

# KDD079 - Pure Application Replacement - Site Level Reporting

Status	Approved
Owner	CHOU DHARY-ext, Tanvi
Stakeholders	FLOURIE, Marie

## Issue

At the group level, Syensqo is required to collect and consolidate a broad set of environmental indicators from its industrial sites. This is necessary not only to meet external reporting requirements—such as those defined under the Corporate Sustainability Reporting Directive (CSRD) and the European Pollutant Release and Transfer Register (E-PRTR regulation)—but also to monitor progress against internal sustainability targets and ambitions set by corporate, as well as answer institutional questionnaires such as Carbon Disclosure Project (CDP).

This data collection is currently conducted through an annual campaign using the PURE platform, in which sites are asked to complete the Syensqo Environmental Reporting File (SERF - 7 forms in 2024). The process involves submitting data on emissions, waste, water balance, and other KPIs relevant to corporate reporting.

Currently, this corporate reporting process is disconnected from daily site operations, that include:

- Regulatory compliance with site-specific permits and national laws
- Monitoring of emissions and discharges and permit thresholds where applicable
- Reporting to local environmental authorities where applicable

These tasks often require the collection and validation of the same or similar data as that required by the SERF campaign, but through different workflows, tools, or systems. Because the corporate process is not integrated with site-level systems, it creates a sense of duplication, manual rework, and administrative burden for site teams. It also risks introducing inconsistencies or delays in data accuracy and completeness, especially as environmental reporting requirements become more rigorous and time-sensitive. A certain level of duplication is unavoidable due to the different nature of the reporting and also because local authorities may impose reporting in specific platforms, languages etc., but in some instances there is opportunity to mutualize and leverage on the same input data.

Ultimately, this lack of automation undermines the possibility to increase the frequency of reporting and poses a growing risk as regulations and stakeholder expectations continue to evolve.

## Site-Level Scope (Local Responsibilities)

- Ensure compliance with site-specific permits and national environmental laws.
- Monitor emissions, discharges, waste, water, and other environmental KPIs.
- Report to local environmental authorities using local tools and workflows.
- Deal with duplication due to disconnected corporate reporting processes.

**This KDD will address the site-level scope**, aiming to streamline data collection for each site and reduce manual effort and the Change request -C R0014 is created for the effort estimated for this KDD.

Issue for Corporate Reporting will be handle in another KDD : [KDD090 - Corporate Environmental Data Reporting](#)

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## Recommendation

### Recommendation: Adopt Option B

- **Single, Integrated Solution:** SAP EHS Environment becomes the sole platform for all sites to manage waste, emissions and water.
- **Pros:**
  - A single, integrated solution
  - More standardized site-level processes thanks to single IT solution (same data objects etc)
  - By enabling automation, offers a solution for sites to build more frequent reporting
- **Cons :**
  - Loss of flexibility and autonomy for each site
- **Best For:**
  - Long-term scalability
  - Regulatory compliance

- Harmonized data and performance management across the organization

*Our recommendation: Option B is the most future-proof approach*

## Background & Context

Syensqo is subject to increasingly stringent environmental reporting requirements, both from external regulations (notably the **Corporate Sustainability Reporting Directive - CSRD** and **E-PRTR**) and from internal sustainability goals set by the corporate group.

To address this, the company is relying on a system called **PURE**, based on the UL 360 platform, to conduct an annual environmental reporting campaign known as the SERF (Syensqo Environmental Reporting File).

Syensqo operates in a regulatory environment where environmental data must be collected, validated, and reported both at the corporate level and at the **individual site x GBU combination level (Site Level)**. These two dimensions of reporting—**Group Reporting** and **Site Reporting**—serve different but interdependent purposes. Both levels may be subject to internal and external audit. As site level data is the basis of input to corporate group reporting, its important its accurate, automated and streamlined

### 1. Group Reporting

On an annual basis, each site within the defined reporting scope is required to submit a comprehensive set of environmental indicators to the corporate HSE team. These indicators include:

- Emissions to air and water
- Water balance (intake, use, discharge, losses, circularity)
- Waste shipment and treatment
- General information (Environmental fines, climate change related information, additional information on water for CDP, summed production volumes....)

To standardize this process, the corporate team has developed the Syensqo Environmental Reporting File (SERF), which are implemented through the PURE application (UL 360 platform). The SERF covers more than 1000 KPIs and is structured to support corporate-level reporting requirements under frameworks such as CSRD and E-PRTR, as well as internal environmental performance monitoring.

