CNV-3026 Business Partners – 3rd Party Suppliers (FLVN001)

Status	Approved
Owner	Stefanie Schwartz
Stakeholders	Marie Flourie, Alexander Lefeu, Gilles Madjarian

Issue

Determine the best solution option for carbon footprint management as part of Scope 3 aligning with ERP project principles for a way to understand where emissions come from at operational, procurement, market level. GBUs currently have no one priority. There is no one version of the truth. A decision is required as to which the tools should manage the business process and system process for carbon footprint management, potentially replacing current tools in the Sustainability landscape.

Recommendation

A way to understand where emissions come from at operational, procurement, market level enables Syensqo to start taking action on group targets. Accuracy is key in the To Be solution to govern and implement solution going forward. It needs to be based on a data flow which represents one version of truth.

Enables to start taking action on group targets.

The recommendation for managing carbon footprint in Syensqo is the implementation of SAP Green Ledger.

Background & Context

As governments worldwide tighten climate regulations, monitoring and reducing all emissions PCF management supports companies to avoid legal and financial penalties, especially in relation to Scope 3.1 emissions. Regulations focus more on reporting on Environmental, Social and Governance (ESG), hence PCF not currently enforced to be provided by regulations. Key driver is the customer impact on buying decisions focusing on more PCF friendly products. There is currently no related single priority for Global Business Units (GBU). Emissions impact when buying and selling to understand kg of CO2 to get a product to the customer. It is of importance to customers striving for lower CO2 and greener products. Syensqo's aim is to take control of what is happening in the supply chain. The company needs to record and report on the activity data and emissions factor. Currently this data is built up by experts or sourced from external databases.

Carbon footprint management was briefly investigated by Syensqo about three years ago and disregarded whilst SAP was still in the development phase for this solution. There is an expectation that Syensqo should adopt a mainstream integrated solution for carbon footprint management at this point. A way to understand where emissions come from at operational, procurement and market level enables Syensqo to start taking action on group targets. Economic accounting and carbon accounting same: buy raw materials, production, transport, man power, waste. Sustainability footprint management for Syensqo can be split as follows:

- Emissions management
- Water management (out of scope for this KDD)
- Energy management (out of scope for this KDD)
- Land use (out of scope for this KDD)

This KDD covers the direct emissions as part of Scope 3 only. Hence, the following activities are to be considered as part of the scope for this KDD:

- Upstream activities - reported 4.2Mt of GHG emissions in 2023
  - Raw materials and fuels
    - Extraction
    - Processing
    - Transport and distribution
  - Waste
- Downstream activities - reported 1.9Mt of GHG emissions in 2023
  - Processing of products sold
  - Use of products sold
  - End-of-life treatment

? Unknown Attachment

Resource and time constraints are currently hindering to go beyond Product Carbon Footprint (PCF) e.g. Life Cycle Assessment (LCA). Regulations focus more on reporting ESG than on PCF. Customer impact deciding to buy more PCF friendly products. Some customers may stop selling otherwise. Business continuity impact. PCF also needed for corporate ESG disclosures, especially 3.1.

Digital sustainability of the current solution has enabled the Syensqo for the first time ever to have product level accounting for Sustainability. Few other companies are at same stage. Historically PCF accounting was executed at plant or group level only.

There is an ongoing procurement initiative in Syensqo for pressuring vendors as part of scope 3.1 emissions (purchased goods an services). Scope 3 emissions encompass in 15 different categories all indirect emissions generated throughout an organization's value chain, from the extraction of raw materials to the disposal of products. Scope 3.1, one of those 15 categories, specifically refers to the carbon emissions associated with the products or services an organization purchases. These emissions are bought in from suppliers and are often beyond the organization's immediate control. Stakeholders, including investors, customers, and regulatory bodies, increasingly demand transparency and action on Scope 3.1 emissions. Failure to comply can lead to reputational damage and financial consequences.

The 2023 Syensqo Annual Integrated Report reflects the drive to manage and reduce the footprint (see References, Chapter 4. Climate and Nature - 4.1.2 Management approach). Syensqo has set a 2030 target to reduce by 23% Scope 3 greenhouse gas emissions as compared to 2021 from its 'Focus 5' categories both upstream and downstream in the value chain, which represents over 73% of the total Scope 3 emissions. Syensqo's 'Focus 5' categories of Scope 3 GHG emissions are:

1. Purchased goods and services (Category 1) which includes
    a. impacts of upstream transportation and distribution (Category 4)
    b. waste generated in operations (Category 5)
2. Fuel- and energy-related activities (Category 3)
3. Processing of sold products (Category 10)
4. Use of sold products (Category 11)
5. End-of-life treatment of sold products (Category 12)

The list of all categories relating to Scope 3:

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In Syensqo Scope 3 greenhouse gas emissions are estimated as follows:

