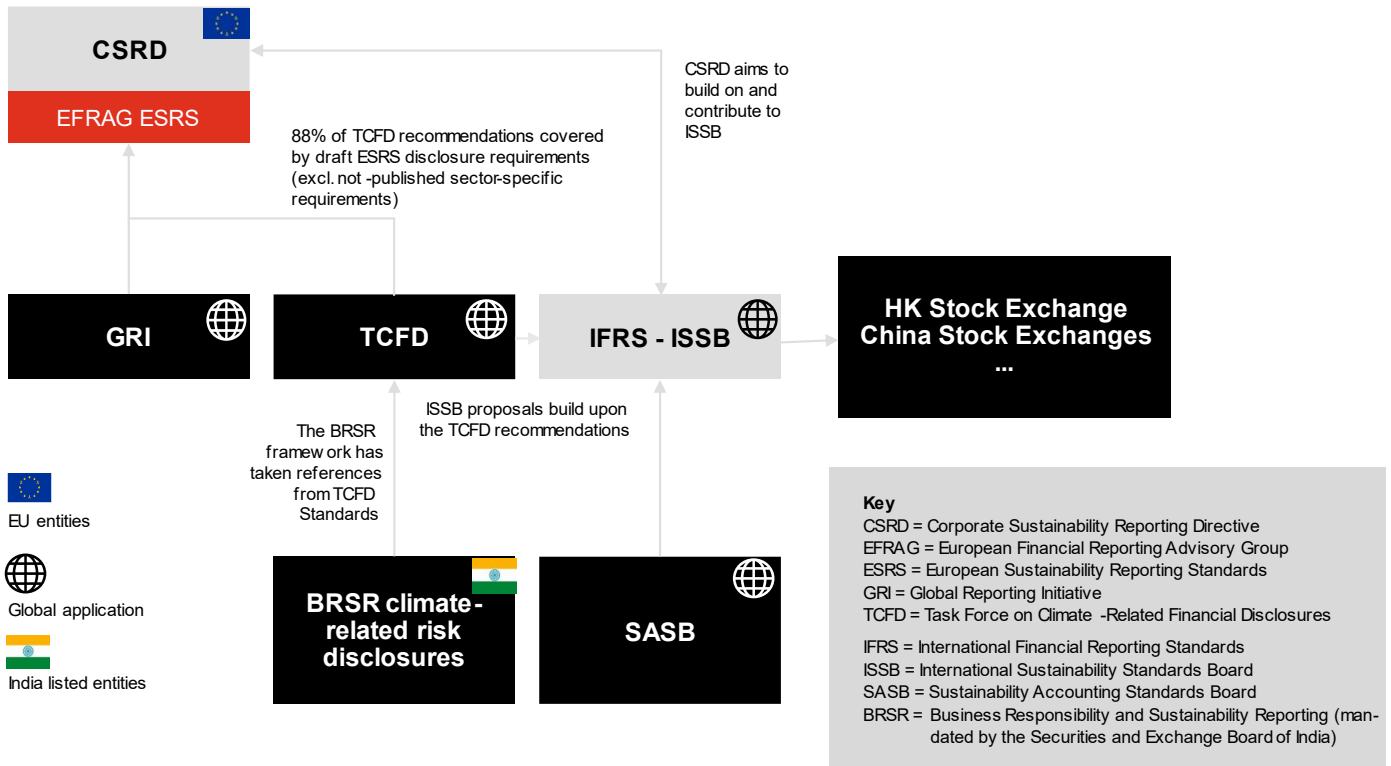
- » **Automated data processing:** It links to enterprise resource planning (ERP) and other systems, enabling automated emissions data collection and one centralized platform to manage both the quantitative and qualitative data.
- » **Accommodates commonly used input files:** It supports import of large-scale data through Excel files in the data upload process.
- » **Multi-user access rights:** It allows third parties to login. Each tenant of the solution can flexibly authorize the functions and data that third parties are allowed to access. This enables simultaneous editing capability and enhances collaboration and data-sharing across various LoBs of the organization.
- » **Data security:** The source code of this solution has been scanned on a well-known third-party platform and no code vulnerabilities were found. Additionally, the solution has undergone penetration testing by a third-party security testing team, and no security vulnerabilities were detected.
- » **Frequently updated embedded emissions factor database:** Fills missing critical GHG data points using alliance partners' proprietary emissions factor databases (e.g. International Energy Agency). The Emissions Tracker emissions factor database covers a broad array of activities and material product level emissions factors that are regularly reviewed, updated, and expanded by source. The PwC Emissions Tracker has 13 emissions factor databases and over 3,000 specific emission factors.
- » **Customizable dashboard:** A centralized emissions data platform helps visualize and analyze data based on user priority.

