Pulcra Chemicals

The solution specialist

Sustainability Statement according to CSRD

2024

CONTENTS

1.1 Letter from Leadership

Dear stakeholders,

2024 was a year of consolidation and disciplined progress for Pulcra. In an operating environment that remained challenging for specialty chemicals, we stayed focused on the essentials: safe operations, regulatory compliance, and practical innovation that helps our customers run cleaner, more efficient processes across fiber, textile, and leather value chains. We also advanced the foundations of CSRD/ESRS reporting so that our disclosures match stakeholder expectations and support better decisions.

Operationally, we invested in energy-efficiency measures and modernized process controls, prepared a structured climate transition plan, and commissioned an on-site UV/H_2O_2 advanced oxidation process (AOP) to address persistent organics in specific wash-water side-streams. We tightened our stakeholder engagement loops with employees, suppliers, customers, and our neighbors, and we refreshed our double materiality assessment to prioritize the topics that matter most for people, planet, and Pulcra's long-term resilience.

In 2025, we will convert these baselines into measurable, time-bound targets, expand our ESRS coverage, and prepare for independent assurance. We are committed to transparency, to continuous improvement, and to delivering chemistry that performs with a lower environmental footprint.

CTO Statement on Sustainability in the PULCRA Chemicals Group:

"As Chief Technology Officer, I believe that sustainability is not just a responsibility – it is the foundation for long-term innovation and competitiveness in the chemical industry. Our sector sits at the heart of nearly every global value chain, and with that comes both a profound challenge and a unique opportunity: to transform how chemistry contributes to a cleaner, safer, and more resilient world.

At PULCRA, our sustainability strategy is deeply embedded in our technology roadmap. We are investing in breakthrough processes that reduce carbon intensity, enable circularity, and minimize waste. This includes advancing green chemistry principles, electrifying production, scaling up bio-based and recycled feedstocks, and leveraging digital technologies for smarter, more efficient operations.

Innovation is key to decoupling growth from environmental impact. By combining data-driven process optimization with cross-industry collaboration, we aim to create chemical solutions that not only meet current performance standards but also anticipate future regulatory, societal, and environmental needs.

Sustainability is no longer a side initiative – it defines how we innovate, partner, and measure success. As CTO, my commitment is to ensure that every new technology we develop for FIBER, TEXTILE, LEATHER or PERFORMANCE strengthens our role as a trusted enabler of sustainable transformation inside our industries."

Dr. Holger R. G. Bender
CTO, Chief Technology Officer Pulcra Chemicals Group

**Dear Customers, Partners,
Stakeholders & Team Members,**

It is with great pleasure and a profound sense of responsibility that we present to you the Pulcra Chemicals GmbH Annual Sustainability Report for the year 2024.

As we navigate the complexities of today's Fiber, Textile and Leather auxiliaries industries, we understand that sustainability is not merely a choice – it is an imperative for the well-being of our planet, our communities, and future generations.

This report represents our ongoing commitment to sustainability – a commitment that remains deeply embedded in our values and corporate beliefs. As the world accelerates toward climate resilience, circular economy models, and net-zero targets, we recognize the critical role our business must play in leading responsible innovation and enabling a just, sustainable transition.

At Pulcra Chemicals GmbH, sustainability is not a box to be ticked; it is a guiding principle that shapes our decisions and actions. We believe in the seamless integration of economic success, environmental stewardship, and social progress.

As we unveil the contents of this report, we invite each of you – our customers, partners, stakeholders and team members – to join us in our pursuit of a sustainable future. Your feedback, insights, and collaboration are extremely valuable to us as we strive to make a meaningful contribution to the global sustainability agenda.

In conclusion, we extend our gratitude to everyone who has contributed to the Pulcra Chemicals GmbH sustainability journey. Together, we can create a world where business thrives in harmony with the environment and society.

Sincerely,

Dr. Jürgen Heck
MD Pulcra Chemicals GmbH

"Together for a Sustainable Future"

1.2 General disclosures

About This Report

This Sustainability Statement covers Pulcra Chemicals GmbH, Germany ("PULCRA Germany") for the reporting period 1 January – 31 December 2024. It is prepared in alignment with the EU Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS). Unless stated otherwise, organisational and operational boundaries are consistent with our financial reporting and reflect activities under our management control at Geretsried.

The report is structured around our 4P framework – Purpose, People, Planet, Partner – which provides the narrative backbone for strategy, actions and results. Each topic is mapped to the relevant ESRS disclosure requirements in Appendix A (ESRS Content Index) to make navigation and assurance easier.

Methods and data governance are described in the Appendices. In brief: indicators have named owners, documented calculation rules and evidence trails (e.g., meter reads, lab reports, ERP extracts), with functional reviews before publication. Where estimation is used, we disclose assumptions and limitations; rounding may cause immaterial differences in totals. Any restatements or methodology updates are flagged alongside the relevant indicator and explained in the notes to the Performance Data and in the Methods & Data Dictionary.

Greenhouse-gas accounting follows the operational-control approach. Scope 1 covers on-site combustion; Scope 2 is presented location-based with market-based figures where contract evidence allows; Scope 3 is reported for the screened categories most relevant to our value chain and materiality conclusions. Energy is reported in MWh, water in m^3, waste in tonnes, and financials in euros unless noted.

This Statement is published annually and builds on our initial CSRD-aligned report for 2023. Selected 2024 indicators will be prepared for external assurance in the next cycle; where figures are subject to final validation, this is indicated in context. Feedback is welcome and can be directed to the contacts listed in Appendix F.

Governance

PULCRA reports to Fashion Chemicals GmbH & Co. KG (FASHION) as their holding company.

FASHION is controlled by a dedicated board, consisting of a number of shareholders and industry experts, meeting on a quarterly basis.

FASHION's Executive Committee (ELT = Executive Leadership team) meets on a bimonthly basis and its permanent members are the CEO, CFO, CTO, Global HR Director, SBU Leader Fiber, SBU Leader Textile, SBU Leader Leather and Head of Global IT. Other functions are invited if the current situation demands their presence.

The ELT of FASHION reviews the results of all affiliates and SBUs, and defines the strategy for the whole Pulcra Group, breaking it down to every affiliate and SBU.

Furthermore, the ELT of FASHION oversees sustainability initiatives, with a commitment to involving all employees in driving these efforts forward.

PULCRA is committed to responsible corporate governance that complies with the law, safeguards values and strengthens its reputation.

PULCRA is managed by a Management Meeting Circle (MM), which gathers on a monthly basis. The MM comprises of the managers of all administrative and business departments. The head of MM is the company's Managing Director (MD).

General management policies are internally audited by Quality Management for ISO 9001, ISO 14001, ISO 50001 and externally by a third-party auditor, TÜV Süd.

As for matters of sustainability, a Sustainability Committee has been founded. It consists of PULCRA's CTO, the Global Head of Production Safety and Regulations, the Head of Quality Management, one R&D manager, and one Sustainability Intern.

1.3 Getting to know us

Who We Are

The name "PULCRA" embodies a powerful heritage, blending the Latin essence of beauty, elegance, and grace with the Spanish qualities of cleanliness, neatness, and care. Just as the name suggests, we are committed to fostering a sustainable future that is not only beautiful but also pure and clean – ensuring environmental responsibility, meticulous stewardship, and integrity in all our practices. Our mission reflects the spirit of Pulcra by creating harmonious solutions that nurture both people and the planet.

PULCRA Germany develops and manufactures **specialty chemicals** for the **fiber, textile, and leather** industries. The company operates from its integrated site in **Geretsried, Germany (Isardamm 79–83)** and supports customers worldwide through application laboratories and technical service teams.

Pulcra's purpose is to enable efficient, safe, and high-quality material processing while reducing environmental impact. We combine a strong manufacturing base in Germany with applied chemical expertise and field-level collaboration to ensure that performance and sustainability progress together.

What We Do

Pulcra's product portfolio spans the complete manufacturing chain – from spinning and sizing to pretreatment, dyeing and printing, finishing, and the entire leather process from beamhouse to finishing. These auxiliaries help mills and tanneries achieve consistent quality, process stability, and compliance with strict regulatory and brand requirements.

The company positions itself as a solution provider, offering custom-made, application-specific formulations that enhance process efficiency and minimize environmental loads. In 2024, Pulcra continued to expand its low-emission and renewable-carbon ranges, including Pulcra Naturalis® (≥ 80 % renewable carbon) and PellNatur®, a heavy-metal-free white-tanning technology for premium leathers.

Pulcra's technical experts work directly with customer plants to perform trials, train operators, and optimize recipes. Knowledge gained on site feeds back into R&D, supporting ongoing improvements in performance chemistry and resource efficiency.

Value Chain

Pulcra's value chain begins with **qualified inputs** – specialty chemical feedstocks based on **fossil-based, renewable, and inorganic raw materials**, together with **packaging** and **logistics** that ensure continuity of supply to the Geretsried production site. In 2024, Pulcra used a total of **13,829 t of raw materials**, comprising **9,013 t fossil-based**, **3,814 t biobased**, **1,002 t inorganic**, and **2.1 t recycled content**.

Production relies on essential **energy and water utilities**. In 2024, **total energy consumption** amounted to **16,467 MWh**, consisting primarily of **natural gas (13,504 MWh)**, **electricity (2,822 MWh)**, and **diesel (141 MWh)**. Electricity purchases included a **renewable component**, while dependence on fossil sources continues to guide Pulcra's **transition planning and efficiency programs**.

Environmental management is integrated into operations through metering, process control, and wastewater treatment. In 2024, Pulcra withdrew **55,485 m^3 of water**, equal to the treated volume discharged, and managed a total of **1,643 t of waste**. This included **188 t hazardous waste**, **295 t non-hazardous waste**, and **1,938 t of reutilized or recovered materials**. The waste profile was dominated by non-hazardous wash waters, with smaller fractions of **1,4-dioxane-containing residues, production by-products**, and **chromium-bearing sludge** – data that feed directly into ongoing segregation and reduction initiatives.

Downstream, Pulcra auxiliaries are used across **yarn production, dyehouses, finishing plants, and tanneries** worldwide. Technical service teams co-develop trials, optimize process recipes, and train operators to stabilize quality while lowering chemical and energy demand. Field insights cycle back into **R&D**, accelerating improvements in **renewable-carbon formulations** and **low-emission process concepts** that reduce resource intensity beyond Pulcra's factory gate.

Business Model

Pulcra's business model connects **formulation and application R&D, production and QA/QC, regulatory support**, and **on-site technical service** into a unified, feedback-driven system. This integration enables Pulcra to deliver auxiliaries that enhance customer productivity, ensure consistent quality, and reduce environmental impact throughout the textile and leather value chains.

In 2024, Pulcra's strategy centered on three mutually reinforcing priorities:

- **Energy efficiency and transition**, including investment in advanced metering, process optimization, and more efficient energy sourcing to reduce dependence on natural gas;
- **Pollution prevention and waste minimization**, through targeted segregation of hazardous wash waters, improved recovery, and volume reduction initiatives; and
- **Sustainable product development**, focusing on expanding renewable-carbon chemistries and heavy-metal-free tanning systems aligned with customer sustainability goals.

These priorities are directly derived from Pulcra's **2024 Double Materiality Assessment**, which identified **climate and energy, pollution control, water stewardship**, and **circularity** as the most material environmental topics for PULCRA Germany.

Pulcra closed 2024 with **net revenue of € 60.9 million** and a **workforce of 177 employees**, including **11.1 % women in management roles**. Site operations consumed **16,467 MWh of energy** and emitted approximately **3,648 t CO_2e** across **Scope 1 and 2** (with **Scope 1 ≈ 2,858 t CO_2e** and **Scope 2 ≈ 790 t CO_2e**). The company maintained **ISO 9001, ISO 14001**, and **ISO 50001** certifications, underscoring its disciplined management of quality, environment, and energy.

Through this integrated model, Pulcra continues to deliver **performance chemistry with a lower environmental footprint**, reinforcing its position as a responsible, innovation-driven specialty-chemical partner within Germany's textile and leather industries.

What Sustainability Means to Us

For Pulcra Chemicals, **sustainability is not an obligation – it is the way we secure our future**. It is how we balance performance chemistry with environmental responsibility and social integrity in every decision we make.

We view sustainability as a **continuous commitment**, not a response to regulation. It means acting with foresight – using resources responsibly, protecting people and communities, and developing chemical solutions that enable our customers to reduce their own footprint. Every product, process improvement, and partnership we invest in is part of this journey.

Our understanding of sustainability is anchored in Pulcra's 4P framework

PULCRA's 4-P

At the heart of PULCRA's vision is the 4-P framework:

- People,
- Planet,
- Partner, and
- Purpose

This 4P approach integrates sustainability into our **core business model and daily operations** – from formulation development and production at our Geretsried site to customer collaboration worldwide. It guides how we assess risks and opportunities, prioritize investments, and define targets that go beyond compliance.

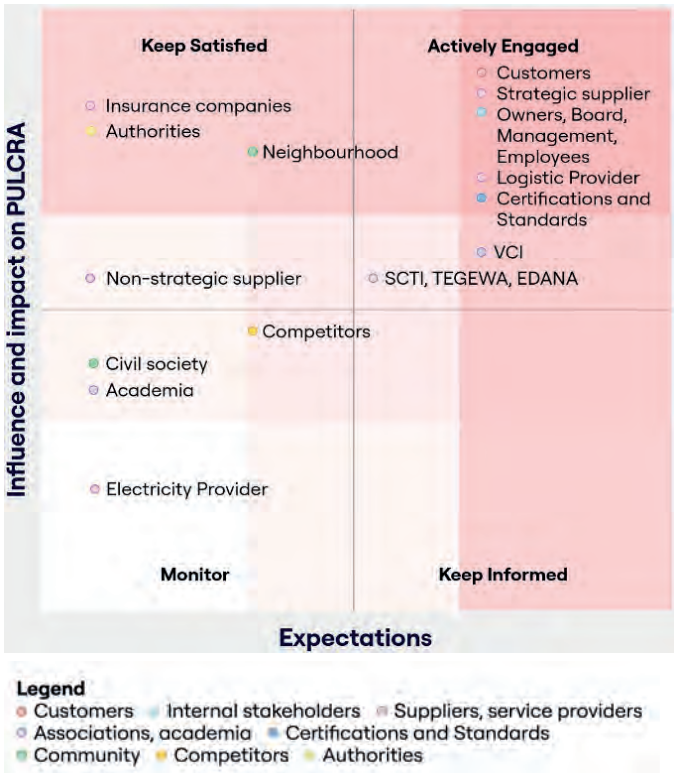
Sustainability, for Pulcra, is therefore not a separate function but a **shared culture** – a mindset that combines technical excellence with responsibility. By embedding it into our strategy, we aim to contribute measurable value to our customers and tangible benefits to the environment and society that sustain us all.

