



Corporate Responsibility

Liebherr Appliances 2024

Contents



2	Contents
3	Shaping tomorrow
4	Corporate Responsibility
5	Liebherr today
6	Liebherr Appliances Corporate Responsibility
7	Change is a journey
8	Adapting the Group's Corporate Responsibility Strategy
14	Moving forward – step by step
15	A few of our milestones on our path



19	Materials
20	It begins with the materials we choose
21	A symphony of components
25	Evolution meets revolution
29	Innovation starts by breaking the mould BluRoX
30	Regulations and equirements



31	Production
32	Operating responsibly. Wherever we are.
33	Liebherr-Hausgeräte GmbH production sites
39	Production process and waste stream
41	Our progress in numbers
48	EcoVadis
49	ISO certificates



50	Use
51	Always on. Always improving.
58	Better cost efficiency. Better for the environment.
59	How energy efficiency makes an impact
68	Other innovations and measures
70	Food is valuable – ecologically and economically
74	Making our voices heard
75	Maximising overall value. Minimising environmental impact.
76	Professional appliances



83	Recycling
84	This is not the end
86	Responsible disposal of old appliances
88	From collection to compliance
90	Implementation of the WEEE Directive
91	Extended Producer Responsibility
92	Differences between household and professional appliances
93	Customer responsibilities
94	First steps for the circular economy
98	The future is circular
101	BluRoX



104	People and sustainable business
105	Our people, our responsibility
106	Our people make us who we are
109	Prioritising employee well-being
111	Investing in people and the future
115	Safety first
116	Sustainable Business
117	The Liebherr Group's core values
121	Business decisions and beyond
122	A culture of integrity
123	Human rights
124	Act global. Source local.
128	Trust through transparency

Shaping tomorrow

As a family-run company, we think in generations, not just business cycles – committed to making long-term decisions that benefit people, the planet, and our business.

Our Corporate Responsibility documentation provides insights into how Liebherr Appliances embeds sustainability across its operations, from energy-efficient appliances and responsible sourcing to circular economy initiatives and employee development. While we have made significant progress, we recognise that there is always more to do. Our goal is to continuously innovate, reduce our environmental impact, and contribute to a more sustainable future.



Corporate Responsibility 1.

Liebherr today

The Liebherr Group today comprises over 150 companies across all continents, operating in 13 product segments with more than 50,000 employees.

The Liebherr Group is a global technology company known for its diverse range of products. Its offerings are recognised in international markets for their high precision and exceptional durability. Liebherr is not only one of the largest manufacturers of construction machines in the world, but also delivers high-quality, user-focused products and services in various other sectors, including fridges and freezers.

[LIEBHERR PRODUCT OVERVIEW](#)

Value-oriented corporate culture

Liebherr, as a global family-run company, recognises its significant responsibility towards its employees, society, and the environment. The company firmly believes that lasting success can only be achieved by embracing this responsibility. For Liebherr, Corporate Responsibility is a fundamental principle that reflects the Group's core values.

[LIEBHERR CORE VALUES](#)



Liebherr Appliances Corporate Responsibility



Change is a journey.

Innovating since 1954

As Liebherr Appliances, a product segment of the Liebherr Group, we specialise in the design and production of high-quality fridges and freezers. With a legacy rooted in innovation and precision engineering, we combine advanced technology with our commitment to sustainability. Our facilities, located in Germany, Austria, Bulgaria, Malaysia, and India, each play a crucial role in delivering high-quality refrigeration and cooling solutions. Our company is dedicated to creating energy-efficient, long-lasting appliances that enhance every-day life while minimising environmental impact. Through a focus on quality, customer-centric solutions, and responsible practices, we continue to set benchmarks in the refrigeration industry.





Steffen Nagel | Management Board
Managing Dir. Sales & Marketing

“ Our business decisions
are always made in
harmony with the economy,
environment, and society.”

Adapting the Group's Corporate Responsibility strategy for Liebherr Appliances

As an economically, ecologically and socially sustainable company, the Liebherr Group aims to provide innovative solutions and improve the quality of life of present and future generations through its Corporate Responsibility strategy. The content framework for this is provided by the four central fields of action: products and services, environment and energy, employees and society, and sustainable management.

We have adapted the Corporate Responsibility (CR) strategy for Liebherr Appliances to better align our sustainability efforts with

our areas of impact. This strategy focuses on five key fields of action, providing clear guidance for our sustainable practices – and forming the structure of this report.

Taking responsibility is part of our core values, deeply rooted in our Group’s foundation. For decades, we have prioritised the research and development of ecological solutions, always with the entire product lifecycle in mind. This tradition continues to guide our efforts toward creating a more sustainable future.



