



Sustainability 2023



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Foreword

At Lhoist, sustainability is deeply ingrained in our identity as a family business, and our philosophy reflects a pragmatic approach inherent to the nature of both our industry and our organization. We are committed to pursuing ambitious projects that align with the best interests of our business, customers, and all our stakeholders.

In 2023, our sustainability journey continued to evolve with a hands-on mindset, setting ambitious yet achievable goals complemented by short, mid, and long-term key performance indicators. A focal point of our initiatives was the development of our Sustainability Vision 2030, to be unveiled in 2024, which outlines our aspirations for sustainability in the coming years.

The strides we made were a continuation of the progress initiated in 2022 and 2021. Our commitment was evident in the implementation of projects spanning diverse sustainability topics, including community engagement, decarbonization initiatives, and circular economy projects.

Central to our approach in 2023 was reinforcing our Sustainability team and expertise and continuing to engage a broader audience. We aimed to inform and train as many people as possible about our dedication to a better future, recognizing the importance of collective involvement in addressing sustainability challenges. Emphasizing a bottom-up approach, we actively included and engaged our employees in defining Lhoist's sustainability journey. Their insights and contributions were invaluable in shaping an ambitious roadmap toward 2030.

As we progress, our dedication to sustainability remains unwavering, driven by the belief that everyone at Lhoist plays a crucial role in achieving our goals. We are grateful for the strong involvement of our employees and stakeholders in this topic, and recognize that a collective effort is essential for a sustainable and thriving future.

Valentine Berghmans
Chief Sustainability Officer – Lhoist Group



Interview Melissa Sewell

Sustainability Director – Lhoist North America



Our sustainability efforts in North America have long been at the heart of our Lhoist culture. Recently, however, we are seeing much more interest and development of our sustainability practices in our everyday decisions and actions. I had been at the company for over 20 years by the time I started as Sustainability Director in 2023, which was a significant step for our division. Having worked with most departments within Lhoist North America throughout my career facilitates my understanding of the role that sustainable development plays in the decisions we make and the activities we carry out.

Throughout the year, we achieved notable successes, with a particular focus on reducing CO₂ emissions. Adding more efficient kilns and increased fuel flexibility contributed to a 16% reduction in CO₂ combustion emissions in our North American operations compared to 2018's baseline. Additionally, we began developing our site criteria and prioritization of where we should focus our decarbonization activities in the future.

Beyond environmental considerations, sustainability at Lhoist also encompasses a human perspective. In this area, our steadfast commitment to safety remains a main priority. While we are proud of our efforts, exemplified by a 23% reduction in our incident rate in North America for 2023, we aim to achieve zero incidents, ensuring everyone returns home safe and healthy at the end of every working day.

What are our next priorities?

North America is developing its 2030 Roadmap in alignment with the Lhoist global goals, working with our individual teams to not only develop the roadmap but also plan for implementation of these targets.

In 2023, we made great efforts in our sustainability communications, both internally and externally. This collaborative effort continues into 2024, with a focus on involving employees and integrating sustainability into all conversations.

Prioritizing communication reflects our commitment to transparency in response to the increasing demand from our customers and employees. In doing so, we ensure that everyone remains informed, engaged, and up to date with the full spectrum of what we do, from daily activities to long-term projects.

“ Sustainability is not just about procurement or operations; it extends to every facet of our business, influencing our practices and decisions at every level. ”





Interview Thiago Avelar

CEO – Lhoist Latin America

At Lhoist Latin America, our commitment to sustainability is more than a checklist; it is embedded in our core values. In 2023, we established a Sustainability Council with a broad range of stakeholders: internal community representative, plant managers, communication, and management team. This quarterly forum dives deep into our KPIs, fostering accountability and active engagement. It has been instrumental in shaping our strategy framework.

Our dedication extends across the sustainability spectrum—planet, people, and profit—with a special focus on our communities. In the past two years, we have conducted a thorough community assessment, involving over 200 interviews with stakeholders from various communities around our sites. This invaluable insight guides our tailored efforts toward community concerns and helps assure a mutually beneficial future. Open and transparent communication is the cornerstone of addressing the local context, building trust, respect, and better understanding of our operations.

Looking forward

Engaging with our communities is not just about the present but is future oriented. This year, there will be more surveys conducted at our plants. Also in 2024, we will inaugurate our Lhoist Learning Institute with open doors, to train employees and students who might be future colleagues, and to welcome people living in the surrounding areas to foster understanding of the essential dimension of our industry through training and workshops by our people.

Our daily operations echo our sustainability journey as well. In 2023, we actively worked on reducing CO₂ emissions, achieving a 15.9% reduction in Latin America compared to the 2018 baseline. We aim to lead by example, recognizing the urgency of CO₂ reduction imperatives.

Looking ahead at Lhoist Latin America, our commitment to safety and creating an inclusive and healthy environment where everyone feels welcome remains unwavering. Intensified both internal and external community engagement from our senior leaders is pivotal in building a foundation for a constructive dialogue with all stakeholders.



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A license to operate comes with a responsibility towards your surroundings, and we take this very seriously. We are not just located in places; we are rooted in communities.

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Who we are and what we stand for

Our values have always been at the heart of our company's culture. They are the foundation of everything we do. Staying true to our values has enabled us to become and remain a leader in our industry.

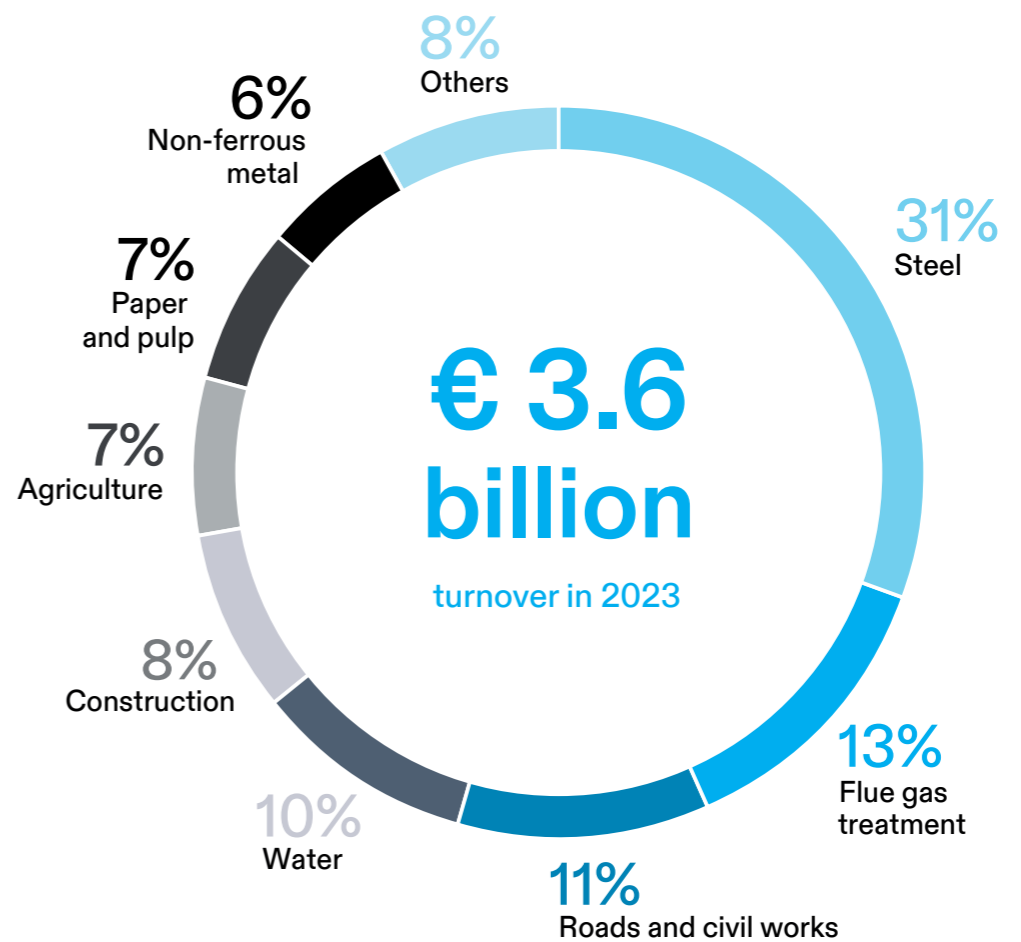
Respect: Being transparent and open, listening and accepting differences, dealing fairly with everyone, and honoring our commitments.