Site representatives are prompted annually to fill out the SERF questionnaires within PURE, after which the corporate team validates, consolidates, and extracts the data for use in the group's sustainability disclosures and internal reporting dashboards.

Group reporting is done on operational and financial perimeter depending on the requirements. The calculation perimeter may be modified based on the properties of the reporting entities (start- and stop-date during their lifetime) and the exact inquiry (e.g. historical perimeter is with inactive sites included, running perimeter is without the past contribution for the past sites). It therefore allows executing ad hoc analysis of past data, for example in the event of a carve-out or spin-off.

### 2. Site Reporting

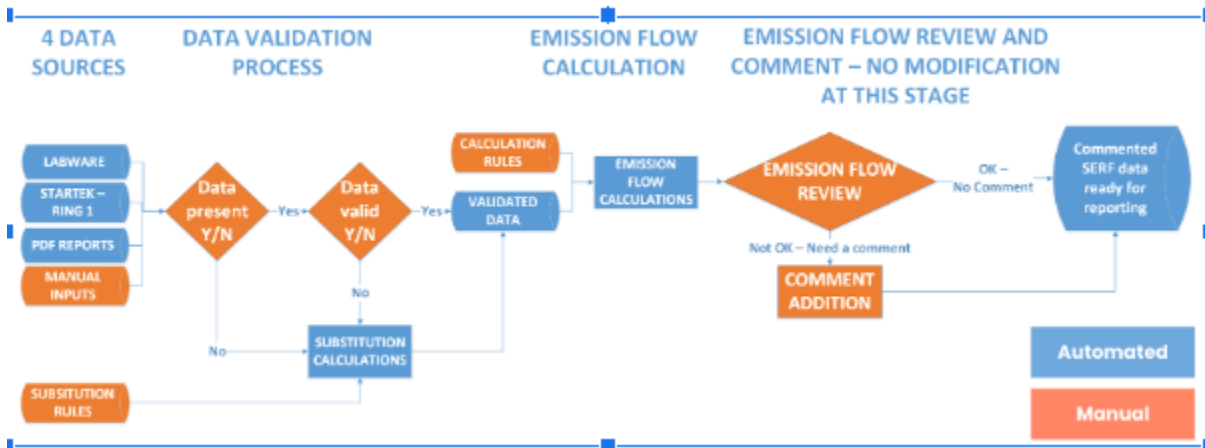
Independently of the corporate SERF campaign, each site is also responsible for managing its own local environmental compliance. This includes:

- Meeting local legal requirements
- Acknowledging site-specific permits by monitoring of emissions and discharges
- Submitting data to local authorities on a monthly, quarterly, or yearly basis depending on the jurisdiction and regulatory requirements

To explore a more automated solution, Syensqo has launched a Proof of Concept (PoC) in mid-2024 at its largest site (Travaux). The objective of this initiative was to automate the capture, processing, and validation of environmental data at the source. Using technologies like Microsoft Fabric and Power Apps, the PoC integrated data streams from:

- IoT sensors data collected in the site MES
- Analytical lab results (digital or PDF)
- Waste disposal records (PDF)

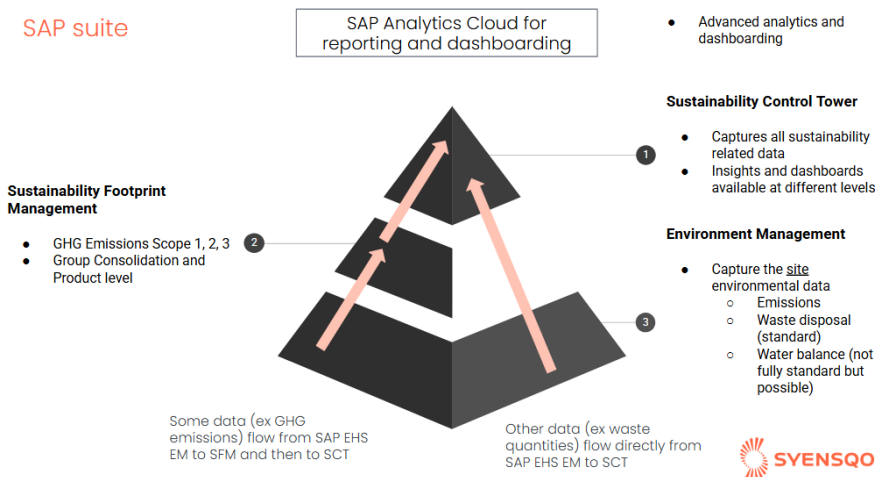
The system also included **embedded algorithms for indicator computation, plausibility checks, and validation workflows**, offering daily insights and a significantly more efficient reporting mechanism. The initial scope of the PoC focused on a small set of emissions to water indicators from the PVDF production unit but is expected to expand in 2025 to cover additional indicators such as air emissions and waste indicators.