Materials

We are dedicated to reducing the ecological impact of our operations by preparing products for the circular economy. This means using renewable materials and recyclates while actively reducing material variety to facilitate recycling.

[MORE ABOUT MATERIALS](#)



Production

We prioritise environmentally conscious production by reducing energy consumption and increasing the use of renewable energy sources at our sites around the world. Through responsible water management, waste minimisation, and pollution prevention, we actively work to reduce our environmental impact beyond CO₂ emissions.

[MORE ABOUT PRODUCTION](#)

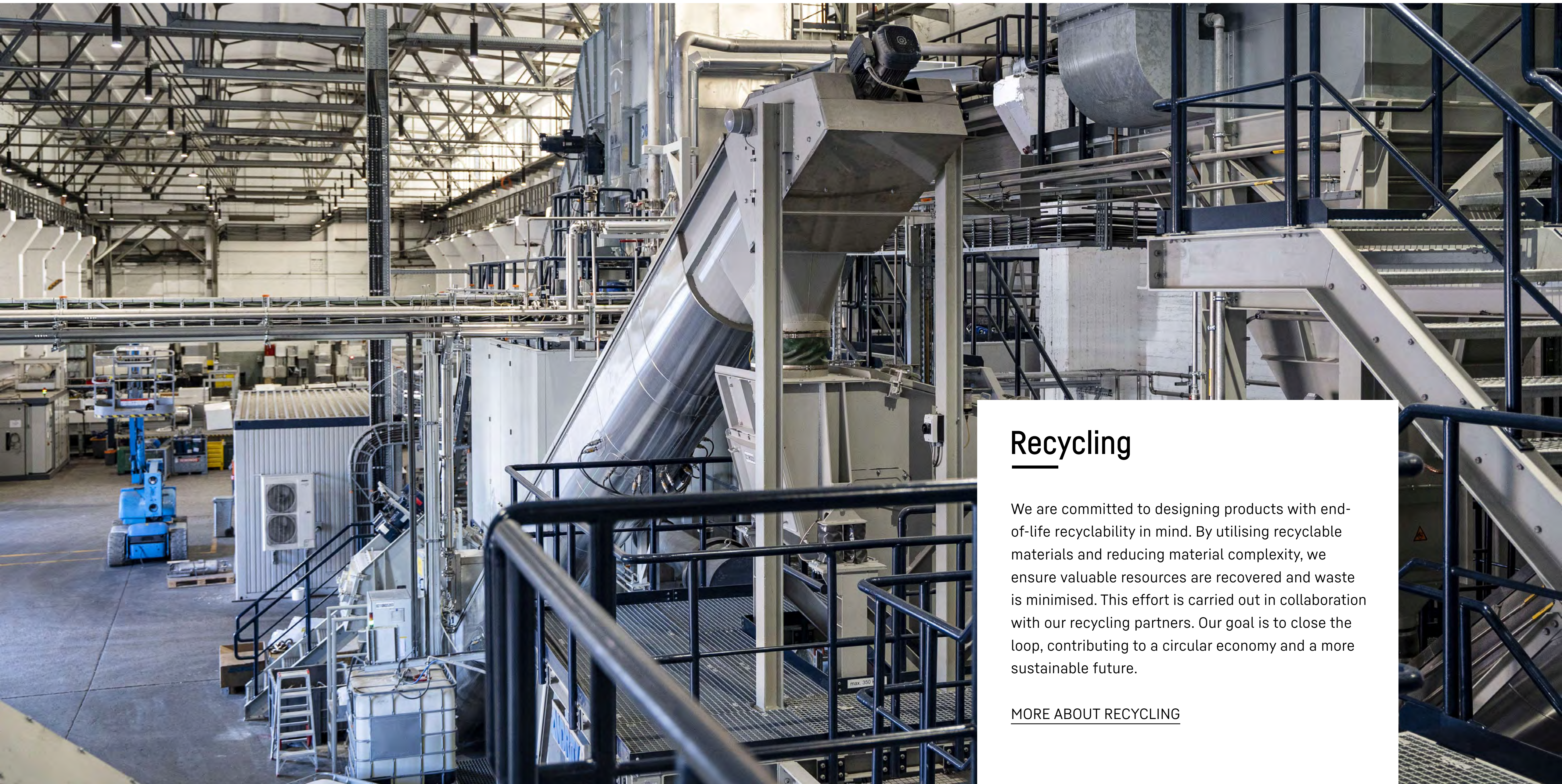


Use

The use phase has the greatest environmental impact in an appliance's lifecycle. That's why energy efficiency remains a top priority at Liebherr Appliances, helping to reduce both costs and product carbon footprint. By focusing on product longevity and storage safety, with an emphasis on reducing food waste, we ensure our appliances deliver sustainable performance every day.