This strategy is more than words; it's a commitment to progress that holds us accountable to stakeholders and the communities we serve. By aligning these principles with our operations, we aim not only to adapt to a changing world but to shape it – setting new standards for a more resilient, sustainable future.

2.1 How we work with stakeholders

Pulcra maintains structured, continuous dialogue with the stakeholder groups most affected by or influential to its operations – **employees, suppliers, customers and brands, local communities, regulators, and financial stakeholders**. Engagement is integrated into the **governance and materiality cycle**, ensuring that stakeholder expectations are systematically considered in risk evaluation, target-setting, and program design.

In **2024**, the stakeholder map was refreshed as part of the **Double Materiality Assessment**, resulting in a tiered engagement approach illustrated in the "Stakeholder Engagement Priorities 2024" diagram. The inner circle – **Co-create & Partner** – includes Pulcra's closest collaborators such as **strategic suppliers, key customers, and certification bodies** with whom the company jointly develops solutions, audits, and product-stewardship measures. The next ring – **Keep Informed & Consult** – covers **employees, local communities, and industry associations** (e.g., VCL, SCTL, TEGEWA, EDANA) that Pulcra engages through surveys, townhalls, and technical dialogues. The outer layer – **Actively Engage** – represents groups such as **regulators, insurers, utilities, and academia**, where interaction focuses on compliance, disclosure, and knowledge exchange.



Stakeholder Engagement Priorities 2024

Engagement channels include **the local townhall and surveys for employees and neighbors, supplier sustainability questionnaires and site visits, customer technical exchanges and PSR-based field trials, and open complaint and grievance mechanisms** accessible to external stakeholders. Feedback collected through these touchpoints is reviewed in management meetings and directly informs actions and KPIs in Pulcra's environmental and social programs – particularly in climate and energy, pollution prevention (including substances of concern such as 1,4-dioxane), **water stewardship, circular resource use, and working conditions and safety**.

This closed-loop engagement process – plan, listen, act, and disclose – links stakeholder expectations to Pulcra's strategic priorities and provides documented evidence for double-materiality outcomes under ESRS. The company's focus remains on transparent communication, constructive partnerships, and traceable responsiveness to the interests of its internal and external stakeholders.

2.2 Double Materiality Process

In 2025, we conducted a comprehensive **refresh of its Double Materiality Assessment (DMA)** to align with the structure and methodological depth expected under the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS). The review built upon the 2023 baseline while applying **consistent evaluation thresholds** to ensure year-on-year comparability.

The process covered all topical ESRS areas – **E1 to E5 (environmental), S1 to S4 (social), and G1 (governance)** – and incorporated **Pulcra-specific topics** such as product stewardship, process safety, and innovation for lower-impact chemistry. Each topic was assessed through both lenses of materiality:

- **Impact materiality**, capturing Pulcra's actual or potential positive and negative impacts on the environment, people, and society; and
- **Financial materiality**, assessing how sustainability-related risks and opportunities could affect Pulcra's enterprise value and resilience.

The DMA followed a structured, evidence-based workflow:

1. **Stakeholder input** was gathered through targeted **employee, community, and external surveys**, in-person dialogues with key customers and suppliers, and the review of feedback received via grievance and compliance channels.
2. **Internal data sources** included the enterprise risk register, operational control plans, regulatory obligations and permits, environmental and safety audits, and quantitative datasets.

3. **External references** such as the EU Taxonomy, sector benchmarks, and supply-chain due-diligence expectations were used to contextualize Pulcra's exposure and influence.

Each topic was evaluated using defined criteria for **severity, likelihood, and irremediability** (for impacts) and **probability and financial magnitude** (for risks and opportunities). Scores were normalized and plotted on two axes – impact materiality and financial materiality – to determine topic prioritization. The results were validated through **management workshops and the Sustainability Committee**, ensuring alignment between operational evidence and strategic relevance.

The 2024 assessment reaffirmed key environmental priorities – **climate and energy efficiency (E1), pollution prevention and substances of concern (E2), water stewardship (E3), and resource circularity (E5)** – as material from both an impact and financial perspective. Social priorities remained focused on **occupational health and safety, fair remuneration, and training and employee engagement**, while governance priorities emphasized **ethical conduct, supplier oversight, and data transparency**.

2.3 Material Topics

Pulcra's 2024 Double Materiality Assessment confirmed that the company's most significant sustainability topics remain closely aligned with those identified in 2023, reflecting continuity in how environmental, social, and governance priorities are managed. The topics below combine both **impact materiality** and **financial materiality** perspectives and form the foundation for Pulcra's sustainability strategy and 4P framework.

	Material Topics (2024)
Environmental	Climate change mitigation and energy efficiency Pollution prevention (air, water, and emissions) Substances of concern and SVHCs (including PFAS, 1,4-dioxane) Water stewardship and wastewater treatment Resource use, waste reduction, and circular economy Biodiversity and ecosystem protection (local and indirect impacts)
Social	Working conditions, employment stability, and social dialogue Health, safety, and wellbeing Equal opportunity and non-discrimination Fair pay, training, and employee development Human-rights due diligence for value-chain workers Community engagement and complaint mechanisms
Governance	Ethical business conduct and integrity Responsible supplier management and payment practices Transparency, accountability, and data reliability Corporate culture and leadership commitment to sustainability

These material topics define where Pulcra's operations and value chain have the greatest potential for impact – and where sustainability performance most influences business resilience and stakeholder trust. They shape the company's targets, key performance indicators, and management actions across the report's core pillars.

"What topics are material for our sustainability activities?

Pulcra Chemicals is a provider for innovative solutions for various types of consumer goods that surround us in our daily life – made from textiles, leather, and fibers. In product development, we focus on improving the ecological and toxicological profiles of our products while creating new, sustainable solutions. This is the very core of our business – to be the market leader in cleaner solutions for the textile, fiber and leather industry.

For our sustainability reporting, the most material topic for me is that Pulcra develops solutions with a lower environmental impact, thereby reducing the carbon footprint along the value chain for textile, leather, and fiber production.

In the leather sector, we have launched two initiatives with significant impact:

PULCRA NATURALIS® is our steadily growing portfolio of products with >80% renewable carbon content. The graph shows the increasing revenue of Pulcra Naturalis® products in Pulcra Leather globally. Initially launched in the Leather division, this initiative has now been extended across all Pulcra departments.

PELLNATUR® a new tanning concept that combines the benefits of zeolite with the moisture-retaining and stabilizing properties of a specially designed biopolymer. Like Pulcra Naturalis®, it is based on renewable carbon and contributes to climate change mitigation at the tannery level. Furthermore, leather produced with PellNatur® is fully compostable, offering an additional advantage at the end-of-life stage of leather.

"Since raw materials account for around 90% of Pulcra's carbon footprint, transitioning to renewable carbon is essential for achieving carbon neutrality. These initiatives demonstrate how Pulcra contributes to a more sustainable value chain and define the sustainability footprint of our company. Personally, I find it highly motivating to work on such impactful developments."

Dr. Ivo Reetz
Head of R&D Leather

2.4 How materiality shapes strategy

Pulcra's double materiality assessment is not an academic exercise – it is the mechanism that aligns facts, stakeholder expectations, and business decisions. The 2024 assessment confirmed that the issues most material to our stakeholders are also the ones that determine Pulcra's long-term resilience: energy and climate transition, pollution prevention, water stewardship, circular resource use, workforce wellbeing, and responsible business conduct.

Insights from the DMA are used to **set priorities, allocate resources, and define targets** across the company's 4P framework – **People, Planet, Partner, and Purpose.** Each topic identified as material translates directly into investment, operational discipline, or innovation focus.

For 2025 and beyond, this means:

- directing capital and technical expertise toward **energy-efficiency and emission-reduction projects**, including implementation of the site's **transition plan**;
- scaling the advanced oxidation process (AOP) to prevent persistent organics and cut hazardous-waste transport;
- refining **water monitoring and treatment performance** to sustain compliance and reduce withdrawal intensity;
- enhancing **circularity and segregation systems** to recover usable fractions and cut disposal volumes;
- strengthening **workforce safety, training, and fair conditions** as core to operational reliability; and
- reinforcing **supplier governance and transparency** to extend sustainability standards across the value chain.

In this way, the DMA gives Pulcra a factual foundation for action. It transforms stakeholder dialogue and quantitative analysis into a clear sequence of priorities, ensuring that the company's sustainability work is not symbolic but strategic – driven by evidence, measured through KPIs, and integrated into daily decision-making.

People covers the commitments to our own workforce: safe operations, fair and respectful conditions, capability development, and meaningful dialogue. The indicators below reflect the 2024 position for PULCRA Germany (Geretsried).

3.1 Workforce environment & workers' rights

Pulcra maintains a written **Code of Conduct / human-rights policy** that prohibits **child labour, forced labour, human trafficking, and discrimination** and requires **respectful conduct and accident prevention**. The policy applies to all personnel working on site (employees and agency workers while on Pulcra premises) and is covered in onboarding and routine communication. Employment decisions (hiring, assignment, progression, discipline, termination) must be based on **role requirements and competence**; degrading or abusive behaviour is not tolerated.

Freedom of association and collective bargaining are respected in practice. **Collective-bargaining coverage: 139** employees (78,53 %). Works-council dialogue and scheduled meetings provide structured channels for input on pay, working time, and health-and-safety concerns.

Pulcra operates a **formal complaint-handling mechanism** so workers can raise concerns **without retaliation**. Reports can be made to line management, HR, EHS, or via designated grievance channels; cases are **logged, assessed, assigned corrective actions, and tracked to closure**. Where issues are systemic, procedures or training are updated and outcomes communicated as appropriate.

Protecting workers' rights is directly linked to **safe work as a fundamental right**. Line managers implement risk assessments and preventive measures at task level; EHS specialists support with methods, monitoring, and incident reviews. All personnel must follow site rules (access control, PPE, chemical handling, emergency procedures). Breaches are investigated and addressed through fair-process steps consistent with policy and law.

Non-discrimination extends to everyday management: scheduling, leave, performance feedback, and **access to training** use documented, role-relevant criteria. When conflicts arise, Pulcra encourages resolution at the lowest effective level, with escalation paths through HR/works council and, if needed, the grievance mechanism to ensure timely, impartial handling.

3.2 Social protection

At Pulcra, employees in Germany are protected by the statutory social security system and by company provisions that make major life events financially and practically manageable. Statutory coverage includes health and long-term care insurance, pension insurance, unemployment insurance, and employer-financed statutory accident insurance. Company arrangements build on this baseline to support safe return to work, family responsibilities, and retirement planning – consistent with the approach described in 2023.

Sickness and health protection

All employees participate in the German health insurance system, which secures access to medical care and sickness benefits. In line with German labour law, Pulcra continues wage payments during medically certified short-term illness; after the employer continuation period ends, the health insurer provides sickness benefit. Prevention remains primary: site rules for PPE, chemical handling, hygiene, and emergency procedures are reinforced by periodic, risk-based checks with the occupational physician. Where illness is prolonged, Pulcra implements the **Occupational Reintegration Process (BEM)** to plan a stepwise return (e.g., adjusted tasks or hours). BEM is confidential, voluntary, and coordinated by trained representatives who mediate between the employee, HR/EHS, and line management so duties, timelines, and support measures are agreed and documented. This is unchanged in principle from 2023, with the focus on early contact, individualized planning, and closing actions that remove recurring barriers to work.

Unemployment coverage

Employees are insured under the statutory unemployment system; if employment ends and legal criteria are met, the system provides time-bound income support and reintegration services. As in 2023, Pulcra's HR function supplies accurate employment documentation and end-of-service confirmations promptly so employees can access entitlements without administrative gaps. Employees also receive information on the standard steps for registering with the employment agency and on certificates typically needed for claims processing.

Employment injury and disability

Work-related incidents and commuting accidents are covered by the statutory accident insurer **(Berufsgenossenschaft).** Coverage spans medical treatment, rehabilitation, and compensation in line with legal rules. Internally, Pulcra maintains an incident-to-action chain consistent with 2023 practice: immediate care and reporting; entry in the accident log and, where required, notification to the insurer/authorities; root-cause analysis; and assignment of corrective/preventive actions with deadlines and verification.

In cases of lasting impairment, disability benefits follow statutory provisions; Pulcra coordinates with the insurer and occupational physician to align long-term solutions (e.g., technical aids, job adjustments) with health requirements and role needs.

Parental leave

Employees may take parental leave according to German regulations, with job protection and options for part-time or phased return where feasible. Pulcra keeps the process predictable – employees receive clear information on notice periods, documentation, and handover planning; HR coordinates reintegration and schedules return discussions in good time before the end of leave. This mirrors the 2023 approach and is designed to balance continuity for teams with family needs.

Retirement benefits

Alongside the statutory pension, Pulcra offers two occupational schemes that help employees build additional, reliable retirement income.

ChemiePensionsfonds (CPF). Under the chemical industry collective agreement, full-time employees can opt into the CPF. Upon application, Pulcra contributes **€613.55 per year** for each eligible employee. The CPF can be combined with salary-conversion (Entgeltumwandlung) to increase individual saving. HR provides enrolment materials, offers projection calculations on request, and supports changes during defined adjustment windows – consistent with the approach described in 2023.

VO2006 plan. Pulcra also operates the **VO2006** company pension. Full-time employees covered by collective agreements receive an annual **"Demografiebetrag" of € 841**, which Pulcra pays directly into VO2006. In addition, Pulcra contributes **1% of annual pensionable income** to the plan. Employees may choose to make **extra contributions of 1.5%** of their pensionable income; when they do, **Pulcra matches that employee contribution in full** (i.e., an additional 1.5% employer contribution on top of the base 1%). HR provides plan documents, handles enrolment and beneficiary updates, and can issue individual pension forecasts so employees can tailor contributions to their needs.

Together, CPF and VO2006 give employees a clear, flexible pathway to supplement the statutory system – with fixed employer contributions, the Demografiebetrag, and optional matched saving to accelerate retirement capital growth.

Other benefits

To encourage sustainable commuting and reduce household transport costs, Pulcra provides a subsidized job ticket fare for public transport. Employees may use the ticket for commuting and general travel on eligible networks. Beyond the personal benefit, this helps reduce single-occupancy car use and associated emissions – an approach already referenced in 2023 and retained for 2024.

