

ENVIRONMENTAL REPORTING IN ESG – COMPETITIVE ADVANTAGE FOR INTERNATIONAL COMPANIES

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Abstract: This paper examines how implementing environmental reporting under the ESG framework can provide a competitive edge for international firms. It addresses the shift from voluntary to mandatory disclosure due to the EU's CSRD and ESRS. Key CSR and ESG concepts are introduced, followed by a case study assessing current practices. A seven-step implementation guide is proposed to help firms ensure compliance while supporting strategic goals and stakeholder trust.

Keywords: case study, competitive advantage, CSRD, environmental reporting, ESG, ESRS, Knorr-Bremse, sustainability

1 Introduction

In response to recent changes in sustainability legislation, companies are now required to shift from voluntary ESG reporting to mandatory, standardized disclosures. The European Union's CSRD and related ESRS standards define how firms must report on their environmental performance across key areas such as climate, pollution, water, and biodiversity. These requirements aim not only to ensure compliance but also to encourage companies to adopt more sustainable practices. This paper focuses on how international companies can meet these obligations in a way that also strengthens their competitive position. Using a practical case study of a global manufacturer, the paper identifies challenges in current reporting practices and introduces a step-by-step implementation guide. The goal is to demonstrate that environmental reporting, if done strategically, can become a business advantage.

2 From CSR to ESG: Evolving Corporate Sustainability

The transition from Corporate Social Responsibility (CSR) to Environmental, Social, and Governance (ESG) principles illustrates a fundamental shift in corporate sustainability thinking. CSR has traditionally referred to a company's voluntary responsibility toward society and the environment. One of the most widely cited models in CSR theory is the four-level pyramid by Carroll [1], which organizes corporate responsibilities into economic, legal, ethical, and philanthropic. According to Carroll [1], financial viability is essential, as it enables companies to address higher levels of responsibility.

This evolution was further shaped by the work of Freeman [2], who introduced the Stakeholder Theory. Instead of focusing solely on shareholders, this approach emphasizes creating value for all stakeholders—including employees, customers, suppliers, and communities—who are affected by or can influence the company's operations. According to Freeman [2], managing these relationships is essential to long-term business success.

Building on this foundation, Elkington's Triple Bottom Line framework called for integrating People, Planet, and Profit into corporate evaluation [3]. Rather than focusing only on financial returns, companies are urged to balance economic growth with social progress and environmental stewardship [3].

As sustainability concerns grew and stakeholder expectations evolved, ESG emerged as a more standardized and measurable extension of CSR. Unlike CSR's often narrative-based and voluntary nature, ESG emphasizes transparency, data-driven metrics, and external accountability. A major turning point was the European Union's adoption of the Corporate Sustainability Reporting Directive (CSRD), which established legal requirements for companies to report on sustainability performance. To support this directive, reporting standards covering key ESG areas were introduced.

Knorr-Bremse, a global manufacturer, reflects this regulatory shift in its 2024 Sustainability Report. The company reports its environmental strategies and indicators in line with the CSRD/ESRS framework [4]. To study such developments in context, qualitative case study methods—such as those proposed by Stake [5]—offer a useful approach for understanding complex ESG implementation processes in real business settings.

3 European Sustainability Reporting Regulations (CSRD and ESRS)

The Corporate Sustainability Reporting Directive (CSRD), adopted in 2022, introduces comprehensive sustainability reporting obligations for large EU companies and selected non-EU firms from 2024 onward, with phased application by company size. Reports must follow the European Sustainability Reporting Standards (ESRS), developed by the European Financial Reporting Advisory Group (EFRAG) to operationalize CSRD requirements [6].

At the core of CSRD is the principle of double materiality, requiring firms to disclose information both on their environmental and social impacts (impact materiality) and on how sustainability issues affect their financial performance (financial materiality) [7].

To meet environmental reporting obligations, companies must follow five topical ESRS standards: E1 (Climate Change), E2 (Pollution), E3 (Water and Marine Resources), E4 (Biodiversity and Ecosystems), and E5 (Resource Use and Circular Economy). ESRS E1 is particularly demanding, requiring disclosure of Scope 1–3 emissions, science-based targets aligned with the Paris Agreement, and climate risk strategies. Compliance demands robust data, internal oversight, and transparency [7].