[MORE ABOUT USE](#)





Recycling

We are committed to designing products with end-of-life recyclability in mind. By utilising recyclable materials and reducing material complexity, we ensure valuable resources are recovered and waste is minimised. This effort is carried out in collaboration with our recycling partners. Our goal is to close the loop, contributing to a circular economy and a more sustainable future.

[MORE ABOUT RECYCLING](#)

People and sustainable business

People are at the heart of everything we do. By creating a culture of respect, inclusion, and professional growth, we empower employees to thrive. At the same time, we integrate sustainable practices into all areas of our business, ensuring a balance between economic, environmental, and social responsibility. Together, we are shaping a future built on innovation, integrity, and care for our planet.

[MORE ABOUT PEOPLE AND SUSTAINABLE BUSINESS](#)

Moving forward – step by step

Our product innovations share one defining feature – they pave the way toward greater sustainability. Taking responsibility has always been an integral part of the Liebherr Group's our values, and for decades, we have prioritised the research and development of ecological solutions – always keeping the entire product lifecycle in mind.

The sustainability journey of Liebherr Appliances is one of learning, adapting, and growing. We also recognise that we are not perfect and have a long way to go. Sustainability is not static – it requires constant evaluation and refinement. Our corporate responsibility approach reflects our determination to stay agile, innovative, and ambitious in our commitments.

We will continue to drive progress and push the boundaries of what's possible for a sustainable future. Our aim is to ensure that everything we create contributes positively to people and the planet – building a future where industry and sustainability move forward, hand in hand.





A few of our
milestones
on our path

Success stories from our sustainability journey

We are proud of what we've achieved so far, but our journey is far from over. At Liebherr Appliances, we are committed to continuously improving and pushing our sustainability efforts forward. Here are some of our results:

Climate protection

CO₂ emissions reduction: We successfully reduced Scope 1* and 2* CO₂ emissions by about 15 % from 2022 to 2024.

Green energy: We utilise 100 % renewable energy at our facilities in Lienz and Ochsenhausen.

Hydrocarbon refrigerants: We have been using hydrocarbon refrigerants for 39 years. They efficiently absorb and remove heat while minimising environmental impact thanks to its low Global Warming Potential (GWP) and ensure sustainable cooling.

Energy efficiency: We have reduced total energy consumption at our production sites by 9 % from 2022 to 2024.

Water conservation: Since the 1990s, we have reduced water consumption through various measures, including upgrading cooling systems in plastic production, optimising water usage for paint preparation, and reusing process water in powder coating.

Product innovations

Energy-efficient appliances: We are consistently improving the energy efficiency of our products across the entire range. Our products rank among the most energy-efficient in their respective segments, helping customers to minimise their carbon footprint.

Freshness technologies: Over 30 years ago, we patented our BioFresh technology, which originally featured a single zero-degree compartment. This innovation established a global standard for cooling, allowing fresh food to stay fresh for longer. This, in turn, helps our customers minimise food waste.

Innovative insulation: BluRoX, our patented perlite vacuum insulation, redefines refrigeration and freezing technology. It sets new standards in energy efficiency and product design – taking a big step towards a circular economy. The FNXa 522i freezer, featuring BluRoX, has received Cradle to Cradle Certified® Bronze, recognising its innovative approach to sustainability and resource efficiency.

BluPerformance: Introduced in 2016, BluPerformance technology enhances appliance performance and comfort by incorporating innovative refrigeration technology into the plinth, which results in increased storage capacity while maintaining the same exterior dimensions of the appliance.

Smart technologies: We integrated smart features like SmartDevice, allowing users to remotely control appliances and optimise energy use.



* Scope 1:
Direct greenhouse gas emissions that occur on-site from activities owned or controlled by an organization.

* Scope 2:
Indirect greenhouse gas emissions resulting from the generation of purchased energy.



Employee well-being

Global Health Management: Our programme enhances employee health, motivation, and productivity. It encourages individuals to actively participate in their well-being and makes our workplace more attractive by providing healthy environments and ergonomic solutions.

Practical health initiatives: Our health programme includes a wide range of initiatives, with a strong focus on preventative care.

Recognitions and awards

Award-winning Health Management: Our Health Management has received multiple awards and quality seals at various production sites – for example, gold status in the Workfit Company Awards 2022 and the European Network for Workplace Health Promotion (ENWHP) quality seal at the Ochsenhausen site, as well as the Quality Seal for Workplace Health Promotion 2023–2025 at our Lienz site.

High-quality training: Our commitment to training excellence is reflected in the outstanding achievements of our trainees, recognised by professional associations. Liebherr Appliances were also nominated and awarded a top three place in the lifelong learning category of the 2021 German Demography Award.