Integrity: Walking the talk, placing the company's and our customers' interests first, being authentic in all matters, demonstrating loyalty, and being ethical.

Courage: Being pioneers, voicing opinions, raising the bar, and challenging each other to grow.

Our global workforce, which reflects the societies we operate in, is crucial for creating an open, unified company. Our people matter and so do our suppliers, customers, the communities around us, and all the stakeholders who support our continuous improvement.

To support our employees in honoring our core values, our Code of Conduct outlines our fundamental ethical and business principles. We have also formalized internal rules in our Anti-Corruption Policy: a series of guidelines, standards, and procedures to help every Lhoist colleague and our business partners to comply with anti-corruption laws. We train every employee on these guidelines, ensuring current and new colleagues understand what we expect of them.



Driving change

Today, our company, with its roots and headquarters in Belgium, has a presence in more than 25 countries. With facilities in Europe, North America, Latin America, and Asia-Pacific, we have become a leader in our industry.

We have been producing and supplying high-quality lime, limestone, and mineral solutions for 135 years. Our products are essential, and the range of applications and sectors that use them continues to grow. They play a key role in improving the world and actively contribute to air and water quality, transport, agriculture, construction, and more.

At Lhoist, we are committed to driving change and to creating a more sustainable future for all.



The essential role of lime in your daily life

Our products are everywhere, and they are essential. The world as we all know it today would not be conceivable without lime and dolime. Lime and the mineral-based products and solutions that Lhoist produces are essential to many processes and applications that benefit us all every day. You might not realize it, but you encounter lime or mineral solutions in almost everything you do, and everything around you.

Our solutions can be found in the glass of your windows, in the bricks your home is built from, and in the paint that covers your walls. Lime is used to manufacture the screen of your laptop and television, the battery of your smartphone, the steel that constitutes your bike or car, and even the road you drive on.



Our products are used to purify the water you drink and to refine the sugar you use to sweeten your coffee.

We are part of the energy transition, too: lime is essential to produce the solar panels that capture part of your energy and the battery that powers your electric vehicle. And since lime is also used to treat fumes and manage air quality, well... it plays a part in the clean air you are currently breathing.

Our products are used in a wide variety of applications that we continually see, touch, use, and rely on. By bringing purity and efficiency to all these applications and more, our products actively contribute to improving our world, our lives, and our society.



In 2023, we made significant strides in our sustainability journey as we shaped our commitment to a greener future. Notable achievements include a third decarbonization project, EVEREST, being selected by the European Innovation Fund, which showcases our dedication to pioneering innovative solutions. Emphasizing the urgency of CO₂ emissions reduction, we expanded our team and reach, particularly in Lhoist North America. We are proud to have accomplished our objective of reducing our combustion CO₂ emissions per burnt ton by over 10% compared to 2018's baseline.

For resource valorization, our 2023 target was <2.9% lime and dolime processing waste ratio, we achieved 3.2%. Faced with market evolutions sometimes difficult to anticipate market evolutions, we will adapt to those changes and work together creatively to find solutions.

For safety, we made some progress. Despite our initiatives, our performance is not yet where we want it to be. We continue to be committed to our "Go for Zero" ambition, to ensure that all our people get home safely at the end of every day.

This year, we also intensified our efforts to foster an inclusive and diverse workplace: we reached our target of increasing the representation of women within professionals and management roles. This encourages us to take our next steps within our diversity, equity, and inclusion journey and to continue creating an environment that allows all our employees to thrive.

Reflecting on our profit ambition, we successfully continue to create sustainable business practices by reaching all our key performance indicators in terms of circular economy, sustainable supply chain, and procurement.

These milestones highlight Lhoist's dedication to sustainability, innovation, and responsible practices. From entry-level employees to senior leadership, our colleagues around the world are devoted to teaming up and driving change to keep us progressing towards our sustainability goals.

Our 2023 objectives

PLANET

10%

EMISSIONS
Reduce combustion CO₂ emission per burnt ton (vs '18)

25%

ENERGY
Share of renewable electricity

<2.9%

RESOURCE VALORIZATION
Lime & Dolime Processing Waste ratio (%)

60%

BIODIVERSITY
Active quarries with Biodiversity Management Plan

PEOPLE

3.8

SAFETY
Lost Time Incident Rate

100%

COMMUNITIES
Complaint Management Process in place in our operations

30%

DIVERSITY
Women in Professional and Management roles

PROFIT

80%

SUPPLY CHAIN
Large sourcing projects (>100k€) integrating sustainability criteria in the Request for Proposals (RFP)

20

PROCUREMENT
of global circular procurement projects

25 million EUR

CIRCULAR ECONOMY
value generated by re-using and recycling customer waste

Carbon Capture, Utilisation and Storage (CCUS)