Access and claims

Enrollment in statutory schemes is automatic at hire. For company-level programmes, HR provides written guidance on eligibility, application steps, and decision timelines; confidentiality is respected throughout. Employees may raise questions or concerns through normal HR channels, the works council, or the formal grievance mechanism without fear of retaliation.

3.3 Equal opportunity, fair pay, diversity & inclusion

Pulcra applies role- and skills-based criteria to recruitment, assignment, development, and pay. Decisions are documented and reviewed on a routine cadence to keep outcomes consistent with our non-discrimination commitments. Practically, this means structured job requirements and interviews, calibrated salary bands, transparent promotion criteria, and routine monitoring of representation and pay. When monitoring surfaces differences that cannot be explained by job family, level, or performance, managers implement corrective adjustments. Employees can raise concerns confidentially through HR, the works council, or the grievance channel without retaliation.

Employees by Categories	2023		2024	
	Male	Female	Male	Female
Permanent employees	127	56	120	57
Temporary employees	0	0	0	0
Full-time employees	122	33	118	36
Part-time employees	5	18	2	11
Apprentices	8	2	8	2
Interns, trainees, students	0	0	0	0
Total employees	**127**	**56**	**120**	**57**

In 2024, the Geretsried site employed **177 people – 120 men** and **57 women**. Leadership roles totaled 30, held by **27 men** and **3 women**, placing women's share at **11.11%** (up from ~9% in 2023 and now stated transparently as "3 of 30"). Compared with **2023 (183 total: 127 men, 56 women)**, headcount moved by **–7 men** and **+1 woman**, a stable profile for a specialist workforce that still leaves room to grow women's participation in leadership and pipeline roles. The 2024 employment structure comprised **154 full-time (118 men, 36 women), 13 part-time (2 men, 11 women), 10 apprentices (8 men, 2 women), and no temporary employees or interns**. Flexible hours continue to be used where operationally feasible, with equivalent access to training, evaluation, and progression regardless of working time.

Transparency on pay was strengthened in 2024 by publishing the **average gross hourly pay of € 33.50 for men and € 29.75 for women, an unadjusted gender pay gap of 11.19%.** Pulcra applies salary bands, documented criteria, and periodic pay reviews; if unexplained differentials are identified, targeted adjustments are made and decision processes are tightened (panel composition, criteria clarity, documentation), ensuring an auditable "review-and-correct" loop.

Looking ahead, Pulcra plans to **offer internships in 2025** (e.g., sustainability reporting, production support, QA/QC, application labs, data/IT). Roles will have skills-based selection, clear learning goals, and supervised project work so experience translates into fair consideration for future openings. Overall, 2024 shows steady representation, a modest increase in women in management, and stronger disclosure – backed by controls that keep outcomes fair and verifiable.

"At Pulcra Chemicals, we promote an inclusive corporate culture in which all employees are respected regardless of their origin, gender, age, religion, sexual orientation, disability, or other characteristics. We are committed to equal and diverse workplace opportunities, where every employee has the opportunity to develop their potential.

We ensure fair and equal opportunities in all HR processes, and appreciation of different perspectives to increase innovation and performance. In the event of possible violations
of our guidelines and rules of conduct, we ask our employees to contact the internal compliance team. (Compliance@pulcrachem.com)"

Iris Binder
HR Administrator

3.4 Health & Safety

At Pulcra, safety is about people first. Everyone who comes to work should leave just as healthy as they arrived, and that belief shapes how we run the site every day. Our company physician and Workplace Safety team work side by side with operations to keep the environment safe and healthy – through risk-oriented health check-ups, vaccination offers, practical safety training, and quick support whenever a concern is raised. We aim for a culture where speaking up is normal, questions are welcomed, and care for one another is visible on the shop floor, in labs, and in offices.

Prevention is the core of our programme: identify hazards early, control them at the source, train for the task, and verify that controls work in practice. In 2024, Geretsried recorded **four** recordable work-related cases, a **recordable case is 4**, and **zero fatalities** over **240,110** hours worked. Those results rest on steady routines – weekly and monthly meetings where EHS topics are reviewed, an occupational physician on site one day per month for risk-based checks and advice, and a formal **Arbeitsschutzausschuss (ASA)** that meets quarterly to review incidents, agree measures, and track closure. First-response capability is maintained by trained first aiders and **AEDs** positioned for rapid access, and by our in-house fire brigade, which can stabilise situations and coordinate with external responders.

Indicator	Value
Recordable cases	**4**
Recordable rate	**3.33**
Fatalities	**0**
Total hours worked	**240,109.91**

Being ready for the unexpected matters just as much as doing things right the first time. We run evacuation and alarm drills to test alarm chains, headcounting at muster points, and the interface between the internal brigade and public services. Preventive inspections of critical production and storage equipment reduce the chance of abnormal situations; if something does happen, escalation paths are clear so the scene is secured quickly and safely. Regulatory oversight remained strong in 2024: the annual multi-agency inspection by the district administration and the Government of Upper Bavaria raised no technical or organisational objections, confirming compliance with **Seveso III** and the **Federal Immission Control Act (BImSchG)**.

Behind each of these processes are people looking out for people – colleagues stopping a task to ask a question, supervisors taking the time to walk a line, teams calling for help early because that's what trust looks like here. That is the standard we hold ourselves to: a workplace where employees feel valued, protected, and supported, and where good safety is simply how we work.

Safety on site

Safety on site means disciplined execution every shift. Risk assessments are prepared for hazardous tasks and updated when equipment or procedures change. Operators are trained on task-specific hazards – chemical handling, isolation and lockout, confined-space precautions, hot-work permits – and their competence is refreshed when duties rotate. The safety professional leads structured walk-downs of production and storage areas to check **Sicherheit–Ordnung–Sauberkeit** (safety, order, cleanliness); findings are logged, corrective actions are assigned with owners and dates, and completion is verified. Near misses are treated as learning opportunities: they are reported, analysed for technical, organisational and behavioural causes, and translated into preventive measures that are communicated across shifts.

Emergency readiness is exercised and evidenced. On **20 November 2024** the site conducted a full-site evacuation drill based on a simulated building fire. After the building alarm and initial response by the internal fire brigade began, the crisis team escalated to a site-wide evacuation to avoid endangering personnel. The drill concluded **once all employees, guests and visitors were accounted for at the muster points**, validating alarm and communication flows and confirming that headcount procedures work under time pressure. Routine preparedness is supported by **first-aid coverage** across areas, **automated external defibrillators** located for rapid access, and periodic medical checks coordinated by the occupational physician. Preventive inspections of critical equipment (both production and storage) reduce the likelihood of abnormal situations; if one occurs, escalation routes and responsibilities are clear so that the scene is stabilised quickly and safely.

Regulators' findings corroborate the site's state of readiness. During the **22 July 2024** inspection – covering emission control, construction, water management and disaster control – authorities issued **no objections** to Pulcra's technical or organisational arrangements. Internally, that feedback is used to keep maintenance discipline high, sustain housekeeping standards, and reinforce operator awareness through toolbox talks and documented shift-handovers.

"It can be said that plant safety at Pulcra is at a very high technical and organisational level."

Dr. Thomas Müller
Operational Excellence

Safety Day

"Safety Day" at Pulcra is a site-wide focus day that concentrates training, demonstrations and discussions into a single, highly visible event to reinforce everyday practice. The format is designed to complement – not replace – routine onboarding and toolbox talks. A typical programme includes short briefings on the year's incident learnings and near-miss themes; hands-on stations run by the internal fire brigade (use of extinguishers, hose handling, alarm and evacuation fundamentals); first-aid refreshers and AED familiarisation; and practical modules on chemical-specific risks (labelling, storage segregation, spill response) delivered by the safety team and area supervisors. Supervisors use the day to walk crews through recent equipment changes and the corresponding updates to risk assessments and permits, so that everyone understands what has changed and why.

For **2024**, the Safety Day content aligns with the **November evacuation drill**, emphasising evacuation discipline, accountability at muster, and clear radio/phone protocols during alarms. For **2025**, the plan is to expand the programme with short scenario walk-throughs on lockout/tagout and transfer operations, and – subject to availability – an external refresher on hazardous-substance storage to deepen the connection between Seveso/BImSchG requirements and day-to-day operator decisions.

Incidents

In **2024**, no incidents of discrimination or harassment were reported at Pulcra Germany, and no formal complaints were filed through our internal channels. There were no fines, penalties, settlements, or compensation payments related to such conduct, and no severe human-rights incidents were identified against the standards we follow (UNGPs, ILO fundamental principles, OECD Guidelines). Confidential channels for raising concerns remain available and are monitored to ensure fair, timely resolution whenever issues arise.

3.5 Learning, Performance & Career Growth

Pulcra develops people the same way we design processes: deliberately, with clear standards and feedback loops. Capability building underpins safe, reliable operations and consistent quality, while structured career development keeps expertise in the organisation and makes performance expectations transparent.

Performance & career reviews (TOP).
All employees in Germany take part in **bi-annual performance and career discussions** under our Targeting Outstanding Performance (TOP) system. Reviews align individual goals with operational and improvement priorities and provide balanced feedback on role delivery and behaviours. Supervisors and employees agree development goals, learning actions, and checkpoints; progress is followed up during the year. The criteria used mirror how work is actually done – initiative and collaboration, quality and discipline in execution, customer orientation (internal and external), and alignment with Pulcra standards – so that feedback is actionable and fair. Where progression is sought, managers document the evidence, clarify gaps, and lay out concrete steps (e.g., targeted training, a coached task, or a defined project exposure).

Learning that matches risk and role.
Training is built from three streams: (1) **EHS foundations** (legal/permit-linked topics, chemical handling, emergency procedures, first aid/AED familiarity); (2) **process & quality** (SOPs, change points, control plans, data integrity); and (3) **role-specific modules** (equipment, lab methods, application support, digital tools). New hires receive structured onboarding; when equipment or procedures change, affected employees complete a change-specific module and sign-off. In **2024**, employees recorded an **average of 11.4 training hours per person**, reflecting this mix of mandatory and capability-building content. Refresh cycles are set by risk (e.g., annual for high-risk tasks, bi-annual for first aid), and completion is monitored so that certification-dependent roles remain current.

Access and equity.
Development opportunities are offered **regardless of contract type or working time**; part-time employees have equivalent access and are scheduled so learning time is not a disadvantage. To strengthen transparency. This baseline helps us check that access is balanced and that training plan coverage matches risk and role across production, QA/QC, R&D, and support functions.

Monitoring effectiveness.
We look beyond attendance. Supervisors confirm on-the-job application (e.g., correct permit use, right-first-time results after a method change) and capture improvement ideas from trainees. Findings from incidents and near-misses feed back into course content; when a pattern appears (for example, recurring issues during line changeovers), the curriculum is adjusted and the change is briefed across shifts. Employee feedback from TOP conversations is used to refine the catalogue and sequencing so development supports both immediate task competence and longer-term growth.

Pathways and pipeline.
Apprenticeships remain a key route for building future talent, with job-relevant rotations and mentoring. Looking ahead, Pulcra plans to **host interns in 2025** in technical and data-enabled roles. Internships will use skills-based selection, clear learning goals, and supervised project work so that experience translates into fair consideration for future openings.

What's different from 2023 – and what continues.
The TOP cadence and inclusive access model from 2023 continue unchanged. What's new in **2024** is the **quantified learning baseline (11.40 hours/employee).** Together, these pieces make development more auditable and allow us to target learning where it most improves safety, quality, and career progression.

3.6 Work-life balance

At Pulcra, a healthy work–life balance is part of how we define success. We aim to create conditions in which employees can deliver high-quality work and still have time for family, health, and personal goals.

For tariff employees in Germany, the regular working time is **37.5 hours per week**. Part-time work is available on application where it fits role and operational needs, and each full-time employee is entitled to **at least 30 days of paid vacation per year**. Flexible working arrangements allow employees – where the job permits – to plan their hours in agreement with their supervisors. Since 2022, **home office / mobile work** has been available; in suitable roles, employees may perform up to 40% of their working time from home following consultation with their manager.

Family responsibilities are supported through statutory and company processes. Pulcra operates a **long-term account** for employees covered by the collective agreement; employees can credit time or salary components (e.g., remaining vacation, flexitime, bonus payments) and later use the accrued value for paid periods such as sabbaticals, training programmes, or pre-retirement leave.

Pulcra also offers the **"Zukunftsbetrag" (Future Benefit)** – an additional payment equal to **23% of the monthly collectively agreed salary** – which employees can tailor to their needs. The amount can be taken as a payout, contributed to the **ChemiePensionsfonds (CPF)** or to the long-term account, or converted into additional paid leave. This flexibility lets employees prioritise financial security, time off, or retirement planning.

To support healthy working lives later in career, Pulcra provides **seniority leave** for employees covered by the collective agreement from the age of **57: 2.5 hours of paid leave per week**, which can alternatively be transferred to the long-term account or bundled into **one additional day of leave per month.**

At Pulcra, looking after the planet is part of how we work – not an add-on. We run a site where people can make high-performing chemistry while using less, wasting less, and keeping water and air clean. That means solving problems at the source, keeping equipment in top condition, and training until safe, clean operation is second nature.

We improve in small steps and in bigger projects: tighten run conditions before we buy new hardware; prevent pollution before we treat it; separate streams so more can be recovered; and always meet our permits. When something doesn't go as planned, we learn fast and fix the cause, so the lesson sticks across shifts.

What follows is our approach to the essentials – **Climate & Energy, Pollution Prevention, Water, and Circular Use of Resources & Raw-Material Mix** – explaining what we changed, why we changed it, and how we check it works at the Geretsried site.

4.1 Climate & Energy

Pulcra runs energy as a discipline: keep the plant stable, use only what the process needs, and cut emissions at the same time. In **2024**, total site energy at Geretsried was **16,467 MWh**, made up of **natural gas 13,504 MWh, electricity 2,822 MWh**, and **diesel 141 MWh**. Compared with **2023 (15,277 MWh)**, overall use rose despite slightly lower output – pointing to thermal steps, cleaning cycles, and start-up/shutdown patterns as the next levers for efficiency.