Supply chain and logistics

Regional sourcing: With our production centred in Europe, 78 % of our purchasing volume also comes from within Europe to keep delivery routes short.

Supplier standards: An environmental management system is implemented at 86.5 % of our suppliers as of 2024.

Optimised lorry loading: 95 % of lorries operate at full load capacity, improving transport efficiency and lowering environmental impact.



Materials

2.



It begins with the materials we choose.

Our appliances are renowned for their craftsmanship, quality, and efficiency – and it all begins with the materials we choose. Each component is selected to ensure durability and timeless aesthetics. From the robust steel exterior to advanced insulation, every element is crafted to guarantee an exceptionally long lifespan and a positive experience for our customers.

We are also constantly evaluating and refining the materials we use. We strive to find even better materials – those that enhance durability while also reducing environmental impact.



A symphony of components

The status quo of our materials

Our freezers and fridges are complex appliances, consisting of various components. Here is a closer look at the materials that make up our appliances, using the freestanding freezer FNc 6625 as an example.

FNc 6625 – main material groups:

1. Housing, cladding, and outer door panel

Materials: Sheet steel

Function: The housing protects internal components and ensures the structural integrity of the appliance. It is robust, resistant to external influences, and designed to be visually appealing with a timeless aesthetic.

2. Inner container and inner door

Materials: Plastic (Polystyrene)

Function: The inner container forms the interior of the fridge and freezer compartments, where food is directly stored. The plastic must be robust, easy to clean, resistant to temperature fluctuations, and food-safe.

3. Insulation

Materials: Polyurethane foam

Function: Polyurethane foam provides effective thermal insulation, minimising heat loss and improving the appliance's energy efficiency, while also contributing to the 3D structural stability.

Materials: Vacuum insulation panels (VIPs)

Function: High-quality VIPs enhance insulation performance, enabling long-term energy savings.

4. Seals

Materials: PVC

Function: PVC seals provide an airtight closure for the doors, preventing the exchange of warm and cold air and thus contributing to energy efficiency. The seals are treated with a biocide to prevent mould formation.