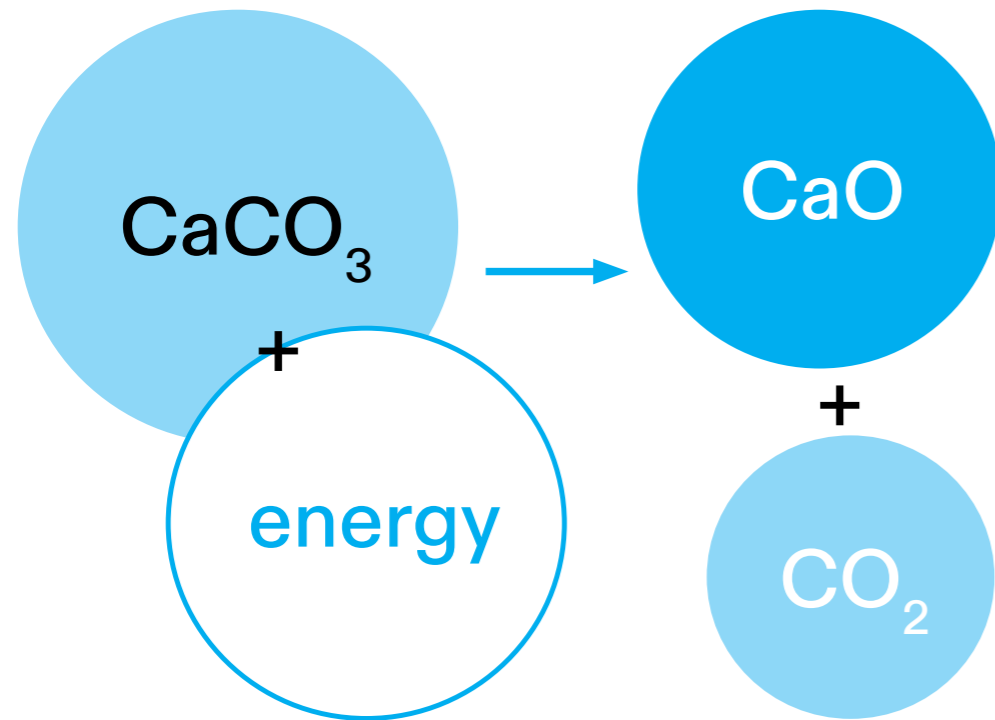
Solutions for a low-carbon future

Climate change has been a longstanding concern, and awareness of the harmful effects of greenhouse gas emissions, particularly carbon dioxide (CO₂) released through human activities like the burning of fossil fuels, continues to grow. About 40 billion tons of anthropogenic CO₂ are emitted every year, and lime production represents about 1% of these global CO₂ emissions.

To mitigate our environmental impact, we are continuously developing and implementing various solutions across our sites, as we work towards a low-carbon production process.

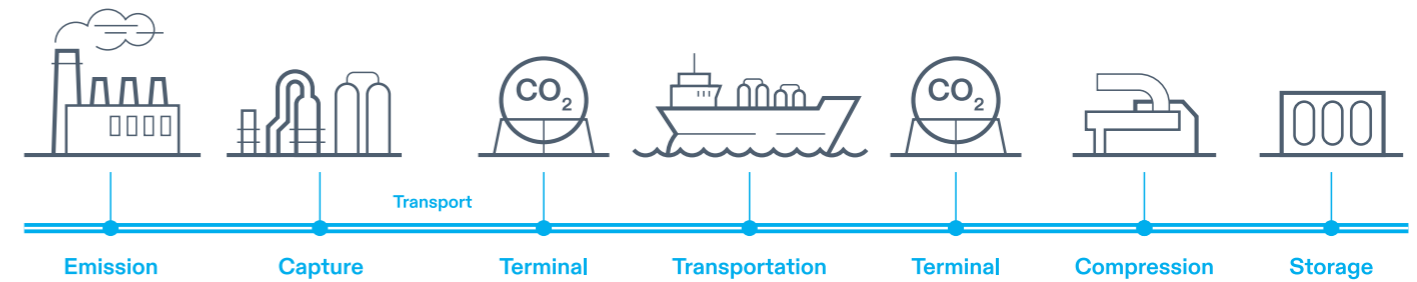
Our emissions come from two major streams:

- Combustion emissions as the result of fuel burning, including fossil fuel, to heat kilns. We can significantly reduce these emissions by switching to more efficient kilns or using low-carbon or carbon-neutral fuels (e.g. biomass) and even renewable electricity in the future.
- Process emissions come from the chemical conversion of limestone into lime. The lime manufacturing process requires a substantial amount of energy to thermally decompose limestone to calcium oxide, generating CO₂ emissions as a by-product. We cannot avoid these emissions.



Process CO₂ originates from the heating of limestone (CaCO₃) to form lime (CaO).

Carbon Capture and Storage (CCS) value chain



Carbon capture and utilization

Carbon capture and utilization (CCU) refers to a range of applications through which CO₂ is captured and used either directly (i.e. not chemically altered) or indirectly (i.e. transformed into other products). Some new uses are being investigated, such as making CO₂-based synthetic fuels, chemicals, and building aggregates. In most cases, the CO₂ needs to be captured, concentrated, and purified to enable its transportation and use.

Our ambition to actively develop CCU technologies that are essential to the sustainability of our industry is illustrated by the co₂ncreat project. This new process replaces the cement and natural aggregates used in traditional building blocks with by-products from the steel industry and CO₂ captured from lime manufacturing (p 22).

Carbon capture and storage

Carbon capture and storage (CCS) is considered one of the most effective options for reducing significant atmospheric emissions of CO₂ from human activities. In practice, it would most likely be applied to large sources of unavoidable CO₂ emissions, such as large industrial processes. CCS uses technology to collect and concentrate the CO₂ produced, transport it to a suitable location, and store it away from the atmosphere. Potential storage methods include injection into underground geological formations, while alternative storage on the surface can also be considered.

Lhoist teams are collaborating with a diverse set of partners to engineer innovative CCS solutions such as the CalCC project at our Rety plant in France (p 22) and the EVEREST project in Flandersbach in Germany (p 20).

Interview Alexia Spieler

Vice-President and Managing Director – Lhoist Germany



LEVEL|GREEN™ - our low-carbon products

In 2023, we launched LEVEL|GREEN™, our low-carbon lime and mineral products. That is a great step forward not only for us but also for our customers. For our customers, LEVEL|GREEN™ means a significant carbon footprint reduction within their supply chain (Scope 3). LEVEL|GREEN™ offers a reduction of ca. 80%* compared to standard lime production. We are partnering with our customers in order to contribute to reach the climate targets across the entire value chain. Discussions on LEVEL|GREEN™ are a matter across all functions. We plan to make LEVEL|GREEN™ available thanks to our CCUTS (Carbon Capture, Utilization, Transport and Storage) projects such as CalCC and EVEREST.

Going for low-carbon lime

As an illustration, with the EVEREST project, we aim to achieve low-carbon lime production in Europe's largest lime plant, Flandersbach in Wülfrath, Germany. We are very proud that this project has been awarded a grant by the European Innovation Fund. This illustrates and supports our ongoing dedication to reduce the carbon footprint of our operations.