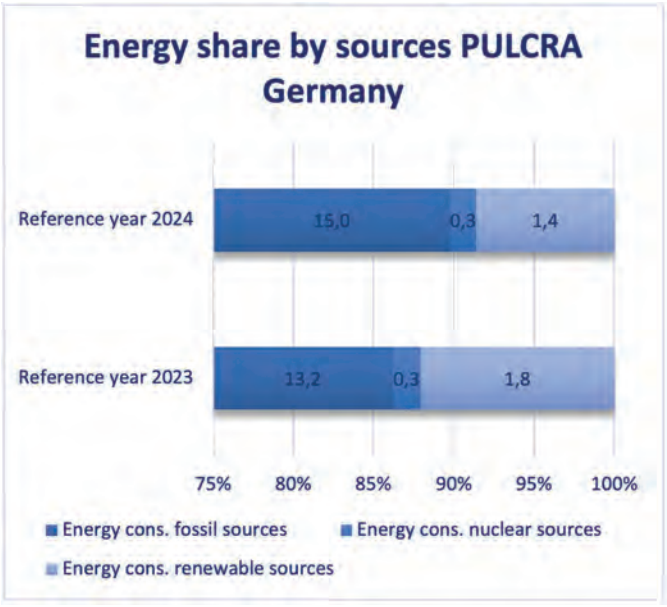
Energy mix: what changed vs 2023 – and why it matters

The mix shifted more heavily toward fossil sources in 2024. **Fossil energy** accounted for roughly **91.3%** of use (**14,994 MWh**, up from **13,169 MWh** in 2023), while **renewable electricity** supplied about **8.7%** (**1,436 MWh**, down from **1,840 MWh**). **Nuclear-sourced grid electricity** fell sharply (**37 MWh** vs **268 MWh** in 2023).

We **significantly reduced nuclear-sourced electricity in 2024** (down to a minimal share) and will **phase it to zero** going forward. In parallel, we will work to **lift the renewable share** of purchased electricity, so that each megawatt-hour we do use carries fewer emissions. This sits alongside our on-site efficiency work: **use less first**, and **make what we still use cleaner.**

Energy consumption & mix PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Energy consumption from:			
Fossil sources	MWh	13,169	14,994
Nuclear sources	MWh	268	37
Renewable sources	MWh	1,840	1,436
Fuel consumption from:			
Crude oil and petro. products	L	12,789	14,400
Natural gas	m^3	927,967	1,141,605
Purchased electricity from:			
Fossil sources	MWh	1,081	1,349
Total energy consumption	**MWh**	**15,277**	**16,467**
Energy intensity	**kWh/€$_{NR}$**	**0.228**	**0.246**

Under the hood, the gas increase is clear: **natural-gas energy** rose from **11,962 MWh** (2023) to **13,504 MWh** (2024), consistent with higher heat demand for batch operations and cleaning. **Electricity use** decreased (**3,189 -> 2,822 MWh**), but the grid mix delivered a larger fossil share and far less nuclear, so the **renewable portion of purchased power fell**. **Diesel** stayed structurally small (**141 MWh; 14,400 L**) and is not a major driver.



Operational response for 2025

Energy per euro of revenue rose by 7.3% and energy per unit of product also ticked up – showing that **process conditions**, not just output, drove part of the increase. The site response is practical and already in motion:

- **Granular metering and data checks** to separate base-load, idle, and cleaning energy from productive energy so savings are visible and auditable.
- **Thermal efficiency** in gas-heated steps (burner tuning, insulation upgrades, and heat-recovery options where feasible).
- **Cycle discipline** (recipe optimisation, first-time-right conditions, and smarter sequencing to avoid reheats and restarts).
- **Power efficiency and sourcing** (variable-speed drives/controls to lower specific kWh; improve the low-carbon share of purchased electricity without risking supply).

Greenhouse gas emissions

Pulcra's emissions profile at Geretsried reflects how the site uses energy and how materials move through the value chain. In **2024**, direct combustion on site (**Scope 1**) increased while purchased electricity–related emissions (**Scope 2**) decreased; **Scope 3** fell modestly as purchasing and logistics footprints eased, even as waste-related emissions rose.

Greenhouse gas emissions PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Gross Scope 1 GHG emissions	tons CO_{2eq}	2,507	2,858
Gross Scope 2 GHG emissions	tons CO_{2eq}	893	790
Gross Scope 3 GHG emissions	tons CO_{2eq}	50,170	48,087
Total gross GHG emissions	**tons CO_{2eq}**	**53,571**	**51,735**
GHG emission intensity (total)	$gCO_{2eq}/€_{NR}$	800	849
GHG emission intensity (Scope 1,2) [2)]	$gCO_{2eq}/€_{NR}$	51	60

Scope 1 – direct combustion.
Scope 1 rose from **2,507 t CO_2e (2023)** to **2,858 t CO_2e (2024)** – an increase driven mainly by higher **natural-gas** use in heat-intensive steps and cleaning cycles. Diesel remained a very small share and did not materially change the outcome. The message is operational: to bring Scope 1 down we must cut thermal demand at source (burner tuning, insulation, recipe/cycle optimisation, first-time-right to avoid reheats) and capture more stable run conditions so fewer start-stop losses occur.

Scope 2 – purchased electricity.
Scope 2 fell from **893 t CO_2e** to **790 t CO_2e** on the back of **lower electricity consumption** year-on-year. While the grid delivered a larger fossil share and much less nuclear electricity to us than in 2023, the volume reduction outweighed that mix effect. Continued attention to metering, idle/standby controls and high-efficiency motors/inverters can push this further without compromising process control.

Scope 1+2 together.
Combined **Scope 1+2** were **3,648 t CO_2e** in 2024 (up versus 2023), mirroring the gas-led rise. Emissions per euro increased accordingly (Scope 1+2 intensity moved from **51** to **60 g CO_2e/€**), which reinforces the need to prioritise thermal efficiency projects first and to improve the purchased-power mix where feasible.

Scope 3 – purchased goods, logistics, waste and other categories.
Screened **Scope 3** decreased from **50,170 t CO_2e (2023)** to **48,087 t CO_2e (2024)**. The largest drivers down were **purchased goods** (raw and trade goods together edged lower) and **upstream/downstream logistics**, where ton-kilometres and related factors fell year-on-year. Offsetting that, **waste-related emissions** rose – principally from **hazardous waste sent to disposal**, which increased materially in 2024. Planned measures that concentrate selected wash-water streams and improve segregation quality are expected to reduce disposal volumes and, with them, the associated Scope 3 footprint.

Total and intensity.
Total gross emissions (Scopes 1–3) decreased from **53,571 t CO_2e** to **51,735 t CO_2e** on the strength of Scope 3 reductions. **Total intensity** moved from **800** to **849 g CO_2e/€**, reflecting the combination of a more fossil-heavy on-site energy balance and lower revenue. The corrective path is clear and already embedded in the site plan: reduce thermal demand and losses, improve the electricity mix alongside consumption cuts, and lower waste-to-disposal with better segregation and on-site treatment so more material can be routed to recovery.

What this means operationally.

- Focus the next wave of actions on **gas-heated steps** and **cleaning cycles**; meter them separately from productive energy so savings are visible.
- Keep pushing **power efficiency** (controls, variable-speed drives, idle management) while improving the **share of low-carbon electricity** in supply.
- Execute the **wash-water concentration** and segregation upgrades to reverse the rise in waste-related emissions.
- Use supplier engagement to sustain the gains in **purchased-goods** and **logistics** categories.

This combination tackles the largest levers first – thermal demand and waste routing – so that both absolute emissions and intensity trend back down, with measurable effects in the next reporting period.

4.2 Pollution Prevention

Carbon pricing & 2024 actions we actually implemented

In 2024 we put a price on carbon inside our decision-making: an **internal carbon price of €45 per tonne of CO_2** is now applied to energy-related proposals. It sits next to euros and kilowatt-hours in every material business case, so options are ranked not only by payback but also by lifetime emissions. This has already changed sequencing and scope of projects on site.

We also moved from intentions to tangible upgrades:

- **Advanced metering** was **installed on priority lines** (heat-intensive and cleaning steps). The new data separated base-load, idle and cleaning energy from productive energy, revealing where thermal demand and restarts were costliest – and guiding the 2025 efficiency plan.
- **Efficiency hardware** was **fitted where it matters**: higher-efficiency drives/controls and targeted **insulation** on loss-heavy equipment and buildings; a **heat-pump** was added for suitable non-process loads. These cuts are small per action but durable and auditable.
- **Weather-compensated heating control:** outside-temperature-driven setpoints with automatic valve/pump modulation using historical trend data; **burner tuning verified by meters.**
- **Heat-reuse loops** recirculate low-grade heat to suitable circuits, lowering primary gas demand and avoiding cold starts.

2024 was about doing the basics well – pricing carbon into decisions, measuring what truly drives consumption, and fixing what we can control on site – while setting a clear direction for power sourcing: **zero nuclear, higher renewables**. We chose this order on purpose. As a batch, quality-critical operation, we cannot compromise product performance or customer approvals; stability comes first, then abatement. By applying an internal **€45/t CO_2** screen, we steered capital and maintenance toward metered losses (burners, insulation, idle energy, start-up cycles) where the engineering case and the carbon case both stack up and avoids "savings on paper" thus, delivers reductions by doing audit in everyday production.

On electricity, our stance is straightforward: we will **eliminate the residual nuclear share and increase renewables** as supply contracts allow – without risking reliability or process control. That means sequencing changes through contract windows, verifying quality of supply, and pairing sourcing decisions with on-site efficiency so every new green kilowatt-hour replaces a kilowatt-hour we truly need. It's a practical path: reduce demand first, clean the remainder next, and keep our commitments grounded in evidence, product quality, and compliance.

At Pulcra, the rule is simple: only use what's needed, and only when it's the safest, compliant choice. Formulation work, raw-material approval, and production recipes are designed to keep hazardous constituents low by default. In practice that means tight specifications for incoming substances, conservative operating windows in processes that could create unwanted by-products, and disciplined substitutions where safer chemistries can do the job without compromising performance or customer approvals.

Substances of very high concern PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
1,4-Dioxane (CAS: 123-91-1)	tons	1.10	0.60
Glutaraldehyde (111-30-8)	tons	1.3	1.3
SVHCs Total	**tons**	**2.4**	**1.9**

In 2024, our focus in Germany remained on substances highlighted in prior years. For **1,4-dioxane**, which can form unintentionally in certain surfactant pathways, we controlled what matters most – reaction conditions and neutralisation – so residuals stay low and predictable. Residual 1,4-dioxane in products decreased to **0.60 t** (2023: **1.10 t**). First-wash waters with the highest loads are segregated and routed to appropriate external treatment; dilute internal streams are managed within the permitted envelope. The aim is straightforward: prevent formation at the source, and avoid spreading small amounts across large volumes through careful cleaning discipline.

For **glutaraldehyde**, historically used in metal-free wet-white tanning, we continued shifting portfolios toward alternatives so customers can achieve the same leather handle and fastness without aldehydes or heavy metals (see PellNatur®). Where glutaraldehyde remained necessary for specific performance, use was limited and controlled; overall volume was **1.3 t** in 2024 with **zero emissions**, consistent with the direction set in 2023.

Substances of concern PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Qty of products containing PFAS	tons	102.6	98.6
Qty of products containing SPM	tons	105.1	104.4
SOCs Total	**tons**	**207.7**	**202.9**

For **PFAS**, we kept our **essential-use only** stance. PFAS-containing product volume was **98.6 t in 2024** (2023: **102.6 t**), and we recorded **0% releases** to air or wastewater from site operations. Documentation to customers (SDS/PSR) remained explicit on safe handling and end-use constraints, and we continued technical reviews of alternatives so the scope of essential use narrows over time – not expands.

Beyond PFAS, we stayed on the **substitution track** opened in 2023 for flagged constituents. **Hexylene glycol** (reprotoxic Cat. 2) was engineered out wherever an equivalent alternative met performance and approval needs, and we kept that direction through 2024 without compromising product quality. Likewise, the **anionic sulfosuccinate emulsifier** used in some leather fatliquors was replaced in new systems that deliver the required softness and fastness with a lower hazard profile. These quiet changes reduce intrinsic risk in daily production and downstream application.

Overall**, substances-of-concern totals edged down** (PFAS-containing products plus SPM-containing products **202.9 t in 2024** vs **207.7 t in 2023**), with **0% operational emissions** reported for these streams. That combination – tight essential-use boundaries, disciplined substitution, and zero-release operations – kept 2024 compliant and moved the portfolio in the right direction.

Substances of Very High Concern (SVHCs)

PULCRA is committed to the responsible management of Substances of Very High Concern (SVHCs) as part of our broader sustainability strategy. Our portfolio comprises **specialty chemical blends** for the **textile, leather, fiber, and performance products industries**, where **material safety, transparency, and sustainability** are central to our business practices. Our approach ensures compliance with regulatory requirements, reduces environmental and health risks, and aligns with our dedication to sustainable innovation across the entire product life cycle.

Consequently, part of our commitment to responsible chemical management and regulatory compliance PULCRA Germany actively monitors and manages the use of Substances of Very High Concern (SVHCs) as defined under the EU REACH Regulation (EC) No. 1907/2006. By maintaining an extensive understanding of SVHC risks, PULCRA prioritizes mitigation actions and develops safer alternatives to reduce reliance on these substances in its products and operations.

Pulcra is committed to the responsible management of Substances of Very High Concern (SVHCs) as defined under the EU REACH Regulation (EC) No. 1907/2006, forming a key part of our broader sustainability and product stewardship strategy.

Our portfolio comprises specialty chemical blends for the textile, leather, fiber, and performance products industries, where material safety, transparency, and sustainability are central to our business practices. Pulcra's approach ensures full regulatory compliance, minimizes environmental and health risks, and supports sustainable innovation across the entire product life cycle.

Pulcra's policy mandates a comprehensive understanding of each product's hazards, risks, and impacts at every life-cycle stage. This knowledge enables safe product handling, effective risk management, and continuous improvement of safety performance. We maintain detailed records of product safety information and make this information available to stakeholders throughout the product's life cycle, including beyond its commercialization period.

To fulfill these obligations, Pulcra provides standardized Safety Data Sheets (SDS) to customers with initial deliveries and in accordance with local regulatory requirements. These SDSs are regularly updated and distributed worldwide to ensure compliance with regional and national chemical safety standards. By prioritizing consistency, accessibility, and multilingual availability, Pulcra supports the safe and informed use of its products by customers and employees alike.

Pulcra's management of SVHCs extends beyond compliance with frameworks such as EU REACH. The company actively monitors and integrates updates from regional and global SVHC lists, including the EU REACH Candidate List and Authorization List (Annex XIV), as well as international frameworks such as the Stockholm Convention on Persistent Organic Pollutants (POPs). This proactive monitoring allows Pulcra to prioritize mitigation actions, substitute hazardous substances, and develop safer alternatives, thereby reducing reliance on SVHCs in its products and operations.

An internal compliance process is in place to identify and assess SVHCs in both raw materials and finished formulations. This process ensures that all Pulcra products placed on the market comply with REACH obligations and that customers are informed whenever SVHC content exceeds the 0.1% (w/w) threshold. In cooperation with suppliers, Pulcra pursues substitution or phase-out strategies where technically and economically feasible, supporting the transition toward safer and more sustainable chemical solutions.