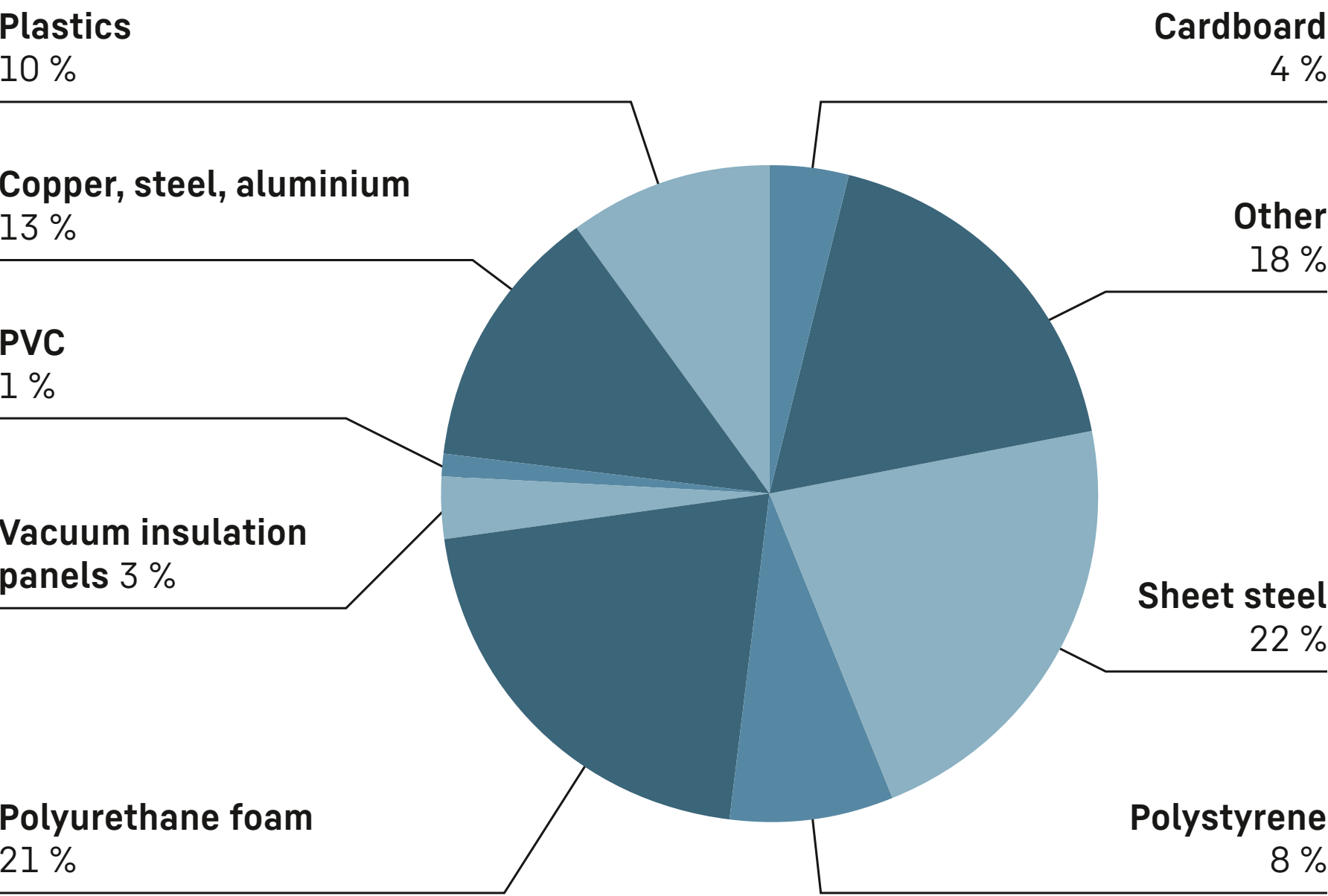
5. Refrigerant

Materials: Pure hydrocarbon-based refrigerant with low Global Warming Potential (GWP)

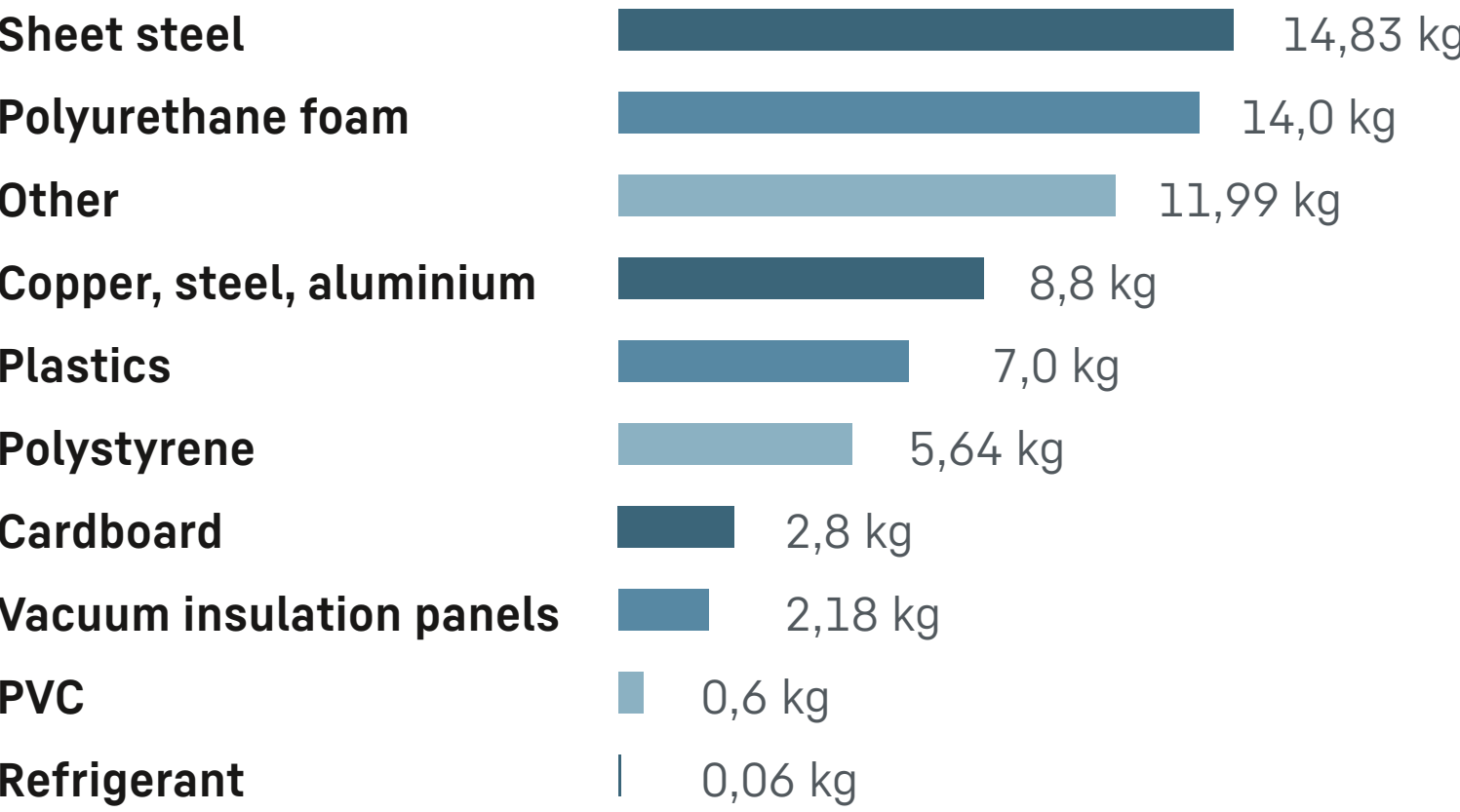
Function: The refrigerant circulates in a loop, absorbing heat and transporting it out of the interior of the appliance. It is designed to operate efficiently while minimising environmental impact. For 30 years we have been relying on hydrocarbon refrigerants, which provide efficient cooling with minimal environmental impact.