4 Environmental Reporting as a Competitive Advantage

Environmental reporting is no longer a peripheral compliance task; it is now a core instrument of competitive positioning. Publishing clear targets and results signals lower transition risk, differentiates products, and strengthens brands, helping firms negotiate capital and market access. Surveys of institutional investors show that most would increase holdings in companies that decarbonise supply chains and develop climate-adaptation solutions—provided those efforts demonstrably create value [8].

Capital-market evidence confirms the payoff. Companies that systematically improve environmental performance receive higher valuations, indicating that investors price credible disclosure and measurable progress [9]. Beyond finance, reliable data open doors in sustainability-sensitive supply chains, where buyers increasingly demand verifiable emissions before awarding contracts. Internally, the same data reveal efficiency gains, guiding cost-saving measures in energy, materials, and logistics. Thus robust environmental reporting turns transparency requirements into trust, innovation, and strengthens durable competitive advantage.

5 Case Study: Knorr-Bremse's Environmental Reporting Practices

Knorr-Bremse AG — a global German brake-system maker — was chosen for the case study owing to the author's professional link and its status as an early CSRD reporter. A central ESG Board and dedicated sustainability team embed ESG in corporate strategy, reinforcing competitiveness by addressing stakeholder expectations [4].

This review assesses the quality of Knorr-Bremse's 2024 environmental reporting. Because the firm already falls under CSRD for 2024, the analysis does not rate legal compliance; instead, it applies a qualitative content analysis of the 2024 sustainability report. A custom framework combining CSRD/ESRS and GRI benchmarks evaluates eight dimensions on a five-point scale (++ to --).

5.1 Key Findings

- **Integration of Environmental Strategy:** Environmental objectives are strongly embedded in corporate strategy, with formal approval by top management. (++)
- **Emission Transparency:** Full transparency on Scope 1 and 2 emissions, including methodology, emission factors, and historical trends. Total GHG emissions are clearly disclosed. (++)
- **Scope 3 Emissions:** Major categories of Scope 3 emissions (purchased goods, transport, product use) are quantified and reported. Targets for Scopes 1–3 have been validated by SBTi. Disaggregation is missing for other Scope 3 categories (e.g. waste, business travel), and there is no breakdown by product or region. (+)
- **Targets and KPIs:** Specific and measurable environmental targets are in place (e.g. 78 % reduction in Scope 1+2 by 2030), along with relevant KPIs (e.g. carbon intensity). Progress towards targets is clearly documented. (++)
- **Progress Monitoring:** Emissions performance is monitored annually, with year-on-year comparisons and reference to baseline data. Indicators are linked to internal performance systems and management incentives. (++)
- **Data Accuracy and Clarity:** High emphasis is placed on data reliability, with transparent disclosure of uncertainties and adjustments to baseline figures. (++)
- **Third-Party Assurance:** Non-financial information is subject to limited assurance by KPMG. (+) Broader assurance (e.g. reasonable assurance) would be needed to achieve the highest score.
- **Coverage of Material Topics:** All material environmental topics (E1–E5) identified in line with ESRS are comprehensively addressed. (++) [4]

5.2 Overall Evaluation

Knorr-Bremse's 2024 sustainability report shows high environmental-reporting maturity: strategic ESG integration, transparent science-based emissions data, rigorous tracking, and independent verification. It covers all material topics, highlights innovation, and maintains open stakeholder dialogue [4]. Minor enhancements — such as finer data tables or broader assurance — remain possible, yet overall the disclosure is credible, CSRD-aligned, and supports the company's competitive position, making it a strong industry example.

6. Playbook for Implementing Environmental Reporting under CSRD

To help companies systematically approach CSRD-compliant environmental reporting, a “Practical Playbook” consisting of seven key steps is proposed. The playbook was developed using a design-based research (DBR) approach, iterating between theory and practice, as proposed by McKenney and Reeves [10]. Designed for multinational companies that are beginning their reporting journey under the new regulations, the playbook is modular enough to be useful for other organizations as well. It closely follows the logic of the CSRD/ESRS requirements and integrates best practices observed in the case study. The seven steps in the playbook are as follows.