In 2024, PULCRA Germany further strengthened its product stewardship practices by expanding supplier engagement, updating its internal chemical inventory to reflect the latest ECHA Candidate List, and implementing proactive substitution and mitigation plans for substances under evaluation. These efforts align with Pulcra's broader sustainability objectives – reducing hazardous substances, improving circularity, and enabling safer end-use applications across the value chain.

Across all of this, our operating principle is conservative: if a material doesn't have to be there, it isn't; if a limit exists, we manage below it; and if a safer option proves itself technically, we switch. That approach kept 2024 within applicable thresholds while continuing the portfolio shift away from substances of very high concern and other flagged chemistries – practical progress that protects people and the environment without asking customers to trade off quality.

„In a demanding regulatory landscape, Pulcra Chemicals strives for a high level of compliance, combining rigorous standards with a practical, forward-looking approach to product stewardship."

Dr. Jan Nicolas Roedel
Global Head of Product Safety & Regulations

4.3 Water

Water is central to safe, reliable production at Geretsried – primarily for **cooling/steam** and for **cleaning vessels and IBCs**. We aim to use only what the process needs, keep high-load streams separate, and return clean water to the municipal system within permit limits.

Total **withdrawal** was **55,485 m³** for process streams routed to municipal treatment, and **treated/discharged** volume to sewer was **55,485 m³**. Cooling water operated as a once-through utility with **service water** supply and **cooling-water discharge** in balance at **351,354 m³**. Cleaning demand continued to trend down: **drinking-water use** for vessel/IBC cleaning fell to **21,962 m³** (2023: 27,978 m³), reflecting tighter cleaning discipline and scheduling. Water carried in products was **5,788 m³**.

Water utilization PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Service water (cooling, steam generation)	m^3	320,792	351,354
Drinking water (vessel cleaning, IBC cleaning)	m^3	27,978	21,962
Water in products	m^3	5,771	5,788
Discharge cooling water	m^3	228,379	351,354
Wastewater for communal treatment	m^3	57,536	55,485
Washwater for reutilization (energy recovery)	m^3	1,692	1,643
Total water consumption	**m^3**	**354,541**	**379,104**
Water use intensity	$L/€_{NR}$	5.3	6.2

We monitor and control to German **AbwV** requirements using a predictable routine: **continuous pH** measurement at the Mixing & Equalisation Basin (MEB), **daily COD** and **1,4-dioxane,** and **monthly AOX, BOD_5, and phosphate analysis**. In 2024, **wastewater volume** fell again to **55,485 m³** (2023: 57,536 m³). **COD load** was **148 t** (2023: 128 t), which we address through recipe optimisation and better first-wash handling so fewer organics reach the MEB. **AOX** remained very low at **< 6 kg. 1,4-dioxane** stayed at **< 0.33 kg** for the year under controlled reaction/neutralisation windows and disciplined segregation of first-wash waters. **Phosphate** was **319 kg** (2023: 255 kg); dosing and housekeeping are being refined to bring this back down without compromising cleaning reliability.

High-load first-wash waters are kept separate and routed to **external energy recovery (1,643 m³** in 2024), reducing risk and off-site treatment needs. Internal streams are levelled in the MEB and sent to municipal treatment once in-spec. This "separate at the source, treat what remains" approach keeps compliance predictable and truck movements low.

Water Quality Parameters PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Wastewater volume	m^3	57,536	55,485
COD load	t	128	148
AOX load	kg	<7.2	<6
Phosphate load, PO4-P	kg	255	319
1,4-Dioxane load	kg	<0.30	<0.33

Positives in 2024 include lower cleaning water use and stable, low AOX and dioxane. Where indicators moved unfavourably (COD, phosphate), the corrective path is operational and already embedded in routines: tighter recipes and soak times, improved filter/strainer practices to keep soils out of drains, and scheduling that avoids unnecessary partial cleanings. The goal is consistent—use less where we can, and keep what we do use clean—without trading off process stability or product quality.

4.4 Air Pollution

At Geretsried we run air protection on the same principle we apply to product quality: capture everything we can, control it reliably, and verify with independent measurements. Process off-gases from production are routed to the regenerative thermal oxidizer (RTO), and lower-explosive-limit monitoring keeps destruction efficiency high through batch changeovers. After the last measurement round flagged sulfur as a watchpoint, we installed a dedicated scrubber in the exhaust collection system; it remains in service to smooth peaks and keep operations comfortably within TA-Luft limits. Utilities are managed the same way – burners are tuned and maintained so we meet heat demand without unnecessary NOx formation, and housekeeping around condensate keeps intake air to the RTO dry and stable. Compliance isn't a paper exercise: accredited third parties perform the legally required measurements and we report under E-PRTR, while day to day we track solvent balances and key RTO parameters so the numbers reflect how the plant actually runs.

Air Quality Parameters PULCRA Germany	**Unit**	**Reference year 2023**	**Reference year 2024**
Nitrogen oxides (NO_x as NO_2)	kg	1,344.8	1,448.8
Sulfur oxides (SO_x as SO_2)	kg	49.3	55.1
Non-methane volatile organic compounds (NMVOC)	kg	57.0	67,85
Ethylene oxide	kg	1.5	1.1

The 2024 results show a system that is working and that we continue to fine-tune. Nitrogen oxides were **1,448.8 kg** (2023: **1,344.8 kg**; 2022: **1,420.0 kg**), a modest rise inside a narrow band that we are addressing with burner tuning, steadier start-ups, and better load management during cleaning cycles. Sulfur oxides were **55.1 kg** (2023: **49.3 kg**; 2022: **57.3 kg**), with the scrubber and careful condensate control helping to prevent excursions. Non-methane VOCs stayed in the double-digit kilogram range at **67.85 kg** (2023: **57.0 kg**; 2022: **82.3 kg**); the capture-and-oxidation setup continues to do the heavy lifting here, and recipe discipline plus careful handling keep less solvent in the air to begin with. **Ethylene oxide** remained very low at **1.1 kg** (2023: **1.5 kg**; 2022: **0.8 kg**). Authorities raised **no technical or organisational objections in 2024**, which aligns with what we see on the shop floor: controls are stable, issues are tackled at source, and improvements are practical – tighter venting and purging routines, steadier feeds to the RTO, and targeted maintenance – so we run safely within permit limits and keep nudging the trend in the right direction.

4.5 Circularity & Waste

Our approach to circularity is practical: keep materials in use as long as they retain value, recover energy when they no longer do, and dispose only what cannot be recovered – safely and with full traceability. That mindset shapes how we segregate streams on the shop floor, how we label and route containers, and how we work with external partners for recycling, energy recovery and final treatment.

Total waste generated rose from **429 t (2023)** to **589 t (2024)**. Of this, **399 t** were **diverted from disposal** (up from **378 t**), primarily via **energy recovery of non-hazardous fractions** (**295 t; 2023: 271 t**) and **recycling of industrial waste** (**22 t**; **unchanged**). At the same time, **waste sent for disposal** increased from **51 t** to **190 t**, driven almost entirely by a **deliberate shift of certain high-load, hazardous wash-water streams to incineration** to reduce environmental risk and improve compliance margins. Put simply: we recovered more than last year, and we chose to dispose of a specific subset of hazardous streams rather than dilute them – **a safety-first routing decision** that shows up in the tonnages.

Waste categories PULCRA Germany	**Treatment Method**	**2023** tons	**2024** tons
Total waste diverted from disposal		**378**	**399**
Hazardous waste (solid content)	Energy recovery	85	82
Non-hazardous waste	Energy recovery	271	295
Industrial waste	Recycling	22	22
Total waste diverted from disposal		**51**	**190**
Hazardous waste	Incineration	49	188
Non-hazardous waste (garbage)		2	2
Total amount of waste generated		**429**	**589**
Total amount of non-recycled waste		407	567

Non-SVHC wash waters edged **down (82.2 t; 2023: 84.6 t**), while **1,4-dioxane-containing wash waters** rose to **168.5 t (2023: 32.1 t**). Other streams remained small and stable: **chromium-containing sludge 1.9 t (flat); sample bottles 2.4 t (down); contaminated absorbents 0.7 t (down); insulation 0.9 t (small maintenance-related increase); residuals from detergent production 16.8 t (up).** In total, **hazardous waste** increased from **134 t** to **273 t**, with the bulk routed to **high-temperature incineration (188 t; 2023: 49 t).**

This is the **by-design outcome** of tighter segregation instead of spreading small amounts of dioxane across large volumes, we **keep the first-wash, high-load vessel waters separate** and send them to the **safest available treatment.** That raises the disposal tonnage in the short term, but it **reduces environmental risk, truck dilution practices, and compliance uncertainty**. It's the conservative choice – and the right one while we prepare volume-reduction measures.

Hazardous waste Streams	**Unit**	**Reference year 2023**	**Reference year 2024**
Non-SVHC-containing wash waters	tons	84.6	82.2
1,4-dioxane-containing wash waters	tons	32.1	168.5
Residuals from detergent production	tons	10.3	16.8
Sample bottles with contents	tons	3.2	2.4
Chromium containing sludge	tons	1.9	1.9
Conatminated absorbents	tons	1.3	0.7
Insulation material	tons	0.3	0.9
Total volume of hazardous waste	**tons**	**134**	**273**

Where circularity improved and where we'll go next

On the recovery side, **non-hazardous energy recovery increased to 295 t** and **recycling held at 22 t**, reflecting steadier single-stream quality and fewer cross-contaminations that would otherwise downgrade material. The focus for 2025 is to **push more material up the hierarchy** by doing three things well:

- **Prevent and segregate at the source.** Keeping high-load washes, production residuals and small specialty streams truly separate preserves the quality of the larger non-hazardous fraction so it can continue to flow to **energy recovery** rather than disposal. The downward moves in **absorbents and sample bottles** show that good housekeeping and better planning make a measurable difference.
- **Cut hazardous volumes without compromising safety.** Engineering work is underway on a **wash-water concentration system** (see "What's New for a Better Future") that is designed to **reduce the volume of selected high-load streams by up to 95%** before off-site treatment – fewer litres on the road, lower risk, and less disposal tonnage for the same degree of protection.
- **Stabilise small but persistent streams.** The flat **chromium-sludge** baseline reflects stable handling of a legacy residue; the small rise in **insulation waste** ties to targeted maintenance. Both are being tracked so they remain **contained, labelled, and predictable** rather than episodic.

How we think about "waste" day to day

Operators are trained to ask three questions: **Can this be prevented? If not, can it be kept clean enough to recover? If not, can it be concentrated and sent to the safest end treatment?** That's why you see **more recovery overall, more honest accounting of hazardous first-wash volumes, and more decisive routing to incineration** where that is the responsible choice. It's also why our numbers are transparent: when we improve, we show it; when a conservative decision increases tonnage, we explain the intent and the corrective path.

Bottom line for 2024

We **recovered more** material than in 2023 and we **raised disposal** where it improved environmental control. The increase in hazardous wash-water tonnage is **not** a step backwards – it is the **evidence of better source segregation and safer routing**. The next step is to **shrink those hazardous litres** through concentration and continued recipe/cleaning optimisation, so that in future reporting you see **both** a safer profile **and** lower disposal tonnage.

4.6 Raw-Material Footprint

We track what goes into our products because it shapes everything that follows – process safety, environmental impact, customer performance, and what is technically possible to substitute. Composition is not a static number for us; it's a lever we use to reduce risk and shift the portfolio without compromising quality.

Total raw-material inputs were **13,829 t**, made up of **fossil-based 9,013 t**, **biobased 3,814 t, inorganic 1,002 t**, and **recycled 2.1 t**. Compared with 2023 (14,083 t), overall purchasing **edged down by 1.8%**. Two movements stand out: fossil-based inputs rose (availability and technical fit in specific formulations), while **biobased inputs decreased**, including a **sharp reduction in palm-/palm-kernel-oil-based feedstocks**. From an environmental perspective, this mix is not where we ultimately want to land; from an operations perspective, it reflects a year in which we prioritised supply stability and product performance while continuing to look for credible substitutions.

Raw materials purchasing PULCRA Germany	**Unit**	**Prior year 2022**	**Reference year 2023**	**Reference year 2024**
Fossil-c based raw materials	tons	8,425	7,789	9,013
Biobased raw materials	tons	4,306	4,991	3,814
Palm or palm kernel oil based	tons	3,044	2,861	1,493
Inorganic raw materials	tons	1,078	1,303	1,002
Total purchasing volume	**tons**	**13,810**	**14,083**	**13,829**
Recycled raw materials	tons	1.2	1.3	2.1

The **drop in biobased inputs** is something we intend to reverse as soon as technically and commercially feasible. We will do that the Pulcra way: by proving substitutes on the line first (quality, fastness, stability), then scaling them with suppliers who can document responsible sourcing. The **48% reduction in palm-/palm-kernel-based tonnage** is directionally positive for land-use risk, but it also places pressure on alternative renewable feedstocks; our R&D and procurement teams are working together so that renewable-carbon content grows back **where it works in practice** – and not only on paper. On the other side of the mix, **recycled content** increased from a very small base; we will expand this cautiously, using recycled streams only where they meet our quality and safety specifications.

Sourcing remained diversified. As an example, tonnages from the **EU** decreased overall, with **Germany** roughly stable/slightly up, and a higher share reported under "**rest of world**" in 2024. For us, geography is less important than governance: every new supplier goes through documentation and hazard screening, and higher-risk feedstocks (including tropical oils and specialty organics) receive more scrutiny. The principle is simple – **if we cannot get the data we need, we do not buy**.

These numbers aren't just a report; they drive decisions. Where fossil-based inputs are structurally necessary (performance or safety), we look for **formulation efficiency** first – use less to achieve the same effect. Where renewable-carbon options are viable, we **qualify and substitute**; where certification had gaps in 2024, we work to **restore certified supply** rather than accepting lower assurance. With customers, we use this composition view to have **honest conversations** about renewable content: where it adds value now, where it still trades off performance, and what development is needed to close the gap.

Our stance for 2025

We will push **to regain certified biobased volumes**, continue the **palm-/palm-kernel reduction** where alternatives meet the spec, and grow **recycled inputs** where quality allows. None of this will be done by slogan; it will be done batch by batch, with data, so the next time you see this table, it shows **real progress that holds up in production and at the customer**.