FNc 6625 – material distribution in percentage



FNc 6625 – material distribution in kg



Other components used in our appliances

1. Cooling technology

– Refrigerant circuit:

Materials: Copper or aluminium for piping

Function: The refrigerant circuit cools the interior by transporting the refrigerant. Copper and aluminium provide high thermal conductivity and corrosion resistance.

– Compressor:

Materials: Steel, copper (for windings), motor winding made of aluminium, approx. 200 ml of oil

Function: The compressor compacts the refrigerant, creating the pressure needed to drive the cooling process.

– Evaporator and condenser:

Materials: Copper or aluminium, with piping made of steel, copper, and aluminium

Function: The evaporator extracts heat from the interior air, while the condenser releases this heat to the exterior. The materials are chosen for their high thermal conductivity.

– Electronic components (conflict minerals):

Materials: Plastics for housing, copper for conductor tracks, silicon for semiconductors

Function: The electronic Components Control temperature, lighting, and other functions of

the cooling and freezing of fridges and freezers. These component must be reliable and durable and they have to ensure safety and functionality. They are replaceable and easy to repair.

2. Glass and plastics for shelves and drawers

Materials: Tempered glass, plastics

Function: Shelves and drawers provide stable storage for food and are easy to clean. They must also be temperature-resistant, robust, and food-safe to ensure no harmful substances are transferred to food.

Plastics: Used to reduce weight and offer specific shaping properties; currently challenging to recycle due to process.

Glass: Offers robustness, scratch resistance, ease of cleaning, and food safety. The safety glass shatters into small, blunt pieces to minimise injury risk. It is also long-lasting.

3. Flame retardants

Function: Flame retardants in plastics provide additional safety, even in the unlikely event of a fire. They comply with relevant safety regulations and do not come into contact with food.



Status quo packaging

Protecting our appliances during transport is a particular challenge. Packaging must pass strict transport and stacking tests to ensure product safety and quality. Additionally, our materials minimise moisture impact to preserve product integrity.

We have already taken steps to reduce the ecological footprint of our packaging. All components are easily separable and recyclable – no multilayer films or composite materials are used that could complicate recycling processes. We also focus on recyclable materials such as cardboard and have significantly reduced overall packaging. As part of our long-term commitment, we are continuously working to increase the use of renewable materials and recyclates.