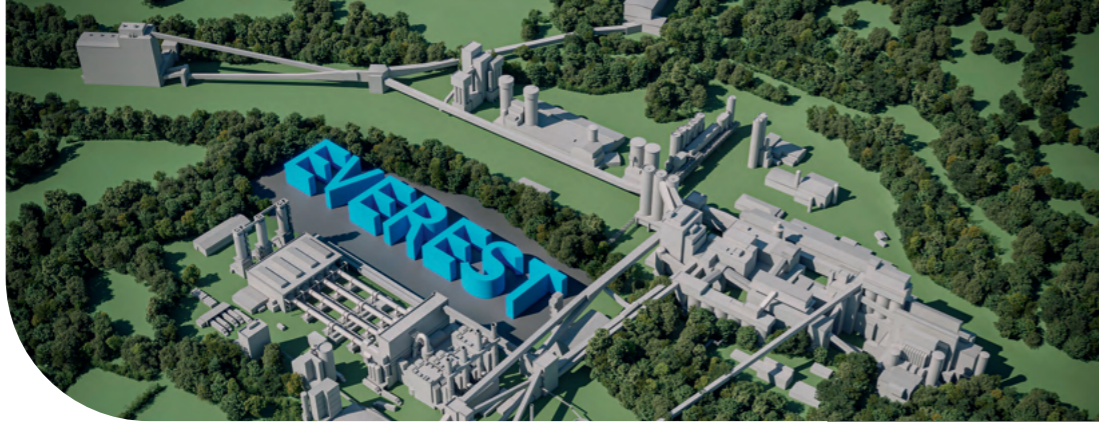
Sustainability is part of everything we do

As a family-owned company, Lhoist has been committed to sustainability for generations. Our sustainability focus is based on the three pillars: people, planet, profit. As a carbon intensive company, we are conscious of our responsibility to people, the environment, and our customers. For this reason, we are taking a proactive approach to sustainability and are also working on a response to our customers' request for low-carbon lime products. We believe in a holistic and practical approach to sustainability—taking action and making sure it is relevant and ambitious.

* Reduction of approx. 80% of emissions based on Lhoist Europe average of 1,2 t CO₂ / t CaO Scope 1, 2 and 3 (upstream). LEVEL|GREEN™ products will, once available, have a remaining product carbon footprint of <250 Kg CO₂ /ton of CaO. For further information please contact your respective sales contact or visit www.lhoist.com

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Contributing to carbon-neutrality requires dedication and collaboration across all functions. We believe building up external partnerships with stakeholders, e.g. with customers, is the only way forward towards carbon neutrality across the entire value chain.
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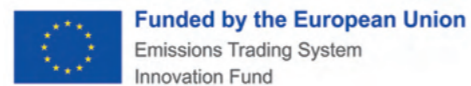
EVEREST project

Low-carbon production in Europe's largest lime plant

With the innovative EVEREST project, Lhoist is on a mission to reduce its carbon footprint by more than 1 million tons of CO₂ per year at its Flandersbach plant in Germany, the largest lime plant in Europe. How? We intend to capture and store the emissions using a process called carbon capture and storage (CCS). This way, the carbon dioxide would not be emitted into the atmosphere during production, but would be captured, separated, and transported by rail and ship or pipeline, to storage facilities. Then it would be stored safely in the seabed of the North Sea. The first low-CO₂ lime is planned to be produced by end 2029.

To reach this objective, Lhoist is pursuing two innovative technical approaches for low-carbon lime production. One is to equip part of the existing lime kiln fleet with Cryocap™, a CO₂ capture system developed by technology partner Air Liquide. The other is to build new oxyfuel lime kilns, which significantly reduce the energy consumption for capturing the CO₂. The successful demonstration of both methods at a large scale could accelerate the way for the decarbonization of the lime industry.

The European Union Innovation Fund has recognized this initiative as a key step towards achieving low-carbon lime production in Europe's largest lime plant. It is a significant milestone in our journey towards a more sustainable future.



We are delighted with this success of our partner Lhoist. Together, we can make another important technological contribution to the decarbonization of the industry.

Gilles Le Van
Vice President Large Industries and Energy Transition -
Air Liquide Central Europe

Interview Dr. Martin Volmer

Senior Manager CO₂ Transformation – Lhoist Germany



Capturing and reducing CO₂

The heart of my job lies in the EVEREST project, an ambitious initiative dedicated to capturing and reducing CO₂ emissions at Europe's largest lime plant in Flandersbach, Germany. Over the past two years, we have made lots of progress. But decarbonizing lime production is no easy feat.

There is no off-the-shelf solution for that, which makes everything we do entirely new for our industry. Looking at the available infrastructure, for example, we need an improved network to transport the CO₂ we would capture.

The indispensability of lime

Lime plays a crucial role in the production of a lot of essential materials such as steel, glass, and concrete, making it indispensable for our society. CO₂ is an inevitable by-product of lime production.

While we are switching to renewable and alternative energy sources to cut down on emissions, we cannot avoid creating CO₂ during the production of lime. Facing this challenge, the EVEREST project is a positive outlook that drives our motivation to continually innovate and strive for the best.

Flandersbach on its way to low-carbon lime production

We are determined to bring our largest plant in Europe, Flandersbach, towards low-carbon production, and it is making great progress. As we are moving forward, we are working on more research and thoroughly figuring out our business case. The aim is to be all set to roll out our technology on a larger scale by the end of 2029.

This project is not just about technology; it is a cultural shift within Lhoist. I can truly feel the enthusiasm and support from every corner of the organization every day. It feels great to be on a team that is playing such a role in making our future more sustainable.

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This project has become a source of motivation for all of our employees, and I can really feel it changing the overall culture of the company.”

Our other decarbonization projects

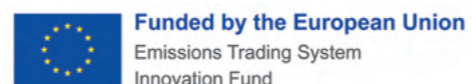
CaICC

The CaICC project aims to make our Rety plant in France the first low-carbon lime production site in the world. How? By capturing over 600,000 tons of CO₂ annually by 2028 using the Cryocap™ technology by Air Liquide. After the CO₂ would be captured at Rety, it would be transported by underground pipeline to Dunkirk, from where it would be shipped for permanent storage in the North Sea. The entire project—capture, transport, and storage—includes partnership between Lhoist, Air Liquide, Dunkerque LNG, Egiom, and RTE. All partners joined forces in 2023 for a public consultation process in France with the objective to inform stakeholders about all aspects of this decarbonization project. The consultation concluded positively, and the project is now in the phase of continuous consultation.

In January 2023, the Lhoist CaICC project took a significant step with the signing of a European Innovation Fund grant agreement with the European Climate Infrastructure and Environment Executive Agency. During the year, Lhoist and Air Liquide expert teams made progress on the FEED (Front-End Engineering Design) which is the engineering design approach, and on various permitting steps for the CaICC project, including a fauna and flora study and preparing the application for environmental authorization.

co₂ncreat

Lhoist and its partners Prefer, Orbix, and Fluxys are working together to help decarbonize the construction industry and manufacture sustainable made-in-Belgium building blocks. Cutting CO₂ emissions is the central aim of co₂ncreat—“the first building block that eats CO₂ straight from the source”—using technology developed by Orbix that mixes by-products of the steel industry with CO₂ from the Lhoist Hermalle lime plant. co₂ncreat should result in 12,000 tons of CO₂ being captured, transported, and used each year. Using CO₂ and recycled materials would lead to a further avoidance of 8,000 tons of emissions. In 2023, after manufacturing the first prototype blocks, the team made progress towards permitting and engineering. This venture reflects our dedication to innovation and seamlessly integrates with the sustainability objectives of our operations.



GOCO₂

In July 2023, Lhoist, Elengy, GRTgaz, Heidelberg Materials, Lafarge, and TotalEnergies launched the Grand Ouest CO₂ (GOCO₂) decarbonization project. Supported by Pays de la Loire Region and Grand Port Maritime de Nantes Saint-Nazaire, it aims to develop an investment program for capturing CO₂ on industrial sites and transporting it by pipeline to the Saint-Nazaire maritime export terminal for permanent geological storage, with an estimated capacity of 2.6 million tons a year by 2030. GOCO₂ is an ambitious project to accelerate the decarbonization of industrial sites in western France.