4.7 Biodiversity & Ecosystems

Our biodiversity approach starts with where we are. Pulcra Geretsried sits by the Isar and close to the Isar floodplain nature reserve between Schäftlarn and Bad Tölz (Pupplinger/Ascholdinger Auen), part of the Upper Isar Natura-2000 corridor and the wider Isartal landscape protection area. These gravel bars, side channels, and riparian forests are part of daily life for our colleagues and neighbours – so we run the site to keep them thriving: strict containment, disciplined housekeeping, and operating practices that prevent abnormal situations from becoming environmental events.

In practical terms, we design for **zero significant spills, no uncontrolled discharges, and no disturbance to nearby waters and floodplain habitats**. Spill-prevention (LoPC) routines, secondary containment, and operator briefings emphasise the sensitivity of the Isar and its protected floodplains. Night work is planned to minimise noise and lighting where feasible; contractors receive the same instructions as employees. Drainage from risk areas is captured and controlled, and sealed surfaces are managed so that clean water remains clean and contaminated water is treated before release to the municipal system. In 2024 we recorded no uncontrolled releases to soil or surface waters and met permit-based effluent requirements.

We also keep the long view in mind. Portfolio work continues to lower intrinsic hazard at the source so less risk ever reaches a drain or stack. And while advanced oxidation for persistent organics will only come online after year-end, the design work done in 2024 ensures that future treatment happens at the point of generation, further reducing pressure on aquatic biota. Day to day, our aim is simple and steady: **run cleanly, respond quickly, and leave the Isar floodplains and the Isartal landscape as we found them – or better.**

At Pulcra, "partner" means everyone who shares our work and our neighbourhood – suppliers, customers and brands, regulators, and the local community. We see these relationships as part of how the company runs, not as add-ons. When people trust how we operate, decisions are safer, issues are solved faster, and improvements last.

Our promise is simple: be clear about expectations, be open with information, and act on feedback. We expect lawful, safe, and fair practices in our value chain – and we hold ourselves to the same standard. With customers, we pair performance with responsible use; with authorities, we keep the door open and the records ready; with neighbours, we listen and respond. The details of how we do this – supplier standards, product information and safe-use guidance, grievance channels, and community dialogue – are set out in the subsections that follow. The guiding idea is constant: treat people with respect, share reliable data, and fix problems together.

5.1 Ethics, Compliance & Transparency

Integrity at Pulcra is an everyday practice. Our Code of Conduct and human-rights commitments set clear expectations for lawful, safe and fair behaviour across our site and our value chain. These standards apply to employees, managers, contractors and business partners alike. (Details on workforce rights, grievance access and incident outcomes are covered in the People section; this chapter focuses on how we run compliance and reporting.)

Operational compliance is managed as a system, not an event. Permits and legal requirements are embedded in procedures; responsibilities are documented; changes are risk-assessed before implementation; and internal audits, inspections and drills verify that controls work in practice. When authorities or auditors request improvements, we plan them, resource them and track closure – making outcomes visible to the people who rely on them.

Product stewardship is part of the same discipline. Safety documentation and application guidance are kept current and provided to customers so products are used responsibly throughout their lifecycle. Where regulations evolve, we update dossiers and labels, and we support customers with clear, timely information about safe use and substitutions where relevant.

Transparency rests on reliable data. Each datapoint in this report has an owner, a method and an evidence trail (logs, lab results, meter reads or invoices). Drafts undergo functional review and version control so the published figure can be traced back to source. If an error is identified, we correct it and explain the change. This approach prepares us for independent assurance and – more importantly – helps partners trust that what we disclose matches how we operate.
The outcome we aim for is simple: clear rules, consistent behaviour and reporting that people can rely on – inside the company, with customers and suppliers, with regulators, and with our community.

5.2 Supplier Governance & Value-Chain Workers

We treat supplier relationships as an extension of how we run our own site: clear expectations up front, evidence to back them up, and follow-through when something needs fixing. Before any first order, new suppliers are onboarded with documented requirements covering **health and safety, human rights, responsible chemical management, and product stewardship**. Higher-risk materials (e.g., certain organics, solvents, regulated auxiliaries) trigger deeper checks and a named technical contact so responsibilities are unambiguous.

We categorized suppliers by tiers with material risk and country/context. Everyone completes a **sustainability and compliance questionnaire**; higher-tier suppliers are asked for additional documentation (policies on child/forced labour and non-discrimination; accident-prevention procedures; training records; emergency plans). For chemical inputs, we require **current Safety Data Sheets, regulatory confirmations (e.g., REACH where applicable), and change-control commitments** so we're notified before formulations or processes change. Where questions remain, we conduct **targeted visits or remote assessments** focused on working conditions, PPE use, storage/segregation of chemicals, spill preparedness, and waste routing.

We set **restricted-substance expectations** and ask suppliers to confirm that delivered materials are free from banned substances and that **substances overy high SVHCs** are disclosed consistently. Batch traceability (COAs, lot numbers) is part of routine purchasing so downstream customers receive **accurate product stewardship information and safe-use guidance**. When our teams run trials at customer sites, we brief operators on safe handling, dosing, ventilation, and effluent compatibility – because responsible use depends as much on **how** products are applied as on what is in the drum.

Our due-diligence lens includes the people who make, move, and apply our inputs and auxiliaries. We look for **lawful work, fair treatment, and safe conditions** at suppliers and logistics partners, and we encourage suppliers to **cascade the same standards** to their own subcontractors. When we are on site (supplier or customer), Pulcra staff follow local rules and **stop unsafe work** if needed; we'd rather lose a slot in the schedule than accept avoidable risk to workers.

Findings translate into **time-bound corrective-action plans** that are tracked with procurement. Closure is verified (evidence/photos/records) before we lift conditions or expand volumes. Serious non-conformities trigger **commercial holds** until addressed; repeated non-closure leads to **de-sourcing**. This isn't punitive for its own sake – our first choice is to fix issues together – but we will protect people and compliance if cooperation stalls.

We also listened before we acted. In 2024 we ran a focused sustainability survey across key partners – selected suppliers, customers/brands and local stakeholders – to understand expectations on safe chemical management, working conditions in the chain, transparency, renewable-carbon content and response to concerns. The results were folded directly into our Double Materiality Assessment: they helped set thresholds, confirm topic rankings (notably climate/energy, water quality at Geretsried, substances of concern and fair working conditions) and shape our follow-up. Concretely, we tightened questionnaires and documentation asks for higher-risk inputs, clarified product stewardship packages for customers, scheduled more targeted visits where gaps appeared, and fed these priorities into our 2024–2025 action planning. We shared back a summary of what we heard and what we're doing, so partners can see their input turning into decisions.

External parties – including suppliers' and customers' workers – can raise concerns through **our public compliance mailbox** and normal business contacts. We log, assess, and respond, keeping confidentiality as required. Lessons from grievances or audits feed back into specifications, contracts, and training so improvements stick.

Building on the approach described previously, we strengthened **risk-tiering and documentation discipline**, tightened **change-control** for higher-risk inputs, and made follow-up more visible by linking corrective-action closure to **purchasing decisions**. The aim is simple and human: a value chain where people work safely, materials are handled responsibly, and problems are solved early – so our customers receive reliable products that are safe to use and easier to approve.

5.3 Customer Partnership & Product Stewardship

Our relationship with customers is built around one promise: make performance and responsible use easier at the same time. That's why we pair formulation know-how with application support and clear documentation – so spinning, dyeing/printing, finishing, and leather processes run stably, hit shade and handle first-time-right, and avoid re-processing. In practice this looks simple: lab application work that mirrors real lines, QA/QC that keeps batches predictable, and product stewardship packs (PSR, SDS and safe-use guidance) that fit smoothly into customers' own conformity systems. When specifications or regulations tighten, we say exactly what's possible now, what needs development, and how to manage risk in the meantime; when something does not work as intended, we troubleshoot on site and close the loop so the learning sticks. This service model from the 2023 report remained our anchor in 2024 – and it shaped the year's commercial profile.

Volumes tell a balanced story. **Total sales volume was 21,064 t** (2023: 21,600 t), with **fiber chemistry up to 9,090 t** (2023: 8,454 t), **textile chemistry at 5,256 t** (2023: 5,772 t), **leather chemistry at 6,706 t** (2023: 7,370 t), and **performance chemicals small but growing to 11.7 t** (2023: 4 t). Revenue tracked this mix: **€60.92** m overall (2023: €65.26 m), with **fiber** essentially stable in value (**€33.97** m vs €33.94 m), **textile** at **€15.37 m**, **leather** at **€11.47 m**, and **performance chemicals** at **€0.11 m**. Average value density moved from **€3,021/ton** to **€2,892/ton**, reflecting the product and market mix we served. Geographically, revenue was broadly diversified, led by **Germany (€7.88 m), China (€5.56 m), Türkiye (€4.92 m)** and **Italy (€4.74 m)**, with a substantial **rest-of-world share (€27.33 m)** – evidence that customers across very different environments rely on the same combination of predictable quality and practical documentation.

Sales Volume Market Segments	**Unit**	**Reference year 2024**
Germany		7.88
China		5.56
Türkiye		4.92
Italy		4.74
India		3.45
Saudi Arabia		2.74
Spain		2.37
Brazil		1.93
Rest of world		27.33
Total sales volume	**Mio €$_{NR}$**	**60.92**

Sales Volume Products and Services	**Unit**	**Prior year 2023**	**Reference year 2024**
Textile chemistry	tons	5,772	5,256
	Mio $€_{NR}$	17.86	15.37
Fiber chemistry	tons	8,454	9,090
	Mio $€_{NR}$	33.94	33.97
Leather chemistry	tons	7,370	6,706
	Mio $€_{NR}$	13	11.47
Performance chemicals	tons	4	11.7
	Mio $€_{NR}$	0.04	0.11
Total sales volume	**tons**	**21,600**	**21,064**
Total net revenue	**Mio $€_{NR}$**	**65.26**	**60.92**
Intensity	**$€_{NR}$/ton**	**3,021**	**2,892**

Across these segments, the day-to-day work stayed consistent with the standard we set last year: keep lines stable, reduce re-dyes and off-shade risks, and minimise resource use at the mill or tannery through know-how, not slogans. Application specialists supported trials and SOP transfer; regulatory and product safety colleagues kept information current and accessible in local languages; and sales and technical teams coordinated so customer feedback translated quickly into product tweaks or usage guidance. Where customers asked for more renewable-carbon content or heavy-metal-free systems, we advanced options case-by-case, always with an honest read on feasibility and performance. The result is not just a set of numbers – it is a customer experience grounded in clear commitments, reliable data, and visible follow-through.

5.4 Being a Good Neighbour

Our neighbours matter to us as much as our suppliers and customers, because we share the same town and the same everyday life. That's why we try to keep things simple and human: explain what we're doing, invite questions, and fix issues quickly. In practice, that means we maintain clear contact points for community enquiries, we acknowledge every message, and we log, track, and close out feedback with a written response so people aren't left wondering. When something is planned that might be noticed outside our gates – maintenance with unusual noise, a crane lift, a delivery window change – we communicate in advance and coordinate timing to reduce disruption. If an unplanned event occurs, we aim for prompt, factual updates and a calm, practical path to normal.

Listening is just as important as talking. Alongside our stakeholder survey in 2024 – which included local voices – we hold regular, informal check-ins with neighbours and local organisations to hear what is working and what is not. The themes are consistent: keep information clear, keep operations tidy, and be reachable when someone needs to talk to us. We feed those points straight into our management reviews so they turn into actions, not notes. You can see that in everyday housekeeping (orderly traffic on and off site, clean verges, careful lighting at night) and in the way we plan projects to minimise nuisance while work is underway.

Safety sits at the heart of community trust. We prepare with local responders, we drill our alarm and evacuation routines, and we keep our documentation inspection-ready so authorities can verify how we operate. That discipline exists for our employees, but it also serves our neighbours: predictable processes mean fewer surprises, and the assurance that if something does go wrong, it will be handled in a controlled, transparent way. We take the same care with environmental controls – keeping clean water clean, treating what must be treated, and managing substances responsibly – because safeguarding the shared environment is part of being a good neighbour here in Geretsried.

Being part of the community also means showing up in ways that are useful. We offer practical information about our site and products when local schools or groups ask what we do; we support skills and careers through apprenticeships and training; and we look for small, tangible ways to contribute – whether that's coordinating litter-free work zones around our perimeter or aligning delivery schedules to avoid school commute peaks. None of this is complicated. It's simply our way of recognising that a plant runs best when the people around it feel informed, respected, and able to reach us. Our aim is steady and long-term: a neighbourly relationship based on listening, facts, and follow-through.

6.1 Why this chapter matters

For Pulcra, Purpose is the "why" behind our strategy: make performance chemistry that customers can trust, with a smaller environmental footprint and clear, responsible conduct. We place this chapter last because it pulls everything together – the people practices that keep work safe and fair, the environmental discipline that protects our place on the Isar, and the partnerships that keep information honest and usable. Purpose turns those commitments into a practical plan: focused innovation that lowers impact without sacrificing performance, product stewardship that keeps approvals smooth and safe, a climate-and-energy roadmap built into everyday operations, and resource-efficiency moves that cut waste and risk rather than shifting burdens downstream.

This chapter is also about **how** we work: choose projects for their real-world effect, make costs and trade-offs explicit, listen to feedback from neighbours and partners, and review progress routinely so promises become practice. In short, Purpose is where intent becomes action. The subsections that follow set out what we are building next – how R&D supports safer, lower-impact use; how our transition plan guides decisions; how circularity and design-for-treatability shape operations; and how targets connect to financial outcomes – so progress is measurable, durable, and easy to understand.

6.2 Innovation & Product Stewardship (R&D)

R&D at Pulcra is deliberately practical: we start from customer processes and our double-materiality priorities, and we develop auxiliaries that deliver first-time-right performance with fewer re-dyes, less cleaning, and lower utility use – on real lines, not just in the lab. In 2024 this meant three things working together. First, formulation work continued to shift the portfolio toward better environmental profiles where technically feasible – advancing renewable-carbon options under the Pulcra Naturalis® direction of travel and widening heavy-metal-free tanning routes such as PellNatur® for high-whiteness leathers with strong heat- and light-fastness. Second, we focused on process aids that stabilise shade and handle, keep foaming and build-up under control, and reduce the need for re-processing; when a bath runs right the first time, mills and tanneries save energy, water and time, and effluents are easier to treat. Third, we embedded design-for-treatability into development choices: selecting raw materials and conditions that avoid unnecessary persistent residues, and proving compatibility with typical pre-treatment and biological steps at municipal plants so downstream impacts stay low.