Materials: Expanded polystyrene (EPS), cardboard, plastics

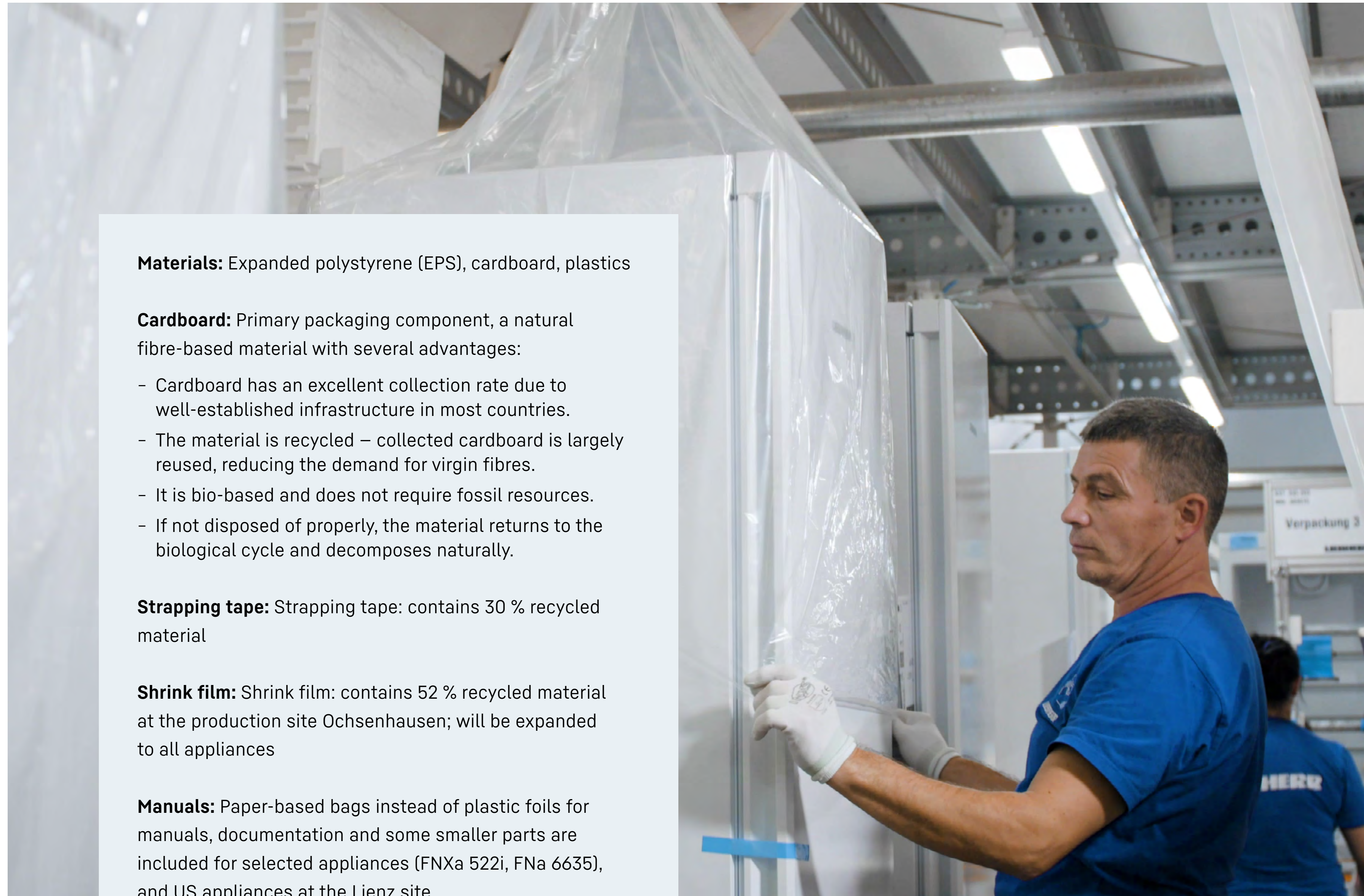
Cardboard: Primary packaging component, a natural fibre-based material with several advantages:

- Cardboard has an excellent collection rate due to well-established infrastructure in most countries.
- The material is recycled – collected cardboard is largely reused, reducing the demand for virgin fibres.
- It is bio-based and does not require fossil resources.
- If not disposed of properly, the material returns to the biological cycle and decomposes naturally.

Strapping tape: Strapping tape: contains 30 % recycled material

Shrink film: Shrink film: contains 52 % recycled material at the production site Ochsenhausen; will be expanded to all appliances

Manuals: Paper-based bags instead of plastic foils for manuals, documentation and some smaller parts are included for selected appliances (FNXa 522i, FNa 6635), and US appliances at the Lienz site.

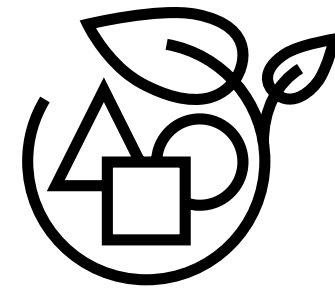


Evolution meets revolution.

Improving the present – innovating for the future

Liebherr Appliances is continuously advancing its material strategy by increasing the use of recyclates and bio-based materials while reducing material variety to enhance recyclability. Our focus is on developing more sustainable, efficient materials that align with circular economy principles. This commitment drives us to create appliances that not only meet today's standards but also contribute to the Sustainable Development Goals of the United Nations, shaping a more responsible future.

Additionally, we are pushing forward with groundbreaking innovations. BluRoX, our revolutionary insulation technology, is redefining sustainability in refrigeration and freezing while adopting principles of circular design.



Every choice matters.

The freestanding freezer FNa 6635 with eco-responsible materials

The FNa 6635 features 100 % recycled steel in its doors and side-walls, resulting in 80 % less CO₂ emissions during production compared to conventional steel. We have replaced traditional poly-vinyl chloride (PVC) with thermoplastic elastomer (TPE) for the door seal, ensuring durability and better recyclability. Both the insulation foam and inner lining contain recycled and bio-based materials on a mass balance basis, providing the same exceptional performance with less environmental impact. Also, we have further reduced the ecological footprint of our packaging, without compromising on transportation safety.