6.1 Strategic and Governance Alignment

The first step toward CSRD-compliant environmental reporting is aligning sustainability with the company’s overall strategy and governance framework. This requires embedding ESG considerations into core business objectives and establishing clear governance structures with defined responsibilities across executive and operational levels. Rather than functioning as a standalone activity, environmental reporting must be integrated into key decision-making processes. A dedicated ESG board or committee—ideally reporting to senior leadership—should oversee sustainability performance to ensure alignment with corporate priorities and to secure resource allocation and management commitment. This strategic integration not only promotes long-term business resilience but also enhances transparency and investor trust. Achieving this requires effective collaboration across departments, including sustainability, finance, compliance, and risk management.

6.2 Conducting a Materiality Assessment

A structured materiality assessment is essential for CSRD-compliant environmental reporting, as it helps determine which ESG topics are significant either due to their environmental impact or their financial implications. Double materiality, as defined in the ESRS, requires companies to assess sustainability issues from both the impact and financial perspective [7]. To support this process, companies may engage stakeholders through tools like employee surveys. Such a survey was developed and pilot-tested in a small beverage company, Moštovna Lažany, to verify its clarity for non-expert employees and to identify which environmental topics (E1–E5) are perceived as material by staff. The results indicated that climate change, water use, and circular economy were seen as most relevant, while pollution and biodiversity were acknowledged but not prioritised.

Once stakeholder input is collected, companies can use decision-making matrices to determine the reporting relevance of each environmental sub-topic. Figure 1 presents an Excel ESG materiality assessment tool based on double materiality logic, scoring each topic by its likelihood and impact in two separate matrices.

E	Sub-topic	IMPACT MATERIALITY MATRIX				FINANCIAL MATERIALITY MATRIX				Decision
		Likelihood	Impact	TOTAL	Impact Materiality	Likelihood	Impact	TOTAL	Impact Materiality	
E1	Climate change adaptation	1	2	3	LOW	1	2	3	LOW	OMIT, BUT EXPLAIN
E1	Climate change mitigation	5	5	10	SEVERE	5	5	10	SEVERE	REPORT
E1	Energy consumption	1	1	2	LOW	1	3	4	MEDIUM	OMIT, BUT EXPLAIN AND FOCUS
E2	Pollution of air	5	5	10	SEVERE	2	5	7	HIGH	REPORT WHOLE 'E'
E2	Pollution of water	5	5	10	SEVERE	5	5	10	SEVERE	REPORT WHOLE 'E'
E2	Pollution of soil	2	5	7	HIGH	3	5	8	SEVERE	REPORT WHOLE 'E'
E2	Pollution of living organisms and food resources	3	3	6	HIGH	4	3	7	HIGH	REPORT WHOLE 'E'
E2	Substances of concern	4	4	8	SEVERE	4	4	8	SEVERE	REPORT WHOLE 'E'
E2	Substances of very high concern	5	5	10	SEVERE	3	5	8	SEVERE	REPORT WHOLE 'E'
E2	Microplastics	4	4	8	SEVERE	2	4	6	HIGH	REPORT WHOLE 'E'
E3	Marine resources	3	3	6	HIGH	4	3	7	HIGH	REPORT WHOLE 'E'
E3	Water consumption	5	5	10	SEVERE	3	5	8	SEVERE	REPORT WHOLE 'E'

Figure 1: ESG Materiality Assessment Tool

Source: own processing

The tool automatically assigns reporting decisions—from “Report” to “Omit”—based on predefined logic coded in Excel formulas, which reflect CSRD requirements. For example, if all E2 subtopics (Pollution) are classified as highly material, the tool recommends reporting the entire section. This systematic method helps identify environmental priorities for future ESG strategy.