- » **Web-based and on the cloud:** The web-based solution allows multiple users across multiple locations to participate in emissions data collection and monitoring.

Challenges

- » As in all emissions tracking platforms, the usefulness and value of this IT investment to an organization's sustainability/ESG program is determined by the strategies of the provider to stay on top of the fast-moving, still evolving regulatory environment of ESG, and how fast they can translate these changes to an update or upgrade or new module of the technological solution. The PwC Emissions Tracker contains most of the popularly used reportorial frameworks in existence (see Figure 4), but given the lack of consensus to stick to one form of reportorial framework and the propensity of Asia Pacific governments to favor their own version of reportorial framework (e.g., India and China), tech buying organizations will need their emissions trackers to have that flexibility to accommodate customized reporting templates. Tech user organizations would also need the emission tracking solution provider to have regular updates on reporting framework templates and emissions factor calculations.
- » Organizations should also consider how well emissions trackers can integrate with existing systems to limit occurrences and the need for manual interventions at any stage of the emissions data cycle. PwC's Emissions Tracker integrates with SAP, Workiva, Salesforce, and Microsoft.
- » Another item to consider is the all-important "people" factor. Any digital tool will only be as effective as the capability of the human-in-the-loop. Organizations should always consider whether the emission tracking solution provider offers digital solution support training and capability building on GHG data collection and management.

FIGURE 4: *Climate Disclosure Frameworks Available in the Emissions Tracker*



Source: PwC, 2024

Conclusion

In the not-too-distant future, sustainability will be a fundamental characteristic of the operating models of organizations. Since emissions data is the foundational factor that enables the operationalization of sustainability, digital tools — such as PwC’s Emissions Tracker, will become critical for strategy execution and business continuity. As the net zero target of 2050 gets closer and with multiple drivers urging speed in sustainability adoption across the region, IDC expects that in the next 18 months, at least 38% more Asia Pacific organizations will transition from a manual to a digital, automated approach in tracking emissions. The automated and intelligent extraction and collation of emissions data is simply the faster, cheaper, and most agile approach to getting to net zero goals.

References

¹ United Nations Environment Programme (2023). Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions (again). Nairobi. <https://doi.org/10.59117/20.500.11822/43922>

About the Analyst



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Melvie leads the sustainability research practice in Asia Pacific, tackling sustainability/environmental, social, and governance (ESG) strategic research themes with a 360-degree lens. Melvie has more than 20 years of experience in research, business development, stakeholders' engagement, and strategy execution that span multiple industries, including energy, infrastructure, construction, property development, transportation, financial services, retail, agriculture, manufacturing, and so forth. Her published and commissioned research had been used to support policy formation for public sector organizations and as program support for civil society and bilateral/multilateral organizations.

MESSAGE FROM THE SPONSOR

Emissions Tracker, PwC's tech-enabled decarbonization services (asset-based services)

At PwC, we firmly believe the future of professional services is in asset-based and managed services which allows us to drive real results at speed and scale. We work alongside our clients to trial, test, and tailor digital assets in their actual business environment, allowing a continuous feedback loop. Together with forming strategic alliances and building relationships with leading software providers, this approach allows PwC to deliver sustained outcomes, with the right tech at the right scale, at the right time.

Built on PwC's years of experience collecting, analyzing, and reporting carbon footprints, Emissions Tracker helps companies to aggregate, analyze, and report their carbon data. This allows companies to monitor and manage their emission reduction and net zero initiatives.

Learn more about how to **co-create your digital enterprise with PwC's asset-based services today**. Visit <https://marketplace.asiapacific.pwc.com/>.



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