Peak Cluster

An innovative industrial decarbonization project has been launched to create a net-zero future for the cement and lime industry. Located in the Peak District in northern England, the Peak Cluster project would prevent more than 3 million tons of CO₂ emissions each year by 2030. It was initiated by Lhoist, Tarmac, Breedon, and Aggregate Industries, alongside Lostock Sustainable Energy Plant. The innovative collaboration aims to capture and transport emissions from industrial plants before permanently storing them beneath the Irish Sea. Peak Cluster partners make up 40% of the UK’s cement and lime industry, meaning the project has the potential to significantly reduce the sector’s emissions.



Interview Victor de Neve

Business Development Manager CO₂ – Lhoist Europe

Evolution of industry norms

In the transformative landscape of 2023, the launch of our low-carbon offer marked a key milestone. Following the success of LEVEL|BLUE™, we shifted our focus to LEVEL|GREEN™, which is based on CO₂ avoidance, reduction, and capture. This step forward is dynamically contributing to the evolution of industry norms.

This achievement reflects a collaborative journey where the concerted efforts of our cross functional teams are leading to the possible offering of low-carbon products. The positive responses so far further show that such an offering could have a positive impact and embrace our clients' own sustainability journey.

Lowering carbon footprint

LEVEL|GREEN™ are our low-carbon products. By avoiding and reducing, then capturing and sustainably storing or using CO₂, we plan to lower emissions substantially. For our customers, this new product range means a significant reduction of the carbon footprint within their supply chain (Scope 3). With LEVEL|GREEN™, we intend to secure the supply of various industries with low-carbon products.

Looking forward

As I peer at the horizon, our strategic focus crystallizes around deploying our LEVEL|GREEN™ offering within Lhoist's products portfolio to respond to our customers' request for low-carbon products. This deliberate approach reflects our commitment to proactively contribute to the evolution of the industry towards sustainability.

I am deeply committed to sustainability in my work, and I am always pushing boundaries to make a real impact. The low-carbon offer is far more than a range of new products—it is a collaborative push to contribute to the evolution of our industry towards sustainability. Together with our teams, I take pride in being part of this transformation.



“

I firmly believe that our initiatives are not just making a positive impact but setting the stage for a more sustainable way of working.

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Our 3 Pillars

PLANET

“Together, we responsibly optimize resources and energy for the generations to come, using less, for longer, and smarter.”

We are mindful of the impact our operations have on the world, so we want to mitigate and minimize it wherever we can. Besides carbon capture and reduction projects, we are progressively transitioning our operations to rely on renewable energy sources, exemplified by the establishment of a new photovoltaic park in Belgium. Across the world, our teams are committed to reducing and repurposing production waste, for example with new maintenance procedures in Central Europe.

PEOPLE

“Together, we are dedicated to the well-being and development of our people and the communities in which we operate.”

We are committed to being good neighbors and providing the best working environment and development opportunities for our colleagues, now and in the future.

We put our words into action everywhere we operate: in the past year, among various projects, we have engaged teams with World Safety Week, brought together leaders for a global forum, and prioritized mental health in the UK.

PROFIT

“Together, we strengthen our business for the prosperous future of our company and our customers.”

We want to create responsible practices that ensure the company continues to thrive. Supply chains and the circular economy are central to achieving this. That is why our initiatives include recycling and reusing customer waste in Brazil and integrating sustainability criteria in our office supplies selection. We firmly believe that our actions hold the power to create meaningful change, shaping a positive impact on the world around us.

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Interview Lisa Gödde

Senior Manager Environment Protection & Permits – Lhoist Germany

Due to the nature of our activities, biodiversity is a major part of almost every step we take. Indeed, thanks to a co-operation project between our Rösenbeck site in the Sauerland region (Germany) and the University of Osnabrück, we were able to scientifically evaluate the particular importance of quarries for biodiversity: quarries—especially active ones with a long tradition of mining—are often refuges for rare species and hotspots of biodiversity.

Creating new and better habitats

When we ambition to extend a quarry, we start with an environmental analysis in which we map all the flora and fauna present in the area, both protected and regular species. This research is extensive and often goes beyond the legal requirements: we visit at different times (night and day), on different days and in different seasons. Only then will we start looking into how our plans for the quarry may influence the species and what we need to do to protect biodiversity.

In 2023, we planned new homes for the endangered dormouse as part of a project. To protect the dormice, we will build a new area for them that is not only modeled on the previous habitat but surpasses it. For Flandersbach (Germany), on the other hand, we have done something similar for midwife toads. We collected more than 15,000 toads and created a new home for them, or as we affectionately call it: “the frog spa”.

The motivation to go the extra mile is contagious

Biodiversity is really a component of our company’s DNA. My colleagues from Environment Protection & Permits and I rely on the experiences and insights from our teams who work on site. They really are the boots on the ground that alert us of all the important sightings: from small frogs to new orchids or even a bird with a broken wing.

The way we work together and interact with each other is something that keeps on amazing me. Everyone involved understands the importance of biodiversity: their enthusiasm is contagious and motivates me to keep going the extra mile.



“
At Lhoist, we go the extra mile with regards to biodiversity—at all levels of the organization, from all our employees to the leadership.”



Emissions

Lhoist is committed to a 50% reduction in carbon emissions from fuel combustion by 2030, compared to 2018. We actively minimize our footprint from energy-intensive processes, utilizing renewable fuels, transitioning to biomass, and investing in plants to allow for fuel flexibility. Substantial resources are dedicated to our carbon reduction roadmap, demonstrating an ongoing dedication to environmental responsibility and innovation.



I am proud of my team at Rety who has embraced the opportunity to reduce so significantly CO₂ emissions, and this has been supported by all functions across the group. The use of wood pellets has been a great success, and a key initiative in our CO₂ efforts. However, we strive to do even better in the future: fuel trials have become an integrated part of our activity and expertise, and we will increase the transition towards renewable fuels.

Yves Boraccino
Rety Plant Manager - Lhoist Southern Europe

Biomass wood pellets at Rety (France)

In 2023, we used industrial wood pellets to feed the kilns at several of our sites: Rety (France), Hermalle (Belgium), Whitwell (UK), and Hönnetal (Germany). Before July 2022, no biomass was used in Rety at all and in 2023 it has reached over 30% of the total energy on the kilns. This is a significant change delivered in a very short time. We have established a storage in the Netherlands and set up an efficient distribution network.

Thanks to this project, the CO₂ intensity of combustion emissions at Rety has been reduced by 23%. The biomass meets all the sustainability criteria as a zero-carbon emission fuel, and by shipping large quantities, we limit its carbon footprint. The goal is to further increase the substitution at Rety and to expand the use of biomass wood pellets to other plants too. In October 2023, we completed a trial on the Hönnetal rotary kiln that paves the way for further CO₂ reductions. This success has been achieved through real team effort and the commitment and ingenuity of the teams.