6.3 Data Collection and Management

Once material topics are set, companies need to gather the necessary quantitative and qualitative data. Step 3 emphasizes establishing or upgrading ESG data management systems. Large firms might implement specialized software platforms (e.g. SAP Sustainability Control Tower) to capture data from different units. However, such tools can be costly and complex, especially for smaller entities. As a more accessible solution, a custom Excel-based reporting template is created, as shown in Figure 2.

Branch	Reporting Year	Expected Emission Scope	Fuel Consumption (litres)	Electricity Consumption (MWh)	Total Energy Consumption (MWh)	Water Consumption (m³)	Waste Generated (kg)	Recycling Rate (%)	Data Source / Comments
Manufacturing Plant A	2025	Scope 1	950	18900	18910	9200	710	66	Utility bills, smart meters & on-site measurements
Manufacturing Plant B	2025	Scope 1	1250	24000	24013	13500	900	71	Internal energy mgmt system, invoices
Warehouse A	2025	Scope 2	0	1150	1150	2300	55	62	Electricity from grid, supplier invoices
Warehouse B	2025	Scope 2	0	920	920	1800	45	54	Electricity from grid, utility bills
Office A	2025	Scope 2	0	470	470	1150	30	79	Invoices, internal billing records
Office B	2025	Scope 2	0	310	310	950	20	86	Invoices, internal billing records
Supplier Data A	2025	Scope 3	0	5400	5400	3100	270	56	Supplier declarations, shipping logs
Supplier Data B	2025	Scope 3	0	6300	6300	3900	310	59	Supplier declarations, shipping logs

Figure 2: “Data Input” Sheet with ESG Indicators

Source: own processing

This Excel template includes clear instructions for data entry, definitions of reporting units, and methodological notes, ensuring consistent understanding across users. Key ESG indicators such as energy consumption, water use, waste generation, and recycling rates are entered in a standardised format, with dropdown menus and traceable data sources to improve accuracy and transparency. Automatic calculations, such as total energy use, help minimise manual errors and streamline reporting.

To ensure data quality, the template features a validation sheet that highlights missing or incorrect entries with real-time alerts. Users are guided directly to errors, and the report status remains "NOT READY" until all required fields are completed and verified. Once marked "READY," the template enables automated submission to the ESG coordinator via a pre-set Outlook email. Overall, the template provides a practical reporting foundation that meets CSRD requirements while promoting internal consistency and reliability [7].

6.4 Data Consolidation

This step builds on Step 3, where data from individual reporting units was collected and saved in separate Excel files. In the model case, the Power Query function in Excel visible from Figure 3 is used for consolidation.

Branch	Reporting Year	Expected Emission Scope	Fuel Consumption (litres)	Electricity Consumption (MWh)	Total Energy Consumption
1 Manufacturing Plant A	2025	Scope 1	2100	100	
2 Manufacturing Plant B	2025	Scope 1	3100	120	
3 Warehouse A	2025	Scope 2	0	250	
4 Warehouse B	2025	Scope 2	0	300	
5 Office A	2025	Scope 2	0	120	
6 Office B	2025	Scope 2	0	150	
7 Supplier Data A	2025	Scope 3	5400	200	
8 Supplier Data B	2025	Scope 3	6300	300	
9 Manufacturing Plant A	2026	Scope 1	1900	85	
10 Manufacturing Plant B	2026	Scope 1	3000	110	
11 Warehouse A	2026	Scope 2	0	240	
12 Warehouse B	2026	Scope 2	0	290	
13 Office A	2026	Scope 2	0	115	
14 Office B	2026	Scope 2	0	135	

Figure 3: Excel Power Query Editor Consolidating Data
Source: own processing

Power Query enables the extraction, transformation, and loading of data—harmonizing units (e.g. energy in kWh or MWh) and calculating emissions. Scope 1 emissions are computed from fuel consumption using emission factors; Scope 2 from electricity consumption using country-specific factors (e.g. 380 gCO₂/kWh for Germany); and Scope 3 is based on supplier-provided data or justified estimates, as allowed by ESRS E1 AR 46 (e). All emissions are standardized in tonnes of CO₂ equivalent (t CO₂e), as required by ESRS E1-6. Beyond ESRS E1 (Climate Change), the model also covers the remaining environmental areas. This includes air pollutant emissions (E2), water intake and discharge (E3), and total waste and recycling rate (E5). Biodiversity (E4) is intentionally excluded from the Excel processing to simulate a real-life reporting scenario where a topic is deemed non-material but still should be briefly mentioned in the final sustainability report [7].