## Assumptions

- Input data is available from multiple sources, structured (from MES) or not (in the form of PDF)
- Not all sites have the same digital maturity on IT tools. Amount of emission, water and waste input indicators reported also varies
- Although SAP EHS focuses on Emissions Management at the moment, it can already be used for tracking, configuring, and reporting water-related data to meet compliance and operational needs supporting water balance and usage reporting (cf link in "See also")
- Some needed functionalities only in SAP roadmap: ex plausibility check requirement is present in 2023 service pack 2. SAP cloud version
- Integration between tools/platforms (Microsoft Fabric SAP EHS Environment SFM SCT) is feasible. SAP proposes a suite of solutions to cater for different needs and audiences.
  - SAP EHS Environment (SAP EHS EM) focusing on site environmental footprint, in particular emissions
  - SAP Sustainability Footprint Management (SFM) computing and / or aggregating the GHG Emissions to provide Group GHG Emissions or Product level Carbon footprint
  - SAP Sustainability Control Tower (SCT) gather all the ESG indicators and narrative to be used for Group reporting and sustainability performance management
  - additional reporting may be done in reporting platform that will be implemented during the project (such as SAP Datasphere)

## SAP suite



## Constraints

- System and data should be auditable. Users should be able to add the comment if there is any change in value when data is validated
- The system should keep all historical values for the same indicator / reporting entity and period combination; together with the reasons for the corrections, the name of the person who asked for the correction, the date, etc
- Auditors may impose to make some changes in the reporting process at site or group level to better cater for CSRD requirements
- Need to maintain complex formulas (If and Else) and the full flexibility for the SERF Manager to modify calculation equations and consolidation settings
- Need to update data collection forms every year to cater for reporting frameworks updates
- Need to have flexible reporting to cater for ad-hoc requests and cover both operational and financial reporting parameters
- Need to be able to use time-variable calculation constants and time-variable consolidation rates, the latter is needed for the computation of the financial perimeter

- IoT equipment requires investment. Coverage depends on the site, so we need the flexibility to automate or manually input data at site level

## Impacts

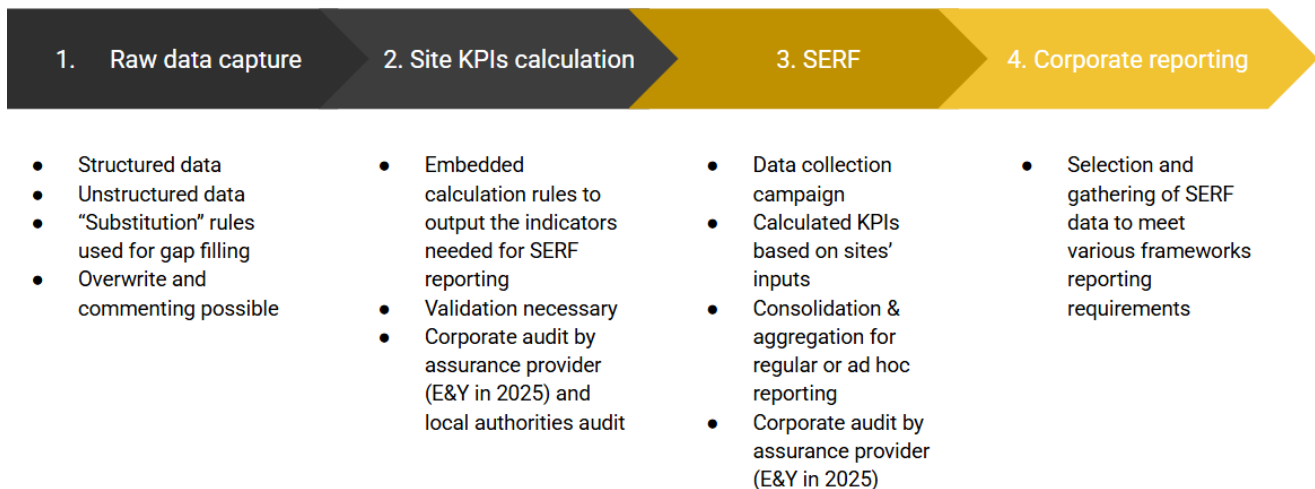
- Potential for improved data quality, reduced manual work, and better regulatory alignment at site level
- Risk of data inconsistency if systems are not well integrated
- Increased IT and business GBUs workload during the transition phase
- Need for training and change management at site level
- Potential impacts on portfolio as some sites may already have digital solution not identified by IT

