



Sustainability CO2 Emission Analysis and Reporting

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Transportation and Manufacturing account for major portion of global CO₂ emissions. 37% by Transportation and 20% by manufacturing.¹

With global production, sectors are responsible for one-fifth of carbon emissions – **consuming 54% of the world's energy sources**.² On the other hand, Transport accounts for more than a third of CO₂ emissions from end-use sectors. There is an urgent need for manufacturing and transportation companies to address the challenges of decarbonisation.

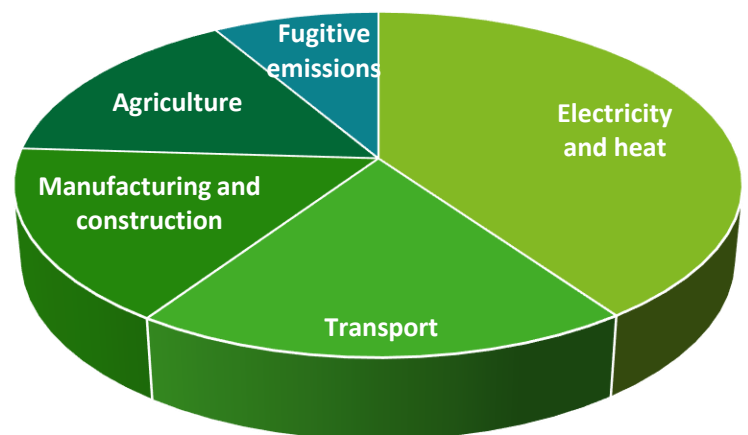
A first step towards reducing the carbon footprint of the industry is understanding the **Product Carbon Footprint (PCF)**, which measures the total greenhouse gas emissions generated at product level.

To do so, organisations need to develop a technical solution and demonstrate the way to **calculate, capture and report the CO₂ emissions at product level**.

The European Parliament adopted the **European Climate Law**, raising the EU's target of reducing net greenhouse gas emissions to at least 55% by 2030 and making **climate neutrality by 2050 legally binding**.³

55% CO₂ reduced by 2030

GREEN HOUSE EMISSIONS BY SECTOR⁴



1. New research highlights an urgent need for the transport sector to collaborate and scale sustainable fuels. URL <https://www.worldbenchmarkingalliance.org/news/transport-benchmark-pr-2022/>. Date Accessed 03/Jul/2024
2. How manufacturers can reduce carbon emissions. <https://normative.io/insight/reduce-manufacturer-carbon-emissions/>. Date Accessed 03/Jul/2024
3. European Commission - Climate Strategies and Targets. URL: https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2050-long-term-strategy_en. Date Accessed: 03/Jul/2024
4. Breakdown of carbon dioxide, methane and nitrous oxide emissions by sector. <https://ourworldindata.org/emissions-by-sector>. Date Accessed: 03/Jul/2024





Why do we need Sustainability Reporting?



Sustainability CO2 emission reporting helps organisations measure and manage their carbon footprint. Carbon footprint is the total amount of greenhouse gas (GHG) emissions that are produced by an organisation, including direct emissions from its operations and indirect emissions from its supply chain.



Here are some reasons why sustainability CO2 emission reporting is important:

Environmental impact:

CO2 emissions are a major contributor to climate change and global warming. By measuring and managing their carbon footprint, organisations can reduce their environmental impact and contribute to the fight against climate change.

Regulatory compliance:

Many countries have implemented regulations and policies to reduce GHG emissions. By reporting their CO2 emissions, organisations can ensure compliance with these regulations and avoid potential penalties.

Cost savings: Measuring and managing CO2 emissions can help identify opportunities to reduce energy consumption and save costs.