The consolidated file includes automated validation checks shown in Figure 3 that instantly flag potential issues—such as missing reporting years or implausible values—based on logical rules. If errors are detected, the file is assigned the status "NOT READY." Before the data can be used for reporting, it must be corrected and formally approved by ESG reviewers. Once reviewers confirm their approval and errors are resolved, the status changes to "READY."

A	B	C	D	E
Validation Check				
1				
2				
3	ESG Coordinator	Role	Review Date	Approval Status
4	John Thompson	ESG Data Reviewer	20.12.2025	✗ Not Approved
5	Anna Müller	ESG Risk Analyst	27.12.2025	✓ OK
6				
7				
8	Check Description	Check Result	Action	
9	All Reporting Units filled?	✓	✓	
10	All Reporting Years filled?	✓	✓	
11	GHG Calculations Valid?	✗ Error	Some GHG values are missing (Scope 1–3)	
12	Approval from all reviewers?	✗ Pending	Both reviewers must approve in section below	
13	Submission Status	NOT READY	Fix errors before submission	
14				

Figure 3: Validation Check with Errors in the Consolidating File
Source: own processing

This double-check system ensures data completeness, accuracy, and accountability. The approved results are then summarized in the "Summary & Aggregation" sheet and are ready for visualization and reporting in the next step, for instance using Power BI.

6.5 Report Creation

Step 5 focuses on converting the validated environmental data into a professional ESG report. In the model scenario, Power BI was selected as the main reporting tool. Power BI is a widely used tool for creating interactive ESG reports. Figure 4 below shows the overview screen of the Power BI report.

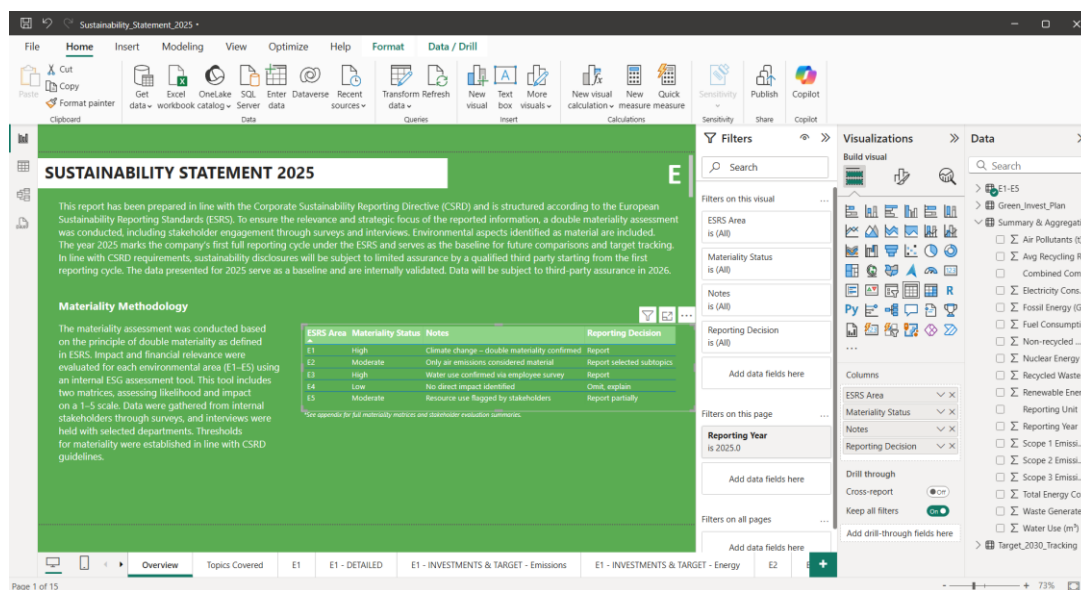


Figure 4: Overview Page in Power BI Interface

Source: own processing

The report is organized into separate pages for each environmental area from E1 to E5. These pages are dynamically linked to the underlying data in consolidated Excel file through Power Query, allowing both company-wide summaries and detailed breakdowns by reporting unit. One section provides consolidated figures on emissions and energy use, while another offers location-specific data such as Scope 1–3 emissions, energy consumption, and source composition. Each environmental topic is presented consistently with tables and interactive visualizations.