Achievement 2023:
Electricity

34%

Share of renewable electricity

Achievement 2023:
Resource valorization

< 3.2%

Lime & dolime processing
waste ratio

Electricity

Deliberate sustainability and energy-conscious practices require a persistent strategy. We collaborate with like-minded individuals, innovating in renewable energy projects like photovoltaic, hydro, and wind. Staying at the forefront of alternative energy technology is crucial to seize opportunities for reducing carbon emissions. This drives us to boost production of self-generated sustainable electricity and the purchase of green electricity.

New photovoltaic park in Belgium to reduce CO₂ emissions

For the past two years, as part of our energy transition efforts, Lhoist Western Europe has been building photovoltaic parks to complement the existing one at the On-Jemelle site (Belgium). Marche-les-Dames (Belgium) comprises 6,831 panels of 695W and covers 4.4 hectares. It will produce 4,700 MWh a year, equivalent to the consumption of 2,300 households. Around 67,5% of energy produced will be consumed by the Marche-les-Dames plant, saving 2,100 tons of CO₂ a year.

Resource Valorization

Scarce natural resources, such as high-quality limestone and dolomitic stone, are handled with sensitivity and efficiency. Our commitment to zero-waste processing is evident as we carefully manage and maximize the value of these resources. All our quarries adhere to meticulous long-term plans, ensuring responsible environmental management and sustainable service to our customers.

Changing fuel lances with zero waste in Central Europe

Among all maintenance procedures on our kilns, changing fuel lances may result in partly calcined products that are outside specifications and thus considered waste. To improve our waste streams, our team in Central Europe have adapted this procedure to preserve the lime quality. The resulting product can be repurposed into milled lime solutions. This corresponds to 500 tons of valorized product each time lances are replaced. The procedure is now so successful that it is being reproduced at our other sites.

Combustion by-product enhances brick making in Malaysia

Our teams in Tapah, Malaysia, have developed a partnership with a customer who uses kiln co-product to improve the binding properties and moisture absorption in the bricks they produce. To supply this customer sustainably, Lhoist has modified the truck loading station to load tank trucks. As a result, most products from the site are repurposed and fully valorized.

Biodiversity

Human and biodiversity interdependence is central to our approach. Beyond restoration, maintaining and enhancing biodiversity on Lhoist sites involves minimizing our environmental impact, collaborating with experts, and creating new habitats in partnership with universities and NGOs. Through education, we empower our personnel to understand and responsibly interact with their working environment.

The great success story of a compensation measure for bats, Lhoist Germany

As part of compensatory measures, a 475-meter-long quarry tunnel was converted into a winter roost for bats. The tunnel, which was no longer used for operational purposes, was walled off in the center of the route except for a door and a passage opening, so that two separate tunnel sections were created. The population and diversity of bat species has been developing successfully ever since, so that the tunnel is now considered the most important winter roost for bats in the city of Wuppertal. For the water bat, it is even of great importance state-wide.



Achievement 2023:

76%

Active quarries with Biodiversity
Management Plan

Interview Stacey Barry

Vice President of Human Resources – Lhoist North America

Diversity, equity, and inclusion

A commitment to diversity, equity, and inclusion (DE&I) is ingrained in our culture. Transparency and creativity play a pivotal role in fostering an environment where employees are encouraged to step outside their comfort zone, by challenging themselves, others, and the organization in a professional manner. We actively showcase our employees on various platforms which focus on the employee background and experience. An initiative like our “45-day check-in” with new hires provides valuable feedback on their onboarding experience which contributes to continuous improvement efforts.

At Lhoist, we offer a variety of leadership programs, which include, but are not limited to mentoring, leading with purpose, frontline supervisor modules along with our future inclusive awareness modules.

The role of HR

I take pride in HR's role as a bridge between the business and our people. Celebrating successes, addressing shortcomings, and fostering a culture of continuous improvement are integral to our approach. Our focus remains on attracting the best talent, by continuing to improve our branding and presence on social media which will continue to help increase our applicant pools with more candidates which would include underrepresented groups while fully understanding that diversity cannot be forced or mandated but instead hiring the best individual for the role.

Looking forward, our future efforts are centered on enhancing the employee experience, by gathering and acting on feedback and maintaining healthy relationships, even with internal and external candidates we do not select. Being an effective HR business partner requires visible active engagement with employees in their environments, understanding their experiences, and addressing any noted challenges.



“ Sustainability is much more than the environment— it is also about sustaining relationships in our surrounding communities where we do business while fostering an inclusive and diverse workplace that would allow everyone to thrive.

”



Communities

We foster a culture of collaboration with our neighbors, building mutual trust to create lasting, positive change in our communities. Developing and participating in local projects is a cornerstone of our commitment to seamlessly integrate into the community, fostering strong partnerships and becoming a trusted ally in our shared journey for progress. Together, through these initiatives, we shape a better future with a collective and enduring impact.

Achievement 2023:

100%

Complaint Management Process in place in our operations



The Anderson plant and surrounding communities share an intricate symbiosis. This project serves as a living illustration to Lhoist's vision for community engagement: "As reliable partners to our communities, we shape a better future together." We aim to support our communities based on their genuine needs, to be present when they need us most. We consider ourselves an integral part of the communities surrounding our sites, just as they are an integral part of our operations. Our commitment is to be excellent neighbors and true partners, crafting a better, safer, and more sustainable environment for us all.

Nathalie Rascol
Community Engagement Director – Lhoist Group



The ability to provide the new Sherwood Community Center is the most fulfilling project I have had the pleasure of executing in my career. The Anderson plant is special in the way it has been shaped and supported by Sherwood residents for decades. Our people, many of whom are lifelong Sherwood residents, continually demonstrate an innate and overwhelming ownership of the Anderson plant and the successes of Lhoist. Having the opportunity to demonstrate that same pride and investment back into our community is a way to truly live the sustainability goals of Lhoist and, more importantly, our core values, in a way that I will always cherish.

Drew Reesor
Anderson Plant Manager – Lhoist North America

Anderson Plant's Impactful Collaboration with the Sherwood Community (USA)

Our Anderson plant in Tennessee (USA) has provided the local community with a new community center. The collaboration between our teams and the residents showcases Lhoist's commitment to people and communities.

Lhoist spearheaded the complete reconstruction of the center, ensuring it could be a hub for social and civic gatherings, and house the necessary computer lab to secure a federal grant to enhance neighborhood connectivity. A dedicated committee oversaw the project, with three Lhoist employees playing pivotal roles, including Anderson Plant Manager Drew Reesor, assuming a leadership position.

A fundraising campaign raised USD 15,000 through donations and events. Lhoist provided resources for these events and funded the construction of the building (USD 115,000), while the committee demolished the old structure and carried out refurbishments. Several of Lhoist's long-standing suppliers, nurtured through robust relationships, gave financial support, electrical equipment as well as plumbing materials.

During the inauguration, attended by community members, dignitaries, state officials, and federal politicians, Drew Reesor, Plant Manager, delivered an inspiring address, emphasizing the deep connection between the Sherwood community and the Anderson plant.

The reconstruction of Sherwood Community Center represents a very concrete example that illustrates the numerous projects we undertake worldwide with the communities around us, within which we are established and where we actively contribute.