## Business Rules

- Yearly SERF campaign must collect a fixed set of indicators from each relevant site
- Indicators must be traceable to source data and auditable
- Any system must support future expansion of KPI scope or update of definition or calculation rule

## Options considered

To facilitate the understanding of the options, the end to end process is divided as follows, where 1 and 2 are executed at site level and 3 and 4 at corporate level.



## Option A: To continue AS-IS + create some integration with SAP

In this scenario, the company maintains its current environmental reporting setup, apart from the waste area:

- The annual Syensqo Environmental Reporting Form (SERF) campaign is conducted using the PURE platform (step 3), except for waste
- Sites operate independently using a variety of local tools, spreadsheets, or semi-automated systems to collect and manage environmental data (steps 1 and 2). Some sites may have developed custom integrations or partial automation (e.g., via Microsoft Fabric or IoT), but this is not standardized across the group and unlikely to be implemented on every single site outside of a program like Syway due to high effort.
- Results from PURE campaign and calculations are manually incorporated into other reporting processes and tools (ex for CDP or CSRD) - or could be integrated into SAP SCT to achieve marginal improvement (automate from step 4 to 5)
- For waste, reporting attached to the SAP EHS Environment Waste management should replace the PURE form dedicated to waste

This approach continues to fulfill basic reporting obligations but offers limited scalability, efficiency, and readiness for growing regulatory and internal sustainability demands.

## Option B: Move scope of sites to SAP EHS Environment

Under this option, the company consolidates all environmental data management into SAP EHS. SERF forms are rebuilt natively in SAP, and site-level tools (like Tavaux POC running on Microsoft) are replaced or phased out over time. This establishes a unified platform, fully integrated with the SAP landscape and aligned with long-term goals for SFM and SCT, covering all steps from 1 to 4.

## Daily Emissions Management at Site Level

SAP EHS offers structured modules for emissions management, including:

- Integration with direct measurement sources like IoT or MES is feasible but will require middleware.
- Emission calculations can be handled through SAP's formula management but are generally less flexible than Fabric for rapidly evolving or site-specific logic.
- Emissions can be monitored with SAP reporting and alerting, though real-time visualizations are not as advanced or intuitive as Power BI dashboards.

## GHG Scope 1 Consolidation

SAP EHS and SFM together provide a strong basis for consolidated Scope 1 reporting:

- Emission points can be defined, limits set, and both carbon and non-carbon GHG emissions recorded.
- The data flows natively into SFM for Scope 1 calculation, ensuring alignment with upcoming CSRD requirement