Under CSRD, sustainability disclosures are subject to independent limited assurance, typically by an external auditor [7]. The Omnibus Directive confirms that this level of assurance will remain permanent, cancelling the previously planned transition to reasonable assurance by 2028 [11]. ESRS 1 further mandates that ESG information be part of the management report, ideally in a separate section with references to dashboards for clarity. Reports must be publicly accessible, aligned with Directive 2013/34/EU, and consistent with financial statements. After publication, they are typically shared with stakeholders in review sessions [7].

6.6 Setting the Targets

Under the ESRS framework, companies are required to disclose their environmental targets, related policies, and transition plans. Particular emphasis is placed on setting emission reduction targets for 2030. These targets must align with the Paris Agreement's 1.5°C limit, be absolute, scope-specific (for Scope 1, 2, and 3), measurable, time-bound, and clearly linked to baseline year data [7]. In the consolidated Excel file used by ESG coordinators, a dedicated sheet shown in Figure 5 below enables manual entry of these target percentages, linking them directly to baseline values. This allows for structured tracking of specific reduction

goals across individual reporting units. As illustrated in Figure 5 below, the red arrow indicates the input field for 2030 targets, while the adjacent column automatically calculates the expected value. In this example, each unit (e.g. Liberec Hub) has been assigned a 15% reduction for air pollutants, based on their 2025 baseline.

Reporting Unit	Parameter	Base Year	Base Value	Target 2030 (entered)	Target Value	CapEx 2026 (green share)	OpEx 2026 (green share)
Barcelona Innovation	Air Pollutants (t)	2025	0.23	-15%	0.19	15%	6%
Berlin HQ	Air Pollutants (t)	2025	0.06	-15%	0.05	15%	6%
Liberec Hub	Air Pollutants (t)	2025	0.46	-15%	0.39	15%	6%
Warsaw Plant	Air Pollutants (t)	2025	0.27	-15%	0.23	15%	6%

Figure 5: Input Matrix for 2030 Targets and Investment Allocation

Source: own processing

The same sheet also includes disclosure of planned capital (CapEx) and operational (OpEx) expenditures related to achieving these goals, as required by ESRS E1 [7]. Values are entered manually into columns marked with orange arrows, showing the share of investment allocated to environmental objectives—15% of capital and 6% of operational expenditure for 2026. These tables form the basis for monitoring and link directly to Power BI tools, where goals and investment flows are visualized. Strategically, setting targets and linking them to concrete investments—such as water reduction goals under ESRS E3—not only ensures compliance and efficiency but also builds internal know-how that can later be leveraged or licensed.

6.7 Progress Tracking

After setting the targets, a critical follow-up step is the continuous tracking of progress. This involves monitoring, analysing, and transparently reporting the company's performance against environmental goals. Tracking is implemented using the Excel sheet "Target_2030_Tracking", which automatically imports new data—such as actual 2026 values—and calculates the achievement rate toward 2030 targets (see Figure 6).