- Emissions reported under category 3.1 (purchased goods and services) include emissions from the following two categories:
    - 3.4 (upstream transportation and distribution)
    - 3.5 (waste generated in operations).
- Emissions are calculated by the difference between, on one hand, cradle-to-gate emissions of products (including manufacturing) and, on the other hand, Scope 1, Scope 2 and emissions from category 3 (fuel and energy-related activities)
- Not aligned with industry practices and is not a methodology explicitly mentioned in the Technical Guidance.
- Syensqo has identified a limit in the accuracy of the methodology with the reconciliation between energy bills of materials in life cycle assessments and energy in Scope 1 and 2 emissions which affects the categories of emissions Scope 3.1, Scope 3.4 and Scope 3.5 (purchased goods and services; upstream transportation; distribution and waste generated in operations).
- The revision of the methodology for the three categories by end of 2024 builds upon progress of the Product Carbon Footprint project in 2023 and will include their direct determination (based on raw materials quantities purchased x emission factor), address the identified limitation in accuracy, disaggregate emissions in the inventory for these categories and increase the use of suppliers' specific emission factors
- Category 3.1 encompasses purchased goods and services:
    - Syensqo carries out a cradle-to-gate Life Cycle Analysis (LCA) for most of our products, representing 93% of our total sales. The calculated greenhouse gas emissions are extrapolated to reach the totality of our purchases. They include all emissions related to raw material extraction and precursor processing, indirect emissions from energy use for these operations, and transport between suppliers and to our plants.

Calculation

The calculations are fully manual today with some queries developed.

The calculation of Scope 3.1 emissions according to GHG Protocol can be a complex task. There is a choice of four different methods. The more effort these methods require, the better the results they produce:

- Spend-based method
- Average-data method
- Supplier-specific method

The calculation of Scope 3.4 and 3.9 emissions for chemical shippers generally use and activity-based calculation method to estimate transport carbon emissions. This calculation method is based on volumes, distances and emission factors for the different modes of transport. It is important to select the most appropriate emission factor values for each mode of transport. The shipper can use either a default average emission factor for each mode or emission factors specific for his operation. The default average emission factors used could be based on the average emission factors recommended by Alan McKinnon, Heriot-Watt University, Edinburgh, UK in his report "Measuring and Managing CO2 emissions" prepared for the European Chemical Industry Council (Cefic), see references. Syensqo could use these recommended average emission factors as a default for the calculation of their transport emissions as per 'Guidelines for Measuring and Managing CO2 Emissions from Freight Transport Operations' (see references) by the European Chemical Transport Association (ECTA).

Changes to carbon footprint could reduce the emission factor. Optimisation of the process can lead to less consumption, measured at plant, and change of BOM based on lower conception. Otherwise it is possible to change provider for energy supplies to reduce emissions factor. Selecting suppliers with lower footprint.

Current ESG Landscape (new slide)

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There are a number of applications currently in use, which contribute to carbon footprint management in Syensqo. Current tools such as BW Cerise and PCF should be replaced.

- BW Cerise (CO2 Energy Report Improvement Software Efficiency)
  - Automatic reporting of GHG (greenhouse gases) and ETS (Emissions Trading System) allocations for all sites.
  - Carbon accounting uses Cerise as closely linked to Finance, which was heavily involved with Cerise implementation.
  - Cerise is not an SAP module, but custom solution in BW where master data is directly maintained in BW. It uses BW outside of its original purpose of consolidating relevant business information from productive SAP applications.
  - Currently solution only covers scope 1 and 2 at site level. Scope 3 requirements with 15 subcategory e.g. GHG protocol 3.1 are not covered.
  - Cerise is recent development without a formal RFI.
  - New carbon accounting solution such as SAP Green Ledger needed to cover all categories, rather than a patchwork solution.
  - Current dashboard access is via Qkliksense, which is expected to be redundant with a new solution for carbon footprint management such as Green Ledger.
  - Cerise supports requirements for annual disclosures as backbone for reporting Scope 1 and 2 relating to energy. Some are essential for annual reports.
  - Scope 1 data BW Cerise where activity is collected combined with emission factor for each plant. Mapping table for each plant in BW.
  - Qty of energies are reported from ERP directly. Cerise is plant level, Syensqo are buying these energies and combining the emission factor. WP1 uses qty of energies in BOM . Emission factor not from BOM, Cerise tool to get emission factor at plant level.
- Qliksense
  - Dashboard for BW Cerise, integration not required if dashboard functionality available via SAP Green Ledger, potentially redundant with the new solution.
  - Used for SPM, which may remain valid with a new carbon footprint management solution.
  - Qliksense used for reporting relating to CSRD for visualisation.