## Evaluation

	Option A : Continue As-Is	Option B : Move site scope to SAP EHS Environment
<b>System Integration</b>	<ul style="list-style-type: none"> <li>⊖ Con :Fragmented local tools, no standardized integration</li> <li>⊖ Con : higher long term cost due to multiple solutions at site level</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro: <ul style="list-style-type: none"> <li>• Fully embedded in SAP ecosystem (EHS EM + SFM + SCT + SAP reporting)</li> <li>• Direct data flows for footprints</li> <li>• native integration to seamlessly compute GHG Emissions</li> <li>• Possibility to import organizational structure from plant maintenance</li> </ul> </li> </ul>
<b>Compliance and Performance management</b>	<ul style="list-style-type: none"> <li>⊖ Con : local authority mandated reporting cannot be leveraged for corporate reporting</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro: versatility of SAP EHS ENV can be used to address local regulatory monitoring and reporting activities (eg environmental permit management) as well as the corporate reporting ("killing 2 birds with 1 stone")</li> <li>⊕ Pro: opportunity to increase the frequency of KPI generation to better monitor and anticipate the group performance, take early actions to correct course, as well as reducing the effort at year end to review the data</li> </ul>
<b>Scalability to Other Sites</b>	<ul style="list-style-type: none"> <li>⊖ Con; not applicable, site based solutions remain</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro: Is scalable. Possibility to automate or manually input the indicator allows to cater for different site size and digitization levels.</li> </ul>
<b>IoT Data Integration</b>	<ul style="list-style-type: none"> <li>⊖ Con Not standardized – Sites may have custom solutions, but no group-level integration</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro : opportunity to standardize by using the same technology to capture data. However still relying on IOT investment at site level</li> </ul>
<b>Computation Flexibility</b>	<ul style="list-style-type: none"> <li>⊕ Pro: PURE has possibility to handle Complex KPI computation, controlled by the admin user</li> </ul>	<ul style="list-style-type: none"> <li>⊖ Con : not the same flexibility and autonomy for the administrator as some steps have to be pre configured in the background</li> </ul>
<b>Regulatory Content (e. g., e-PRTR linkage)</b>	<ul style="list-style-type: none"> <li>⊖ Con: In case of regulation change (eg E PRTR) each site has to update their own process and tools to adapt</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro : <ul style="list-style-type: none"> <li>Yes – regulatory lists like e-PRTR and substance classifications can be embedded in SAP EHS content (provided by external regulatory provider)</li> </ul> </li> </ul>
<b>Standard Auditability &amp; Traceability of Data</b>	<ul style="list-style-type: none"> <li>⊖ Con: Although PURE is centralized and auditable, the site level inputs depends on local setup and lack centralized traceability</li> </ul>	<ul style="list-style-type: none"> <li>⊕ Pro: improved traceability at site level: audit logs, regulation kept up to date by content provider</li> </ul>
<b>Change Management Impact</b>	<ul style="list-style-type: none"> <li>⊕ Pro: No major system change required</li> <li>⊖ Con: Survey fatigue on site. Without automation, not possible to increase the frequency of reporting for selected indicators</li> </ul>	<ul style="list-style-type: none"> <li>⊖ Con : new process for sites, training on SAP UI and logic, complex configuration model (but one time set up)</li> <li>⊕ Pro: Sites are trained to use both Waste management and Emissions Management</li> </ul>

## See also

<https://community.sap.com/t5/product-lifecycle-management-blogs-by-sap/water-balance-and-usage-report-step-by-step-configuration-guide/ba-p/14058864#>

## Change log

Version	Published	Changed By	Comment
<b>CURRENT (v. 75)</b>	<b>Jun 18, 2025 12:02</b>	<b>DANKIR-ext, Soukaina</b>	
v. 74	Jun 16, 2025 17:36	CHOUDHARY-ext, Tanvi	
v. 73	Jun 16, 2025 17:23	CHOUDHARY-ext, Tanvi	
v. 72	Jun 12, 2025 14:11	CHOUDHARY-ext, Tanvi	
v. 71	Jun 10, 2025 15:21	CHOUDHARY-ext, Tanvi	
v. 70	Jun 06, 2025 11:06	FLOURIE, Marie	
v. 69	Jun 06, 2025 10:55	FLOURIE, Marie	
v. 68	Jun 06, 2025 10:53	FLOURIE, Marie	
v. 67	Jun 06, 2025 10:42	FLOURIE, Marie	
v. 66	Jun 06, 2025 10:34	FLOURIE, Marie	


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## Workflow history

Title	Last Updated By	Updated	Status
There are no pages at the moment.			

## Workflow history

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

Jun 20, 2025	Actor	Type	Activity	Version
Approved	 DANKIR-ext, Soukaina	State	changed state to <b>Approved</b> at 9:49 am	v75

Pending SteerCo Review	 DANKIR-ext, Soukaina	State gave <i>Final Approval</i> approval at 9:49 am
Jun 18, 2025		
	 DANKIR-ext, Soukaina	State changed expiry date to '02 Jul, 2025 02:34 pm' at 2:34 pm
		State changed state to <a href="#">Pending SteerCo Review</a> at 2:34 pm <span style="float: right;">v75</span>
Pending Stakeholder Review	 DANKIR-ext, Soukaina	State gave <i>Stakeholder Review</i> approval at 2:34 pm
		Edit updated the page at 12:02 pm
		State changed expiry date to '25 Jun, 2025 10:02 am' at 10:02 am
		State changed state to <a href="#">Pending Stakeholder Review</a> at 10:02 am <span style="float: right;">v75</span>
Edited following DA Endorsement	 DANKIR-ext, Soukaina	State gave <i>Minor change</i> approval at 10:02 am
		State changed state to <a href="#">Edited following DA Endorsement</a> at 10:02 am <span style="float: right;">v75</span>