Reporting Unit	Parameter	Base Year	Base Value	Act 2026	Target 2030 (entered)	Target Value	Target Achievement (%)	Change vs. Base Year (%)	Annual Reduction Rate (%)
Barcelona Innovation	Air Pollutants (t)	2025	0.16	0.17	-15%	0.14	-50%	8%	3%
Berlin HQ	Air Pollutants (t)	2025	0.04	0.04	-15%	0.03	-49%	7%	3%
Liberec Hub	Air Pollutants (t)	2025	0.33	0.36	-15%	0.28	-61%	9%	3%
Warsaw Plant	Air Pollutants (t)	2025	0.19	0.20	-15%	0.16	-38%	6%	3%

Figure 6: Progress Tracking in the "Target_2030_Tracking" Sheet

Source: own processing

As shown in the figure, columns E–J display actual values (red arrow), achievement rate, year-on-year change, and average annual reduction (orange arrows). A color-coded scale supports quick interpretation: green indicates good performance, red signals underachievement. Complementing this, the Excel sheet may also include a multi-line graph comparing baseline, actual, target, and projected values, visually supporting strategic planning.

The Power BI page shown below in Figure 7 is again connected to the Excel file and offers a more detailed and visualized perspective on emission reduction across Scope 1, 2, and 3. It includes tables for each scope and a gauge chart comparing 2026 total GHG emissions (29.96 kt) to the baseline year 2025 (31.42 kt) and the 2030 target (20.18 kt).

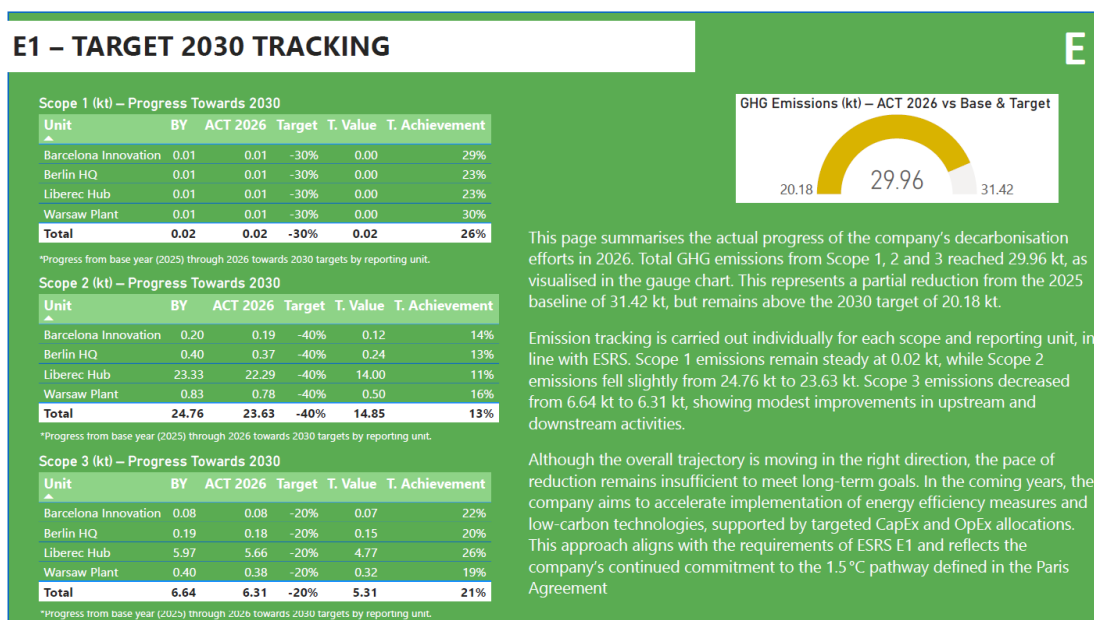


Figure 7: E1 – Target 2030 Tracking with Gauge
Source: own processing

This specific visual corresponds to the emissions section (E1) of the report and serves as a model for structuring progress tracking across other environmental areas (E2–E5) in line with CSRD/ESRS reporting. The dashboard allows for drill-down by unit and scope, helping stakeholders evaluate trends and identify gaps. Together, this system ensures transparency and comparability.

7 Conclusion

This paper concludes that environmental reporting within the ESG framework can provide a competitive advantage for international companies. The shift from voluntary to mandatory disclosure under the EU's CSRD and ESRS requires a structured approach to reporting across climate, pollution, water, and biodiversity. These standards aim to harmonize disclosures and promote sustainable practices, as shown in the Knorr-Bremse case study, which highlights strong integration of environmental strategy and transparent emissions data.