- EcotransIT (World) - The most widely used software worldwide for the automatic calculation of energy consumption, carbon emissions, air pollutants, and external costs. Contract not signed, yet, under negotiation. Database, no software. Should be in carbon accounting blue box middle. Should be part of scope 3 transport related emissions. May be covered by Green ledger. Comprehensive tool should replace it.
- SPM
  - SPM is just methodology which will remain a custom solution, no appetite for vendors to change SPM.
  - Monetises carbon footprint and looks at the market regarding sustainability grading.
  - It would be beneficial to be able to input carbon footprint data via SPM. Eventually should be hard interface.
  - Integration should feed carbon footprint management to LCA tool, which should feed SPM.
- LCA tool
  - Should receive carbon footprint management data to forward to SPM tool
  - RFI for LCA space should be launched, sent out to vendors. Proof of concept Q4 2024 before decision. SAP will be invited.
- Sigreen
  - Exchange platform sourcing PCF for raw material mapping.
  - Exchange tool managing requests from suppliers with exchange to customer.
  - Customer connects to Sigreen for relevant data.
  - Future interfaces should be API.
- PCF
  - Currently tool for managing PCF for Syensqo products.
  - Forwards data to Sigreen. Customer connects to Sigreen for relevant data.
  - Future interfaces should be API.
- PURE
  - Emissions reporting platform.
  - Survey and reporting tool (SERF reporting).
  - Annual survey to collect water and emissions KPIs.
  - Site results put in PURE.
  - PURE SERF contract under negotiation. Current contract until April 2027 with the option of 3rd year extension. Could be moved to Gensuite in the future.
  - SAP EHS emissions module could potentially replace the need for PURE SERF or move to Gensuite.
- Gensuite
  - Directionally trying to position Gensuite no 1 industrial site application (accident reporting already moving)
  - PURE contract renegotiated now to be moved to Gensuite

Data

Largely required from raw materials. Needs request from suppliers, otherwise Syensqo has to rely on industry data.

Dedicated project on carbon footprint

Managed by Philippe Chevaux (Sustainability DT) eg. estimation on product footprint. Project finish by end of 2024.

Assumptions

Implementation of related SAP functions, dependencies.

Constraints

- This KDD covers the carbon footprint management only. The creation of further KDDs may be required to cover other areas of Sustainability.
- Resource and time constraints are currently hindering to go beyond Product Carbon Footprint (PCF) whilst striving for Life Cycle Assessment (LCA).
- Product stewwardship cannot approach suppliers.
- This KDD covers the carbon footprint management only. The creation of further KDDs may be required to cover other areas of Sustainability.
- Dependency on SAP RISE tbc
- This KDD covers the carbon footprint management only. The creation of further KDDs may be required to cover other areas of Sustainability.
- The following areas of Sustainability footprint management for Syensqo are out of scope for this KDD:
    - Water management
    - Energy management
    - Land use

Impacts

- Business continuity impact.
- Reporting requirements? R2R integration
- Cerise very closely linked to Finance, which was heavily involved with Cerise implementation. Good idea to move carbon footprint management into SAP as finance project. Financial transactions are influenced by carbon emissions, which is also related to energy purchase and energy consumption. Should be able to rely on financial transaction. That is how Cerise was designed with transactional financial transactional flow.
- Stakeholders should Procurement.

Business Rules

Options considered

Option A: Continue As Is

Decribe the option in sufficient detail for a reader familiar with the subject matter to understand it properly

- Lack of integration with S/4HANA.
- Large variety of non-SAP tools.
- Lack of granularity.
- Lack of system and data integrity.
- Not future-proof.

Option B: SAP Green Ledger only

Decribe the option in sufficient detail for a reader familiar with the subject matter to understand it properly

Business decisions need to consider environmental costs. The Green Ledger allows for thses costs to become visible up front.

Makes it easier for businesses to accurately account for the carbon they produce across their value chain. Given the fact that SAP handles 70% of the world's business transactions, it will also – when it launches next year – be the largest solution of its kind available.

"To truly make progress and create a more sustainable world, it's important that enterprises take action on the carbon they're producing," explains Jesper Schleimann, SAP's Chief Strategy and Innovation Officer. "But the only way to do that is to have actual data so they can make business decisions."

Couple the need for action with an increased need for transparency from investors, employees, regulatory bodies, and customers, enterprises are being pushed to make sustainability an integral part of their business blueprint.

available within the RISE and GROW with SAP programmes.

Next up is the Sustainability Footprint Management solution, which tracks what's flowing in and out of the business, such as the actual footprint of a product, the materials used to produce it, the packaging, and the transportation. Footprint Management collects that data, maps it out, and gives an overview of what's really driving impact at a much more granular level.

Step three in the journey is the soon-to-be-launched Sustainability Data Exchange, the 'real visionary part' says Jesper.

"The Control Tower gives you the impact overview, the Footprint gives you the detail, but you're still using business averages to gauge how much carbon you're producing," he says. "We want partners to help their customers to move away from averages and start using actuals, to start getting sight of actual data from their suppliers, and their suppliers' suppliers."