The way we develop is as important as what we develop. Projects move through a stage-gate flow that pairs lab application work with field trials; performance, safety and treatability are evaluated together, and dossiers are prepared early so approvals aren't an afterthought. Product stewardship runs alongside development, not behind it: SDS, labels and PSR/application notes are written for practical use, aligned with current regulatory requirements, and kept accessible in the languages our customers need. When a rule changes or a spec tightens, we issue clear change notifications and – where a substitution is needed – explain the technical trade-offs honestly so customers can choose with confidence.

Portfolio hygiene remains a constant discipline. Building on the direction set in 2023 (e.g., targeted substitutions where classifications tightened and sales reductions of higher-concern routes), we continued to screen substances of concern and SVHCs, prioritise safer alternatives where feasible, and narrow use to essential cases when performance and safety requirements leave no immediate substitute. The goal is straightforward: less intrinsic hazard entering customer processes, simpler documents, fewer special conditions to manage – and the same or better performance on fabric, fibre or leather.

"Driving Resource Efficiency in Textile Production"

Textile manufacturing is one of the most resource-intensive industrial sectors, with significant energy and water demands. Through the development of innovative textile auxiliaries, we are helping optimize production processes to achieve measurable reductions in resource use.

Dyeing operations consume exceptionally high amounts of water and energy. To address this challenge, we are continuously advancing process chemicals that enable more efficient, sustainable manufacturing – such as combining pretreatment and dyeing in a single step.

Our SUSTINERI COLORING system exemplifies this progress. It allows pretreatment and dyeing to be carried out in one bath, eliminating the need for separate stages.

Another key innovation, LOCANIT® SLT technology, enables effective aftersoaping while significantly reducing washing temperatures from up to 95°C to just 40–60°C. This directly cuts energy consumption in one of the most energy-intensive steps of reactive dyeing.

Together, these breakthrough technologies can deliver up to 60% savings in resources and processing time compared with conventional methods – substantially improving sustainability performance across the textile value chain.

As part of our mission, we collaborate closely with textile manufacturers and brands worldwide to unlock these environmental benefits and support the transition to more sustainable production processes.

"Our mission is to optimize resource-intensive processes through the use of smart and innovative textile auxiliaries, achieving measurable improvements in sustainability."

Oliver Gerlach
Global Marketing Director Textile

Everything is done with the end user in mind. Application teams translate formulations into **clear, safe-use guidance** – dosing windows, bath make-up, ventilation notes, effluent compatibility pointers – so that what works in our lab works at the customer's line. When a trial throws a curve ball, we troubleshoot on site, fix the cause, update the note, and feed the learning back to R&D so it improves the next iteration. QA/QC closes the loop by keeping batch-to-batch behaviour predictable, because the best sustainability gain is the **re-process you never have to run.**

In short, innovation at Pulcra is purpose-built: lower impact without sacrificing performance, documentation that makes approvals smoother, and a feedback-driven way of working that turns customer needs and regulatory expectations into robust, day-to-day practice.

6.3 Climate Transition Plan

Our transition plan starts from a clear baseline and moves straight into the work that changes how the site runs. In 2024 we fixed the reference point for Geretsried (energy use and Scope 1+2 emissions) and made the **€45/t CO_2** internal carbon price part of everyday decisions. That price now sits next to energy cost and maintenance in business cases, so projects are ranked by their real impact – **€/t abated** and total lifecycle value – not just short payback. From there, the roadmap focuses on four practical streams that we can control on site. First, **meter–measure–manage**: expand sub-metering at the steps that matter (thermal equipment, major lines, cleaning and compressed air), and use routine reviews to separate productive energy from base-load and idle losses; if we can see it, we can fix it. Second, **run-condition optimisation**: tune recipes and sequencing so batches hit first-time-right, avoid reheats and long hot-flushes, and tighten start-up/shutdown discipline – small changes in how we run save gas and power every day.

Third, **equipment efficiency**: burner tuning, insulation, and targeted heat-loss fixes on the thermal side; high-efficiency motors and drives plus better idle/standby control on the electrical side; each action is selected because its abatement cost beats our internal price. Fourth, **power sourcing**: shift the purchased-power mix toward higher-renewable content and **away from nuclear to zero**, without compromising reliability; contractual choices and timing are aligned with our load profile so improvements are durable, not just symbolic.

This plan is deliberately integrated with operations and finance. Projects are bundled into maintenance windows to minimise downtime; procurement specs include efficiency and control requirements up front; and monthly energy reviews track a simple set of signals – gas to heat, electricity to drives, and unproductive loads – so teams can see progress in real time. We keep the portfolio flexible because product mix and weather move the needle; when they do, the carbon price helps keep priorities stable. The tone is pragmatic and optimistic: do the basics well, prove the savings with measurement, and reinvest the gains into the next round. That is how we cut thermal demand, lower the emission factor behind each kilowatt-hour we buy, and turn transition talk into daily practice – one metered line, one tuned burner, one smarter cycle at a time.

6.4 Targets & Financial Effects

Our targets exist where they matter most – where a measurable environmental gain also improves how the plant runs and how customers experience our products. For 2024 we translated the double-materiality priorities into a small set of site-level objectives on energy and GHG, water and effluent quality, circularity and waste, safety, and supplier governance. Each target has an owner, a baseline, and a clear measurement method, and each business case carries the same financial lens: energy prices on today's tariffs, a €45/t CO_2 internal carbon price to reveal abatement value, expected changes in waste fees by treatment route, and the yield/quality benefits that come from fewer re-process cycles and faster approvals. That common lens keeps decisions comparable – projects are ranked by impact per euro and by the risk they remove, not by who shouts loudest.

On energy and GHG, targets focus first on what we control: metering expansion to separate productive from idle loads, run-condition optimisation so batches hit first-time-right, and selected upgrades to burners, insulation, motors and drives. The financial effect shows up in three places at once – lower fuel and power bills, avoided carbon cost in our planning model, and fewer unplanned stops that waste time and utilities. Power-sourcing targets are framed as procurement milestones rather than slogans: the share of low-carbon electricity rises while nuclear is driven to zero over time, aligned with supply reliability and contract windows so gains are durable.

Water and effluent targets concentrate on reducing specific use in cleaning cycles, keeping key load parameters stable, and tightening the link between process control and discharge quality; the economics are straightforward – lower make-up water, lower charges for treatment, and fewer interventions after the fact.

Circularity and waste targets are designed to cut disposal at the source and improve routing. Better segregation and single-stream quality allow more recovery and less incineration; concentration of selected wash-water streams reduces transport and handling exposure; and portfolio choices that avoid unnecessary hazardous constituents mean less "risk" enters the plant in the first place. The financial effects mix immediate savings (fewer tonnes to disposal, fewer lifts) with resilience benefits (more headroom against cost spikes and permit constraints). Safety targets stay simple and leading-indicator based: complete and effective risk assessments for defined tasks, training done and applied where it changes behaviour, and corrective actions closed on time; the value is measured not only in avoided incidents but in stable operations that protect quality and schedule.

Supplier governance targets focus on where third-party practice touches our own risk: timely completion of sustainability questionnaires for higher-risk inputs, documentation quality for substances of concern, and closure of corrective actions after a visit or paper review. The benefits are tangible – fewer delays in product approval, cleaner audits for customers, and clearer choices when reformulation is needed – because good documentation shortens cycles and reduces surprises. Across all topics we keep two guardrails: legal compliance is non-negotiable, and any change must be workable for the people who run the plant or the customer line. Progress is reviewed monthly and quarterly with the same dashboard used to set the targets, and results roll up to a compact **Targets & Progress** scoreboard in the Performance Data section. That scoreboard is where the numbers live; this section explains the logic behind them – invest where environmental improvement and financial discipline reinforce each other, prove the result with data, and recycle the savings into the next round of improvements.

6.5 What's New for a Better Future (2024 -> 2026 pipeline)

This pipeline translates our material topics into concrete upgrades that change everyday practice. The direction is simple: treat more at the source, move fewer risky loads off site, use energy more intelligently, and make documentation and supplier controls tighter so approvals go smoothly.

We begin with water-side efficiency. A **wash-water concentration system** is being implemented to shrink selected dilute streams before they leave their point of origin. By concentrating these streams on site, we expect very large volume reductions on targeted lines – meaning fewer transfers and truck movements, lower handling exposure, and a clearer path to recovery or compliant discharge. In parallel, a **segregation-and-recovery program** is improving single-stream quality so more material can be routed to recovery instead of disposal. These two moves address the 2024 learning that disposal rose in some hazardous categories: we are fixing that at the source, not later in the chain.

On energy, the **transition measures** are the next turn of the flywheel rather than a new programme: more sub-metering where it matters (thermal steps, major lines, compressed air), tighter run-condition discipline to avoid reheats and extended hot flushes, and targeted motor/drive upgrades selected because they beat our internal carbon price in abatement cost. Power sourcing will continue to shift toward a higher renewable share while driving the nuclear share to zero over time, aligned with contract windows and reliability needs.

Because many of our environmental levers sit in the supply chain, **supplier due-diligence is deepening**. We are expanding questionnaires and documentation for higher-risk inputs, making change-control explicit, and tracking corrective actions to closure. The goal is prevention: fewer surprises in formulations and a faster path through customer approvals. And to keep performance and responsibility joined at the hip, **R&D expansions** continue in renewable-carbon auxiliaries and heavy-metal-free routes where technically feasible, with design-for-treatability embedded so downstream impacts remain low while first-time-right performance stays high.

Pulcra is completing an on-site **UV/H_2O_2 Advanced Oxidation Process (AOP)** to address dilute side-streams containing persistent organics – most notably 1,4-dioxane – building on the post-treatment tanks installed in 2022 and commissioned in 2023. The AOP will be **commissioned in 2025** and is designed to treat these residues at source rather than ship bulk water off site, thereby reducing hazardous transports, cutting disposal-related Scope 3 emissions, and strengthening our compliance margin on hard-to-biodegrade constituents. Operating safeguards (controlled pH, interlocks, shielding) and routine analytics are integrated into the site's management system; performance will be tracked through removal efficiency, COD reduction, specific energy and reagent use, and avoided disposal tonnage. In short: responsible before – **more efficient and lower-impact next**, with treatment done where the chemistry is made.

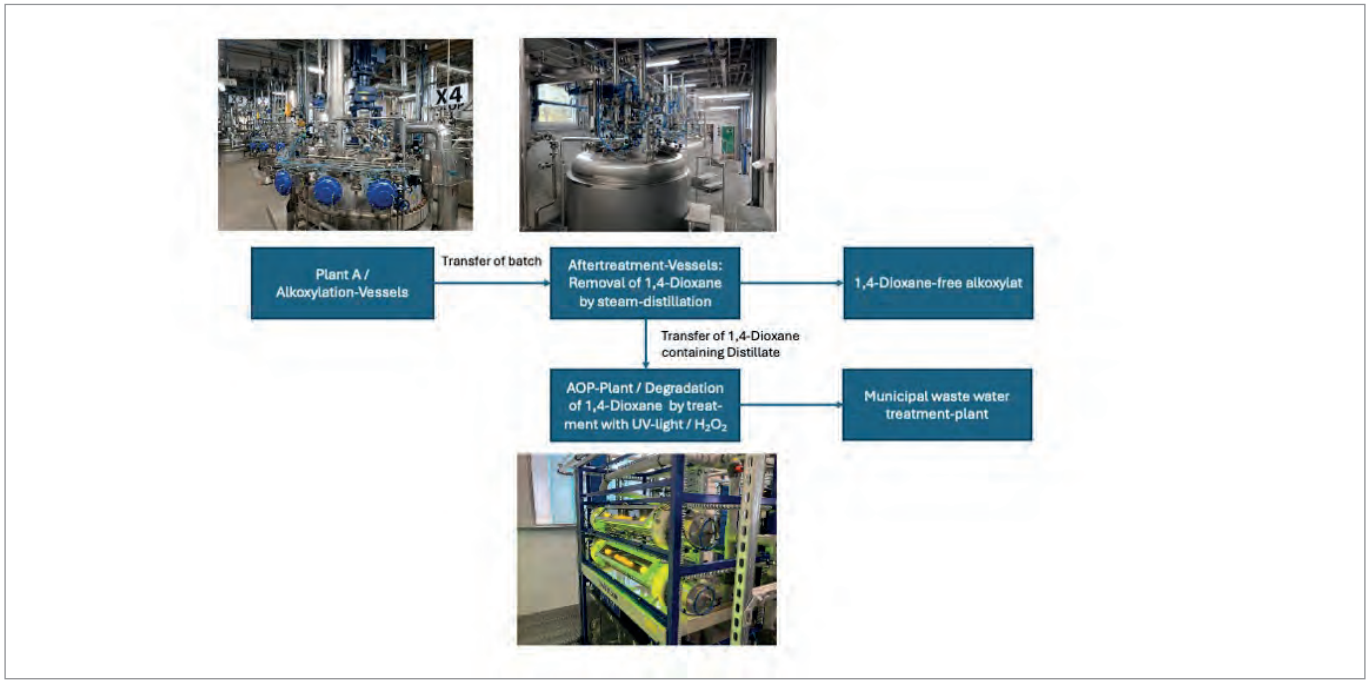
"UV/H_2O_2 Advanced Oxidation Plant (commissioning in 2025)