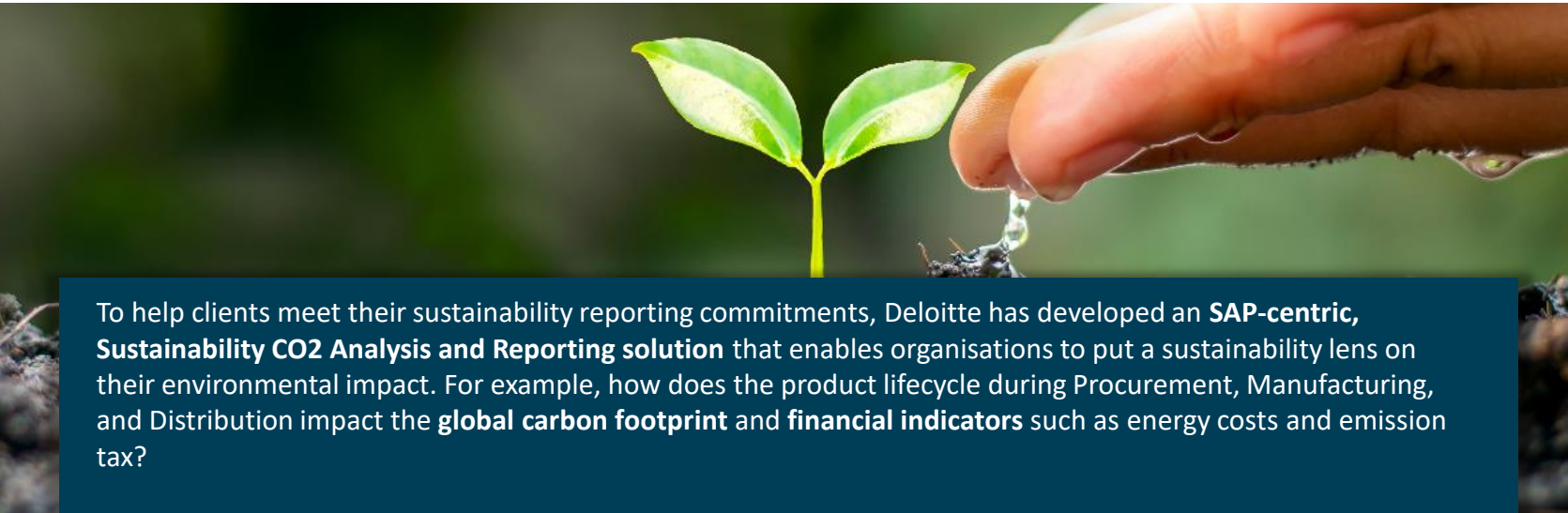
Stakeholder engagement:

Sustainability CO2 emission reporting can help to engage with stakeholders, including investors, and customers, who are increasingly interested in sustainability and environmental issues.

In summary, sustainability CO2 emission reporting is important because it helps organisations reduce their environmental impact, ensure regulatory compliance, enhance their reputation, save costs, and engage with stakeholders.



What is the Solution Offering?



To help clients meet their sustainability reporting commitments, Deloitte has developed an **SAP-centric, Sustainability CO2 Analysis and Reporting solution** that enables organisations to put a sustainability lens on their environmental impact. For example, how does the product lifecycle during Procurement, Manufacturing, and Distribution impact the **global carbon footprint** and **financial indicators** such as energy costs and emission tax?

This Sustainability reporting solution captures CO2 emissions data during the supply chain of the beverage industry. However, the fundamentals of the solution are not specific to one industry. We can use this solution for other industries as well.

Features

CO2 Reporting

Empowering business users to report **CO2 Emissions** through the supply chain (procurement, manufacturing, and distribution) using interactive dashboards.

Calculation Engine

Multi-level **complex & dynamic allocation** process which involves allocating Co2 emission at the product level and identifies the Product Carbon Footprint (PCF).

Dashboard

Reporting contains various dashboards to showcase the carbon footprint and impact on the financial matrix, including Scope 1, 2 and 3 dashboards.

Financial Impact

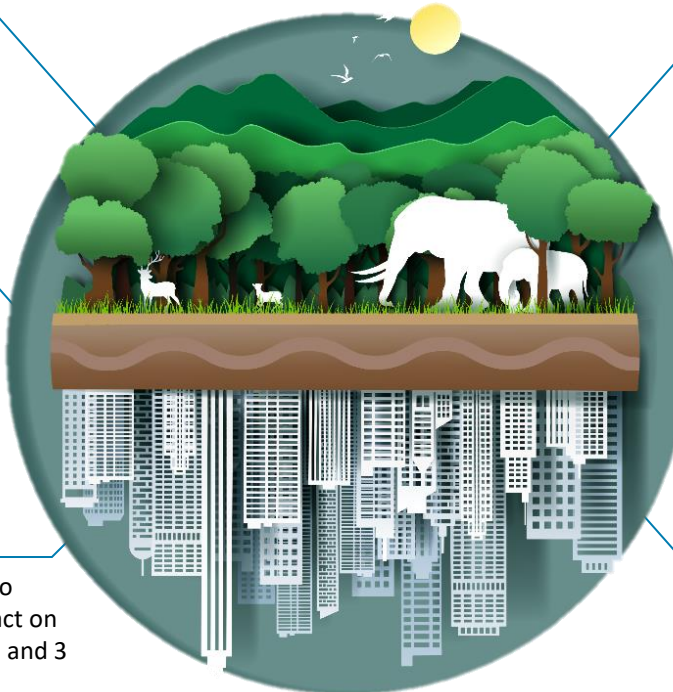
The solution enables organisations to evaluate & assess the impact on **financial metrics** by calculating energy cost, distribution cost and environmental taxes.