It's here that SAP really 'begins to differentiate on a global level'. The Data Exchange will become a standard-setting engine that allows businesses to exchange data, securely, across value chains, thus unlocking 'the carbon calculation of impact'.

By adding in the fourth element, the Green Ledger, businesses will be able to act on the insight they have in front of them.

"Of course, you can take action at any stage but the Green Ledger will help to make bigger, bolder, decisions that become integral to what a business does; embedded across the enterprise."

Just as financial ledgers detail the value that moves across an enterprise – how much money has been made, where it should be invested – with the Green Ledger, businesses will know which activities are driving their carbon footprint so they can look at where and how they can reduce it and make better decisions.

Option C: SAP Sustainability Footprint Management (SFM) only

- Reuse existing ERP data: Reuse of existing ERP data for calculation and embed footrpint results back into business processes to influence decision-making.
- Reuse existing business data, structures, and logic from SAP S/4HANA Cloud and import transactional activity data for your footprint calculation (e.g. material movements) and connect any ERP system via public APIs.
- Integrate results into business processes: Help drive sustainable business decisions by embedding footprint results into business processes, like supply chain planning or sourcing and procurement, via direct integration
- Leverage full sustainability portfolio: Make use of our holistic sustainability portfolio through direct integrations with SAP Sustainability Control Tower, SAP Sustainability Data Exchange, and SAP S/4HANA Cloud for EHS environment management.

Emission Factor Management

- Increase accuracy with emission factor mapping powered by AI and include supplier specific footprints
- Map emission factors with AI: Use SAP Business AI to automate the mapping of emission factors to ERP data to minimise manual effort and enhance the accuracy of result.
- Include actual supplier data: Increase the share of primary data by directly importing footprints from your suppliers. Leverage the integration with SAP Sustainability Data Exchange (PACT V2) or use direct entry, file upload, and push API.
- Use lifecycle assessment (LCA) data: Use industry averages from third-party content providers, upload your own data packages, or use preconfigured data packages (e.g. EPA, GLEC) for maximum flexibility and consistency status.

Carbon Footprint Calculation at scale

- Calculate and manage Scope 1, 2, and 3 corporate, value-chain, and product footprint data.
- Calculate product and corporate carbon footprint: Calculate footprints on product and corporate level at scale by integrating transactional and master data using flexible calculation methods.
- Model energy flows and allocations: Model energy flows per energy carrier and resource in your production line or facility to allocate energy consumption and assign emissions to manufactured products.
- Manage footprint inventory scopes: Maintain individual inventory scopes to define the organisational boundaries of the footprint calculation. Define and list all data sources to be used for the calculation and monitor its progress.
-

integration with SAP sustainability solutions e.g. SAP Product Footprint Management (PFM)

Option D: SAP EHS Environment Management only

- Waste Management (separate KDD)
- Emissions Management
- GHG Emissions Management
- Water/Wastewater Management

It tracks all aspects of environmental impacts allowing an auditable process for calculations emissions.

Capabilities:

- Many options for collecting data and sampling to be used for compliance tracking and emission calculations.
- Buildt-in equitations and content driving a flexible and auditable calculator for hazardous air pollutant and GHG emissions inventories.
- Emissions forecasting tools
- Realtime and analytical tools and support for ESG and sustainability reporting

Benefits:

tbc

Option E: SAP combination

Evaluation

	Option A - SAP Green Ledger	Option B - As Is	Option C	Option D
Compliance	Pro • Harmonise current ESG landscape. Con	Pro Pro	Pro Con	Pro Con
Integration	Pro • Qliksense as dashboard for carbon footprint would be redundant Con	Con	Pro Pro	Con Con
Business Impact	Pro	Con	Con	Pro

See also

2023cSyensqo Annual Integrated Report

McKinnon Report

File	Modified

No files shared here yet.

Change log

Version	Published	Changed By	Comment
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Workflow history

Title	Last Updated By	Updated	Status
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Workflow history

This view shows the 5 most recent entries. The complete workflow log is available from the 'Document Activity' menu item.

From Mar 30, 2026 to Apr 21, 2026	Actor	Type	Activity	Version
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Jan 25, 2026				
	WILLIAMS-ext, Julie	State	changed state to Approved at 11:22 pm	v48
Lead Approval	WILLIAMS-ext, Julie	State	gave *POD Lead Review* approval at 11:22 pm *3 instances to be removed*	
Jan 05, 2026				

	JAIN-ext, Gaurav	State	changed expiry date to '12 Jan, 2026 01:55 pm' at 1:55 pm	
		State	changed state to Lead Approval at 1:55 pm	v48
Tech Review	JAIN-ext, Gaurav	State	gave *Syniti Team Review* approval at 1:55 pm	