To address the challenges in current reporting, the paper introduces a practical seven-step "Playbook" designed for multinational companies. Aligned with CSRD/ESRS logic and informed by best practices, the playbook includes steps for strategic alignment, materiality assessment, data management, reporting, target setting, and progress tracking. It aims to support compliance while enhancing strategic positioning by embedding sustainability into core operations and stakeholder communication.

However, the playbook also has certain limitations. While the Excel and Power BI-based model is cost-effective and suitable for initial implementation, it may become insufficient for handling large datasets or enabling real-time analytics. So far, it has only been tested in a simulated environment; only the employee materiality questionnaire was pilot-tested in a small company. Broader validation—especially in sectors with complex supply chains or decentralized operations—would be needed to confirm its scalability. Future research could test the playbook in real-world CSRD implementation projects. Despite these constraints, the framework offers a solid starting point that companies can further adapt and develop.

References

- [1] CARROLL, Archie Bruce, 1991. The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders. *Business Horizons*, vol. 34, no. 4, pp. 39–48. ISSN 0007-6813. Available from: [https://doi.org/10.1016/0007-6813\(91\)90005-G](https://doi.org/10.1016/0007-6813(91)90005-G)
- [2] FREEMAN, R. Edward, 1984. *Strategic Management: A Stakeholder Approach*. Boston, MA, USA: Pitman. ISBN 978-0-273-01913-8.
- [3] ELKINGTON, John, 1997. *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. Oxford, UK: Capstone Publishing. ISBN 978-1-84112-084-3.
- [4] KNORR-BREMSE AG, 2025. *Knorr-Bremse Annual Report 2024*. PDF; online. Munich, Germany: Knorr-Bremse AG. Available from: https://ir-api.eqs.com/media/document/ff6e1bf7-16f3-4acd-9abb-a7af5caf73d4/assets/Knorr-Bremse_AG_AnnualReport_2024.pdf?disposition=inline
- [5] STAKE, Robert E., 1995. *The art of case study research*. Thousand Oaks, CA, USA: Sage Publications. ISBN 978-0-8039-5767-1.
- [6] CELLI, Massimiliano; Simona ARDUINI and Tommaso BECK, 2024. Corporate Sustainability Reporting Directive (CSRD) and Its Future Application Scenario for Italian SMEs. *International Journal of Business and Management*, vol. 19, no. 4, pp. 44–57. ISSN 1833-3850. Available from: <https://doi.org/10.5539/ijbm.v19n4p44>
- [7] EUROPEAN FINANCIAL REPORTING ADVISORY GROUP, 2023. *Set 1 of the European Sustainability Reporting Standards (ESRS)*. online. Brussels, Belgium: European Financial Reporting Advisory Group. Available from: <https://xbrl.efrag.org/e-esrs/esrs-set1-2023.html#d1e10096-3-1>. [2025-05-08].
- [8] PRICEWATERHOUSECOOPERS, 2024. *Global Investor Survey 2024*. online. London, UK: PwC. Updated: 04/12/2024. Available from: <https://www.pwc.com/gx/en/issues/c-suite-insights/global-investor-survey.html>. [2025-05-10].
- [9] YADAV, Prayag Lal; Seung Hun HAN and Jae Jeung RHO, 2016. Impact of Environmental Performance on Firm Value for Sustainable Investment: Evidence from Large US Firms. *Business Strategy and the Environment*, vol. 25, no. 6, pp. 402–420. ISSN 1099-0836. Available from: <http://doi.org/10.1002/bse.1883>
- [10] McKENNEY, Susan and Thomas C. REEVES, 2012. *Conducting educational design research*. New York, NY, USA: Routledge. ISBN 978-0-415-61804-5.
- [11] KELLER AND HECKMAN LLP, 2024. *Omnibus package changes sustainability and due diligence reporting requirements under CSRD*. online. Washington, D.C., USA: Keller and Heckman LLP. Updated: 03/03/2025. Available from: <https://www.khlaw.com/insights/omnibus-package-changes-sustainability-and-due-diligence-reporting-requirements-under-csrd>. [2025-04-05].