Impact Assessment

Empower stakeholders with further insights to make investment and sourcing decisions.

Integration

Integrated with **SAP S/4HANA** for transactional data and with **non-SAP** systems for configuration data.



Scope 1

Emissions from sources that an organisation controls directly



Scope 2

Emissions that a company causes indirectly



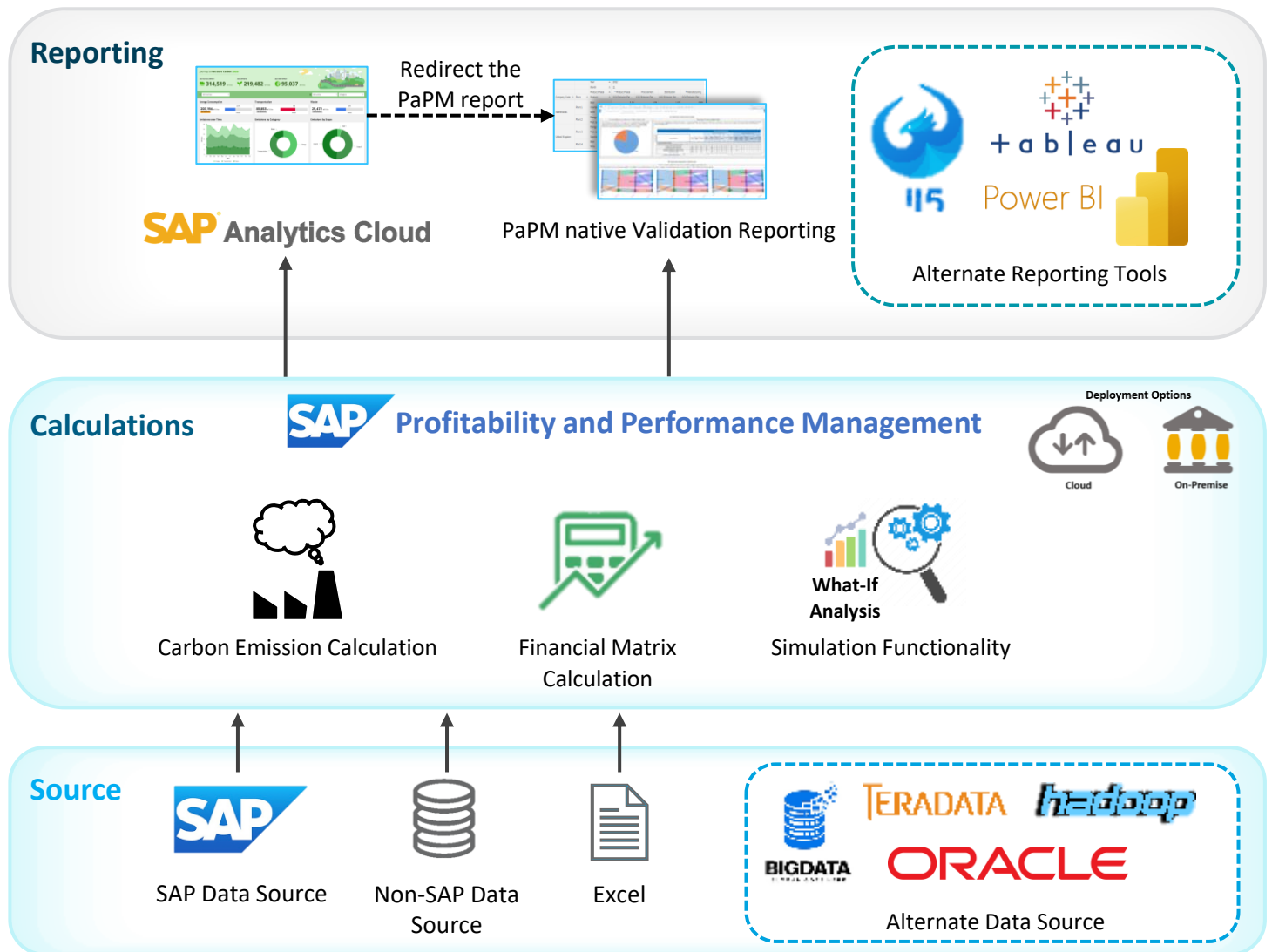
Scope 3

Emissions not produced by the company itself, but indirectly responsible



What is the Solution Offering?

Technical Architecture Diagram



Key Points

- SAP PaPM integrates key financial, manufacturing, and carbon emission data from various sources to perform complex calculations.
- The PaPM Solution is available **on-premise** or on a **cloud platform**.
- SAP PaPM is utilised for three key components:
 - Calculation of **carbon emissions** at the product level
 - Analysis of the impact of **carbon footprint** on finance
 - Ability to simulate **carbon** and **financial impact** using various methods
- SAP Analytics Cloud serves as the front end of this application, keeping **business users informed** and **facilitating decision-making**.