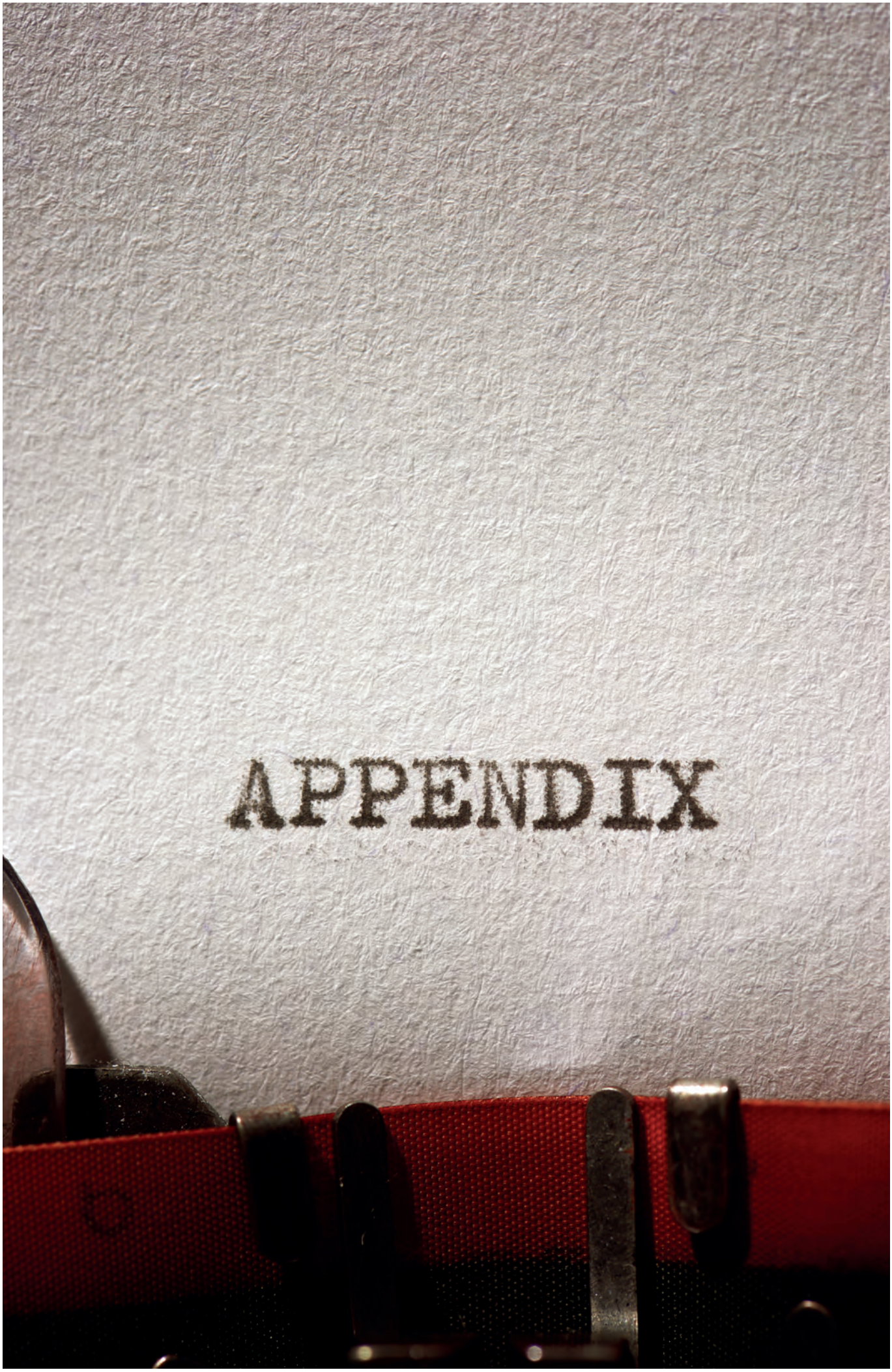
During the production of non-ionic surfactants, the cyclic ether 1,4-dioxane is formed as an unwanted by-product under certain reaction conditions. To remove this by-product from the alkoxylates produced on-site, three post-treatment tanks were installed in Plant A in 2022 and commissioned in 2023. The post-treatment allows the produced alkoxylates to be freed from 1,4-dioxane by steam-distillation. The construction of a wastewater treatment plant using an AOP (Advanced Oxidation Process) is intended to eliminate external disposal via road tank trucks.

This system includes a feed tank as the operating tank, from which the system is supplied. The wastewater stream to be treated is circulated through this tank until the desired degradation is achieved. As before, the 1,4-dioxane-containing process residues will be collected in a dedicated storage tank. From there, they are to be pumped via the existing pipeline to the AOP-Unit. There, they will be treated in batches using UV light in combination with hydrogen peroxide. The oxidizing agent is converted into radicals by irradiation with high-energy UV light under the chosen conditions.

The following auxiliary substances are used: iron solution, continuously dosed in very small amounts (Fenton reaction); hydrogen peroxide (oxidizing agent); sodium hydroxide and sulfuric acid solutions to adjust the optimal pH value. After degradation, an analytical check is carried out. Upon approval, the aqueous residues are discharged into the mixing and balancing tank via an existing pipeline and are then guided to the municipal wastewater treatment plant along with the site's total wastewater stream, controlled by COD. The process was successfully tested by the installation company on a representative wastewater sample. UV oxidation was able to completely oxidize the 1,4-dioxane present in the sample. As a side effect, more than 95% of the COD was also degraded."

Dr. Oliver Frank
Head of SHEEQ and Technical Department




APPENDIX

Appendix A – ESRS Content Index (Report-to-Standard Mapping)

How to use this index. The left column shows your report's sections; the right shows the **relevant ESRS topical standards and disclosure requirements (DRs)** covered there.

Report section	ESRS topic(s) & disclosure requirements covered
Introduction -> General Disclosures	**ESRS 2** (General): GOV-1/2/3 (roles, policies, incentives), SBM-1 (business model & value chain), SBM-3 (material risks/opportunities & strategy), IRO-1 (identification of impacts/risks/opportunities), DC-MD (time horizons, due process), and data-governance elements referenced throughout.
Materiality Assessment (Process, Topics, Stakeholders)	**ESRS 2:** IRO-1; SBM-3; Stakeholder engagement and double-materiality method; topic prioritization and thresholds.
PEOPLE (chapter)	**ESRS S1 (Own workforce)**: **S1-1** to S1-5 (policies, processes, engagement, targets, metrics), **S1-6/7** (working conditions & training), **S1-12/13** (gender pay gap, adequate wages), **S1-14** (H&S), **S1-16** (training hours), **S1-17** (incidents & complaints).
PLANET -> 4.1 Climate & Energy	**ESRS E1 (Climate): E1-1** (transition plan), **E1-2** (policy), **E1-3** (actions & resources), **E1-4** (targets), **E1-5** (energy), **E1-6** (gross GHG emissions Scopes 1–3), **E1-7** (removals/credits – stated as none), **E1-8** (internal carbon pricing), **E1-9** (anticipated financial effects).
PLANET -> 4.2 Pollution Prevention (Substances of Concern)	**ESRS E2 (Pollution): E2-1** (policies), **E2-2** (actions & resources), **E2-3** (targets), **E2-4** (metrics & thresholds, incl. air emissions where relevant), **E2-5** (anticipated financial effects).
PLANET -> 4.3 Water Stewardship	**ESRS E3 (Water): E3-1** (policies), **E3-2** (actions & resources), **E3-3** (targets), **E3-4/5** (metrics on withdrawals, discharges, quality, intensity).
PLANET -> 4.4 Air Pollution	**ESRS E2-4** (air emission metrics; TA-Luft/E-PRTR context); ties back to **E2-1/2** for controls.
PLANET -> 4.5 Circularity & Waste	**ESRS E5 (Resource use & circular economy): E5-1** (policies), **E5-2** (actions), E5-3 (targets), **E5-4** (resource inflows), **E5-5** (resource outflows incl. waste; diversion vs disposal).
PLANET -> 4.6 Raw-Material Footprint	**ESRS E5-4** (resource inflows; composition by fossil/biobased/inorganic/recycled; origin data); links to **E1** (Scope 3 Category 1 context, qualitative).
PLANET -> 4.7 Biodiversity & Ecosystems	**ESRS E4: E4-1** (policies), **E4-2** (actions), **E4-3** (targets), **E4-4/5** (site context, sensitive areas, dependencies/impacts, incidents—none).
PARTNER -> 5.1 Ethics, Compliance & Transparency	**ESRS G1 (Business conduct): G1-1/2/3** (policies, training, incidents), **G1-5** (complaints & grievance channels).
PARTNER -> 5.2 Supplier Governance & Value-Chain Workers	**ESRS S2 (Workers in the value chain): S2-1 to S2-5**; due-diligence process, risk tiering, CAPA closure; also **G1-5** (complaints).
PARTNER -> 5.3 Customer Partnership & Product Stewardship	**ESRS S4** (Consumers & end-users) as relevant to product information & safe use; **G1-1/5** (conduct & complaints); cross-references to **E2** (substances management).
PARTNER -> 5.4 Being a Good Neighbour	**ESRS S3 (Affected communities): S3-1** to **S3-5** (policies, engagement channels, issues raised, responses).
PURPOSE -> 6.1–6.5 (Innovation, Transition Plan, Targets, Pipeline)	Cross-cutting consolidation of **E1/E2/E3/E5** (strategy, actions, targets) and **ESRS 2 SBM-3** (integration with business model & finance).

Note. Detailed numeric tables and year-on-year trends live in **Performance Data**; this index maps where the **management approach + methods** are explained.

Appendix B – Reporting Boundary, Period, and Consolidation

Entity & scope. This Sustainability Statement covers **Pulcra Chemicals GmbH (Geretsried, Germany)** for **1 Jan–31 Dec 2024** under management control. Unless otherwise stated, organizational and operational boundaries match financial reporting. No special-purpose vehicles or joint operations are included.

GHG organizational approach. Control-based (operational control). **Scope 1** includes on-site combustion (natural gas, diesel/mobile). **Scope 2** reflects purchased electricity; base presentation is **location-based**, with market-based results prepared where contract evidence allows. **Scope 3** screening includes Cat. 1 purchased goods, Cat. 4/9 logistics, Cat. 5 waste, and other material categories using activity data and recognized LCI factors.

Sites & processes. Integrated production, labs, storage, utilities, and wastewater equalization at Isardamm 79–83, Geretsried; once-through cooling water system; off-gas to RTO; hazardous and non-hazardous waste streams segregated and routed per permit/contract.

Appendix C – Methods & Data Dictionary (how metrics are built)

Data governance. Each dataset has an **owner, method, and evidence trail** (meter reads, lab certificates, invoices, ERP extracts). Functional review and version control ensure traceability from source to disclosure. Corrections are logged and explained in Appendix E (Restatements).

C1. Energy & GHG (ESRS E1)

- **Total energy (MWh).** Sum of fuels (converted via NCV factors) + purchased electricity. Diesel reported in MWh and

liters.

- **Energy intensity (kWh/€NR).** (Total energy [MWh] × 1,000) ÷ net revenue (€).
- **GHG Scopes 1–2.**
  - Scope 1: fuel activity × emission factors (CO_2, CH_4, N_2O as CO_2e).
  - Scope 2: electricity activity × grid factor (location-based by default).
- **GHG Scope 3 screening.** Mass- or spend-based methods with recognized LCI factors for Cat. 1 (purchased goods), logistics (Cat. 4/9), waste (Cat. 5), others as material.
- **Emission intensities (gCO_2e/€).** Total Scopes 1–3 (and 1+2) divided by net revenue, × 1,000.

C2. Internal Carbon Pricing (ESRS E1-8)

- **Price.** €45/t CO_2 applied to energy-related decisions in 2024.
- **Use.** Included in business cases as a shadow cost to rank projects by **€/t abated** and lifecycle value; informs metering, burner/insulation fixes, drives/controls, and sourcing options.

C3. Water (ESRS E3)

- **Withdrawals & discharges (m^3).**
  - Service/cooling water measured by meters; discharge equals intake in once-through system.
  - Process wastewater to municipal treatment measured at the MEB outlet.
- **Quality metrics. Online pH** (continuous)**, daily COD & 1,4-dioxane, monthly AOX, BOD_5, phosphate;** lab analyses by accredited methods.
- **Intensity.** L/€ = (Total water consumption ÷ net revenue).

C4. Pollution / Air Emissions (ESRS E2)

- **Stacks & fugitives.** Process off-gas routed to **RTO**; LEL monitoring; sulfur scrubbing installed. Periodic accredited measurements (e.g., DEKRA) per TA-Luft; **E-PRTR** reporting where thresholds apply. Tracked pollutants include **NOx (as NO_2), SOx (as SO_2), NMVOC**, **ethylene oxide**.

C5. Circularity & Waste (ESRS E5)

- **Categories**. Generated, diverted (recycling + energy recovery), disposed (incineration/landfill), hazardous vs non-hazardous by EWC.
- **Key streams.** Non-SVHC wash waters; **1,4-dioxane-containing** wash waters; production residuals; chromium-bearing sludge; absorbents; insulation offcuts. Routing documented by EWC, weight tickets, and contractor certificates.
- **KPI construction.** Totals, diversion rate, hazardous share, and **"non-recycled"** totals (sum of disposal routes).

C6. Raw-Material Footprint (ESRS E5-4)

- **Composition.** Tonnes by **fossil-based, biobased, inorganic, recycled; palm/palm-kernel-based** subset tracked; origin by country/region from ERP.
- **Supplier confirmations.** REACH/SVHC declarations, SDS currency, change control.

C7. People (ESRS S1)

- **Headcount & demographics.** HRIS as of 31 Dec; permanent vs temporary; management counts.
- **Pay & gap.** Average gross hourly pay by gender; unadjusted gap.
- **Training.** Hours per employee; tracking by gender/category.
- **H&S.** Recordable cases; rate = (cases × 200,000) ÷ hours worked.

C8. Partner (ESRS G1/S2/S3/S4)

- **Supplier due-diligence.** Questionnaire completion, document quality, corrective-action closure; risk-tiering criteria documented in procurement.
- **Grievances.** Logged, tracked to closure; external mailbox available.

Appendix D – Estimates, Assumptions & Uncertainty

- **Scope 3** relies on industry LCI factors and supplier data quality; uncertainty disclosed as screening-level.
- **Electricity** market-based results depend on contract evidence (GOOs/PPA); otherwise location-based factor used.
- **Water quality** lab precision and rounding; online pH is continuous but COD and AOX are periodic snapshot tests.
- **Waste relies** on contractor weigh tickets; minor timing differences at year-end may require accruals.
- **Sales intensity** (€/ton) influenced by product mix; interpret alongside segment mix tables.

Appendix E – Abbreviations & Acronyms

AOP	Advanced Oxidation Process
AOX	Adsorbable Organic Halides
BEM	Betriebliches Eingliederungsmanagement (occupational reintegration)
BImSchG	Bundes-Immissionsschutzgesetz (Federal Immission Control Act)
COD	Chemical Oxygen Demand
CSRD	Corporate Sustainability Reporting Directive
E-PRTR	European Pollutant Release and Transfer Register
EWC	European Waste Catalogue
GHG	Greenhouse Gas
GPC	GHG Protocol Corporate Standard
GSR/PSR	Product Safety/Regulatory dossier
ISO 14064-1	GHG quantification & reporting standard
LEL	Lower Explosive Limit
LCA	Life Cycle Assessment
MEB	Mixing & Equalisation Basin
NMVOC	Non-methane Volatile Organic Compounds
PPE	Personal Protective Equipment
REACH	EU chemicals regulation
RTO	Regenerative Thermal Oxidizer
SVHC	Substance of Very High Concern
TA-Luft	German Technical Instructions on Air Quality Control

Appendix F — Contacts & Feedback

Sustainability & Reporting:
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Community/Neighbour Enquiries:
info.geretsried@pulcrachem.com

We welcome feedback on this Statement and on our performance data. A summary of incoming remarks and actions taken will be reflected in the next reporting cycle.

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