Safety

When it comes to safety, Lhoist Group's approach is "Go for Zero", a golden rule aimed at ensuring everyone returns home safe and healthy at the end of every working day. Our commitment involves identifying and mitigating hazards and constantly improving our safety record. At our sites and customer locations, everyone shares the responsibility for each other's health and safety.

Choosing the Safe Way

The Safety Coordination and Communication Teams led our first global World Safety Day event in April. It brought together all employees under one powerful message: I Choose the Safe Way. Our aim was to foster a commitment to workplace safety, transcending geographical or cultural boundaries. Activities took place at all plants, to raise awareness of the importance of safety and cultivate a sense of collective responsibility.



Achievement 2023:
Safety

4.0

Lost Time Incident Rate

Achievement 2023:
Diversity

30.1%

Women in professional and management roles



As we sorted, set in order, shined, standardized, and sustained, we did not just clean up our physical surroundings — we created a safer environment for every member of our team.

Muhammad Rizal Bin Ramli
Senior Electrician – Lhoist Asia

Diversity

We take pride in the loyalty and dedication demonstrated by our employees towards our organization. This stems from fostering an environment that values and embraces diversity, equity, and inclusion. Every team member is afforded an equal opportunity to advance their careers, ensuring a safe and authentic workplace experience for all.

Apprentice program for women

Brazil has launched the Lhoist Young Apprentice Program with SENAI/IEL to train 40 women. Apprentices will undergo a 13-month training program in industrial maintenance and processes, followed by 10 months of experience at sites around Brazil. They will gain practical and theoretical knowledge, explore new technologies, and learn from experienced professionals. This is just the first step in our mission to contribute to a more inclusive, diverse professional landscape.



Development

Our future success depends on nurturing talent from within through substantial investments in learning and development. Continuous learning enables innovation, equips us to navigate a changing world, and ensures our employees thrive.

Leadership Forum commits to development

The Lhoist Leadership Forum is a testament to our commitment to leadership development and investment in people. The event brought together 120 top managers from across the group to network, celebrate successes, and explore challenges. Through engaging activities and insights from keynote speakers, the forum aimed to inform and align leaders on the company's strategic direction and identity.

By focusing on important aspects such as industry transformation through decarbonization and energy transition, and other key sustainability ambitions including diversity, equity, and inclusion, the event underscored our dedication to staying at the forefront of global leadership practices. As a result, the participants took back to their local teams a wealth of knowledge and energy.

Well-being

We place a high emphasis on the well-being of our team, understanding that both mental and physical health are crucial. Our comprehensive framework at Lhoist covers positive working conditions and initiatives for mental, physical, emotional, social, and financial health. By encouraging healthy behaviors, we ensure our colleagues remain safe and engaged, and contribute to the group's sustainable success.

Well-being program at Lhoist UK

The well-being program at Lhoist UK offers various tools to our employees, including counseling, a mental health app, and mental health first aiders. In 2023, suicide awareness workshops were held at our Hindlow and Whitwell plants, to dispel myths, reduce stigma, and educate teams on recognizing mental distress. By fostering a culture that encourages seeking help without judgment, we aim to create an environment where employees feel empowered in their mental well-being.



Interview Sanet Minnaar

Scientific Director – Lhoist Group

A strong emphasis on innovation is central to our sustainability initiatives. This is deeply embedded in our corporate values and serves as a driving force behind our innovation strategy. Besides searching for technical solutions for future applications, research and development is key to supporting our ongoing projects to decrease our carbon footprint and to valorize and preserve our resources.

As Scientific Director at Lhoist, I manage laboratory teams and I am responsible for a circular economy initiative to identify the calcium-based residues generated by our customers in different market segments, in order to identify projects with commercial potential.

I believe that cross-functional collaboration is crucial for identifying and repurposing waste streams. By drawing on expertise from various technical and market experts, we can unlock new opportunities to utilize waste products in innovative ways. This approach not only minimizes our environmental impact but also creates value for customers and the wider community.

Sustainability as a competitive advantage

Through a combination of innovation and a long-term vision, we are transforming sustainability into a strategic advantage. Our commitment to sustainability demonstrates that it is not just an option but a necessity for businesses that aspire to thrive in the long term.

Lhoist's sustainability journey exemplifies the power of innovation in addressing environmental challenges and driving economic growth. By embracing circular economy principles, we are not only reducing our environmental footprint but also creating new opportunities for value creation and competitive advantage.

I am proud to be a part of Lhoist's sustainability journey and excited to develop innovative projects that generate a positive impact on the world.



“
We have a long-term vision about how to incorporate circular economy solutions into the business. Through partnership with our customers, we can find ways to reuse lime-based waste streams and create value from it.
”



Supply Chain

In Lhoist's ongoing commitment to sustainability, we are advancing circular procurement initiatives with suppliers. Our goal is clear: eliminate waste, extend product lifetimes through innovative design, and minimize reliance on natural resources.

Energy-efficient refractories in Lhoist North America

One significant initiative involves collaborating with refractory suppliers to improve kiln shell temperatures at our Nelson plant in Arizona. The focus is on minimizing heat loss, thus enhancing overall energy efficiency.

Refractories, which are vital in lime kilns, protect structures in high heat and provide insulation, reducing energy consumption. However, they are made from dead-burned magnesia and alumina, materials that impact natural resource use, waste, and energy consumption.



To tackle these challenges, Lhoist employs two core approaches: exploring recycling channels for refractory disposal, and actively enhancing refractory efficiency and lifecycle to reduce waste and optimize energy usage.

Our journey towards energy-efficient refractories emphasizes lower kiln shell temperatures. This not only improves heat retention, reducing energy needs, but also lessens raw material use and extends refractory life, reducing the strain on natural resources.

The Nelson plant, which operates high-heat kilns, is leading this regional initiative. Initial trials with one supplier showed promising results—a 10% reduction in kiln shell temperatures, potentially improving energy consumption by up to 5%. A new trial with a second supplier will determine the best solution, with our Process Engineering team actively quantifying energy savings and overall performance.

Anticipated benefits include improved thermal conductivity, enhanced kiln efficiency, lower fuel consumption, and lighter bricks, thus reducing the electrical energy needed to turn the kiln. This initiative marks a pioneering effort in North America and reinforces our commitment to sustainable practices.



Circular Economy

Part of our ambitions are to assist stakeholders and customers in reusing and valorizing waste throughout the purchasing chain. Striving for circularity, we preserve material value through strategic recycling and repurposing, providing added value for customers and partners, and ensuring a competitive edge for long-term profitability.

Innovative fertilizer solution in Brazil to minimize waste
 Brazilian sugar and ethanol producers use vinasse, a by-product from ethanol production that is rich in potassium and organic matter. Lhoist Latin America's circular solutions project focuses on creating an Oxyfertil® product, enriching vinasse with calcium and magnesium for sugar cane crops. This innovation transforms the residue into a valuable organo-mineral fertilizer, enhancing its ecological and agricultural benefits.

Achievement 2023:
Circular Solutions

€25.5 million

Value generated by reusing and recycling customer waste

Thanks to the introduction of this catalog, every employee has the opportunity to opt for a greener solution for office and lab items. As every little gesture makes a difference, I am delighted that this possibility has been implemented and that the adoption is well under way in Europe.