SAP Profitability and Performance Management

Profitability and Performance Management (PaPM) is a business-user-focused SAP solution, leveraging the processing power of HANA to improve processing efficiency and customer analytical abilities for complex forecasts, allocations, product profitability, and other financial performance modelling scenarios.



**Rapid Calculation
Processing**



**Traceability and
Auditability**



What if Simulations



Post to S/4HANA

- **Empower business users** to make better decisions using advanced business modelling, granular profit and cost analysis, and simulation capabilities.
- **Advanced business modelling** of complex processes.
- **Amplified insights** with multidimensional profit and cost analysis.
- **Real-time results**, scenario modelling, and simulations.

SAP Analytics Cloud

SAP Analytics Cloud is an all-in-one cloud product offered as software as a service (SaaS) for business intelligence (BI), planning, and predictive analytics. It provides a unified and secure cloud experience to maximise data-driven decision-making.

- Better decision-making through real-time insights using a live connection to S/4HANA.
- Interactive Dashboards facilitate leaders to interact live with information.
- Smart Predict uses accessible AI, which handles all complex data science procedures and predicts what is most likely to happen in the future.



Interactive Dashboards



Predictive Analysis



Live Connection



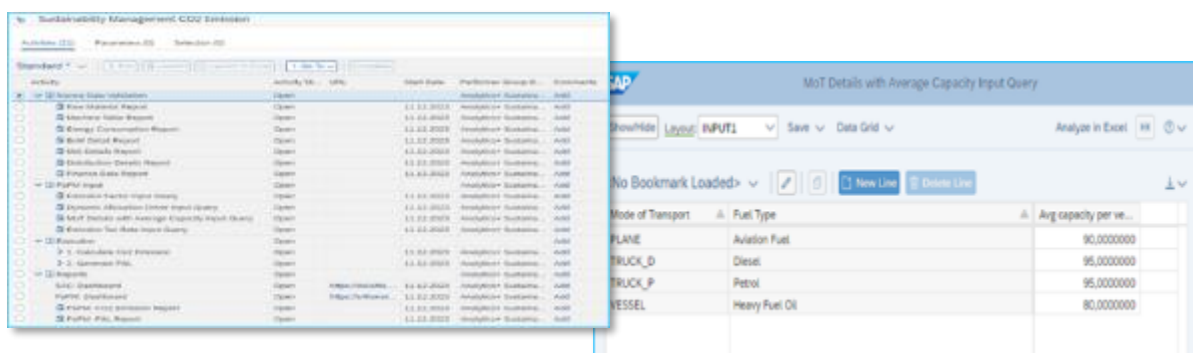
Solution Dashboard

Sustainability CO2 Emission analysis and reporting platform dashboard displaying the Carbon emission KPIs of manufacturing and procurement phases and data visualisations.



Process flow

Process flow is designed in PaPM for the end users to calculate & analyse the CO2 Emission using different steps. The second snapshot shows the input templates to capture the average transportation capacity data and other factors at the PaPM level.





Why Deloitte versus others?

- Deloitte Consulting, Risk & Financial Advisory (RFA), and Tax practices have worked together as the Green Dot with MSG Global to analyse and pursue opportunities in the PaPM space.
- Across **Green Dot**, we have identified points of contact to foster cross-functional communication and provide leading practices awareness by leveraging our recognised technical risk, security, and regulatory compliance experience.
- **Synergies between the Consulting, RFA, and Tax practices** with strong experience implementing SAP and designing cost accounting methodologies enable **Green Dot** to provide efficient deployment utilising our best practices and collective resources.
- **Green Dot** possesses.

SAP PaPM Enablement



70+ Deloitte practitioners trained



50+ Practitioners engaged to provide guidance to our clients



4 High-quality threads identified as Specific Focus areas



7+ use cases development in progress



3 Demo ready use cases



3 major go-lives



Deloitte Receives 2024 SAP® Pinnacle Award in Three Categories: Sales Success, Delivery Quality and RISE with SAP categories

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#1 Globally in consulting



Global leader in SAP Services



Global leader in Business Transformation Consulting

Gartner®

#1 Globally in consulting



Global leader in SAP Implementations



A visionary in SAP Application Management Services



Deloitte Received 18 SAP Pinnacle Awards in the last five years – more than any other SAP Partner. Deloitte is recognized for commitment to customer success and quality delivery of SAP solutions and technology,



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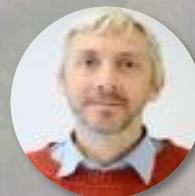
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