Chloé Gauthier
 Procurement Category Manager - Lhoist Europe



Achievement 2023:
Circular Solutions

96%

Large sourcing projects (>€100k) integrating sustainability criteria in Request for Proposals

28

Global # of circular procurement projects

Supply Chain & Procurement

For sustainability to be effective, it must extend across the supply chain. We collaborate with suppliers who prioritize sustainability and focus on waste reduction and efficiency. Our goal is to extend the life of procured goods and services.

Smart conveyor belt scraper

Lhoist introduced smart conveyor belt scrapers, a cutting-edge technology that prevents major damage to the belts. Installed on three belts at the site in Flandersbach, Germany, with more to come, these smart scrapers, equipped with an electric drive and a cloud dashboard, detect damage early to repair segments predictively. This leads to a longer service life for our installations and less waste because we can focus on preventive maintenance instead of repair and replacement.

Green alternative catalog in Europe

Lhoist has incorporated green alternatives into the online catalogs for office supplies and lab consumables and is monitoring adoption rates. This initiative promotes the use of environmentally friendly products, marked as "green" options, that offer reduced greenhouse gas impact, lower natural resource usage, and recycled materials. This reflects the company's dedication to prioritizing environmentally friendly choices.



Our sustainability practices recognized by EcoVadis

With the sustainability journey firmly embedded in our group's strategy, we know our actions make a positive difference to people's lives and to the planet at large. To monitor progress, gain recognition for our achievements, and ensure we continue improving our outcomes, Lhoist Europe has chosen to undergo a performance assessment through EcoVadis, a widely respected third-party organization. EcoVadis provides reliable and globally recognized sustainability ratings and insights.

In assessing companies, EcoVadis awards a score between 0 and 100 as well as a bronze, silver, gold or platinum medal depending on a company's rating. The assessment covers a broad range of management systems, addressing aspects such as environmental practices, labor and human rights, ethics, and the impacts of sustainable procurement. Each company is rated on pertinent issues related to its size, location, and industry.

We are proud to report that 10 of our countries were rewarded with gold or silver medals. The UK, Denmark, Czech Republic, and Spain received gold medals, while France, Germany, Portugal, Belgium, Poland, and Slovakia received a silver one.

These encouraging results reward the multiple actions of our teams and show that we have made significant progress across our regions, demonstrating our growing commitment to sustainability.

We will continue to carry out annual EcoVadis assessments across our divisions while working on plans for further progress. We have achieved a lot together, and we remain committed to continuous improvement in the coming years.

Looking forward

At Lhoist, we actively engage with all our stakeholders, listening carefully to them to ensure a positive impact socially, economically, and environmentally. Our commitment is unwavering as we take decisive actions today to pave the way for a sustainable tomorrow for everyone.

Key performance indicators (KPIs) play a pivotal role in measuring our progress toward sustainability targets.

We successfully attained several KPIs in 2023, and as part of our forward-looking strategy, we focus on implementing our vision for 2030. We have identified seven group-level sustainability priorities with precise KPIs for each of them. Additionally, we will establish regional goals, granting local entities the flexibility to prioritize focus areas based on their unique contexts. By concentrating on a select set of indicators, we align our sustainability ambitions with the practicalities of our day-to-day operations.

Our streamlined approach empowers our leaders to analyze data drivers and inspires colleagues across the organization to play an active role in tackling the challenge. Constituting 20% of our employees' variable compensation, the sustainability KPIs foster a sense of connection with our goals, enhancing motivation and engagement as we collectively strive to achieve our objectives.

We are grateful to everyone for being an integral part of this ongoing journey.



PERFORMANCE DATA TABLES

PLANET	Unit	Target 2023	Results 2023	Results 2022	Notes
Emission intensity lime and dolomitic lime production					
Reduce combustion CO ₂ emission per burnt ton reduction (vs. 2018)	%	10%	11%	5%	
CO ₂ emissions (Scope 1)	kg CO ₂ /t		1,176	1,226	(1)
CO ₂ emissions from fuel	kg CO ₂ /t		368	393	
CO ₂ emissions from raw materials	kg CO ₂ /t		798	820	
Fuel mix for lime and dolomitic lime production					
Solid fossil fuels	%GJ		60%	67%	
Low-carbon fossil fuels	%GJ		25%	22%	
Recycled	%GJ		6%	6%	
Biomass	%GJ		9%	5%	
Electricity					
Electricity consumption	GWh		1,246	1,354	
Own and contracted renewable electricity share	%	25%	34%	24.8%	(2)
Renewable electricity projects	#		19	21	
Valorization and preservation of resources					
Lime and dolime processing waste ratio	%	<2.9%	3.2%	3.3%	
Biodiversity					
Regions with Biodiversity Management Plans (BMP)	%		100%	100%	
Active quarries with a Biodiversity management plan	%	60%	76%	34%	

(1) includes emissions from Heavy Mobile Equipment.

(2) includes electricity produced by Lhoist, purchased through Power Purchase Agreements (PPA), with Guarantees of Origin (GoO), or with Renewable Electricity Certificates (REC).

PROFIT	Unit	Target 2023	Results 2023	Results 2022	Notes
Sustainable supply chain and procurement					
Total number of circular procurement projects	#	20	28	10	
Large sourcing projects (>100k€) integrating sustainability criteria in the Request for Proposals (RFP)	%	80%	96%		
Procurement spend with suppliers that accepted the Lhoist Supplier Code of Conduct	%		70%	65%	
Circular economy					
Value generated by re-use and recycle customer waste	€ million	25	25.5	22	
Lhoist divisions with circular economy initiatives	%	100%	100%	80%	

PERFORMANCE DATA TABLES

PEOPLE	Unit	Target 2023	Results 2023	Results 2022	Notes
Employees by employment type					
Permanent staff	FTE		6,293	6,257	
Part-time workers	FTE		118	123	
Apprentices, Interns	Heads		422	367	
Employee diversity					
Women in total workforce	%		13.9%	13.1%	
Women in professional and management roles	%	30.0%	30.1%	28.7%	
Women hired	%		17.8%	18.2%	
Number of nationalities across Group	#		75	69	
Employees by age group					
30 and under	%		15%	14.8%	
From 31 to 50	%		51%	51%	
Over 50	%		35%	34%	
Safety					
Lost Time Incident Rate		3.8	4.0	4.1	
Health and well-being					
Global absenteeism	%		4.2%	4.8%	
Lhoist Europe	%		6.7%	7.7%	
Lhoist North America	%		2.6%	2.5%	
Lhoist Latin America	%		0.8%	1.4%	
Lhoist Asia	%		5.4%	5.8%	
Employees fully covered by minimum health benefits, pension plan, life insurance	%		100%	100%	
Education and development					
Promotion from within in management	%		61%	65.3%	
Promotion from within in Director (or equivalent) and above level	%		67%	77%	
Employee turnover	%		10%	10.8%	
Divisions with Women In Leadership at Lhoist (WILL) program	%		100%	100%	
Communities					
Sites with Complaint Management Process in place	%	100%	100%		
Sites with a community engagement plan	%		100%	100%	



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