[FULL MATERIAL DOCUMENTATION FOR THE FNa 6635](#)

FNa 6635 – main material groups:

1. Housing

Materials: Green steel

Benefit: The material used for doors and side panels is made of 100 % recycled steel, produced using renewable energy in an electric furnace. This allows for a reduction in CO₂ emissions by 80 % compared to the production of conventional steel.

2. Door seal

Materials: TPE

Benefit: The door seal made from TPE combines optimal functionality with durability. The use of TPE reduces the introduction of chlorinated compounds into the environment. TPE is compatible with other plastic materials during the recycling process, allowing for greater efficiency in recycling.

3. Insulation foam

Materials: Bio-based foam

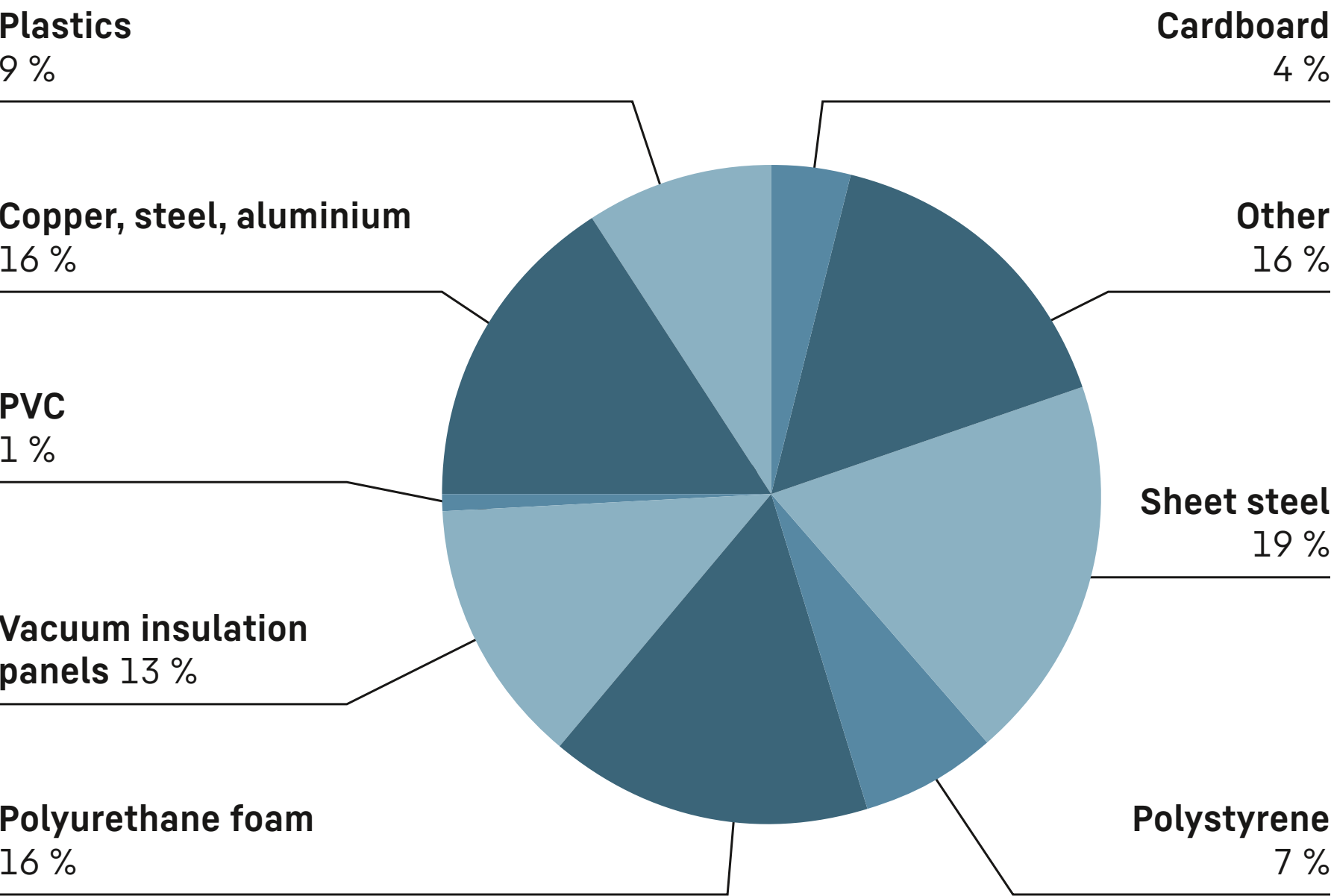
Benefit: For the foam insulation, we use the highest possible percentage of raw materials from recycled or bio-based sources in the mass-balance approach, ensuring maximum performance with reduced ecological impact.

4. Inner container

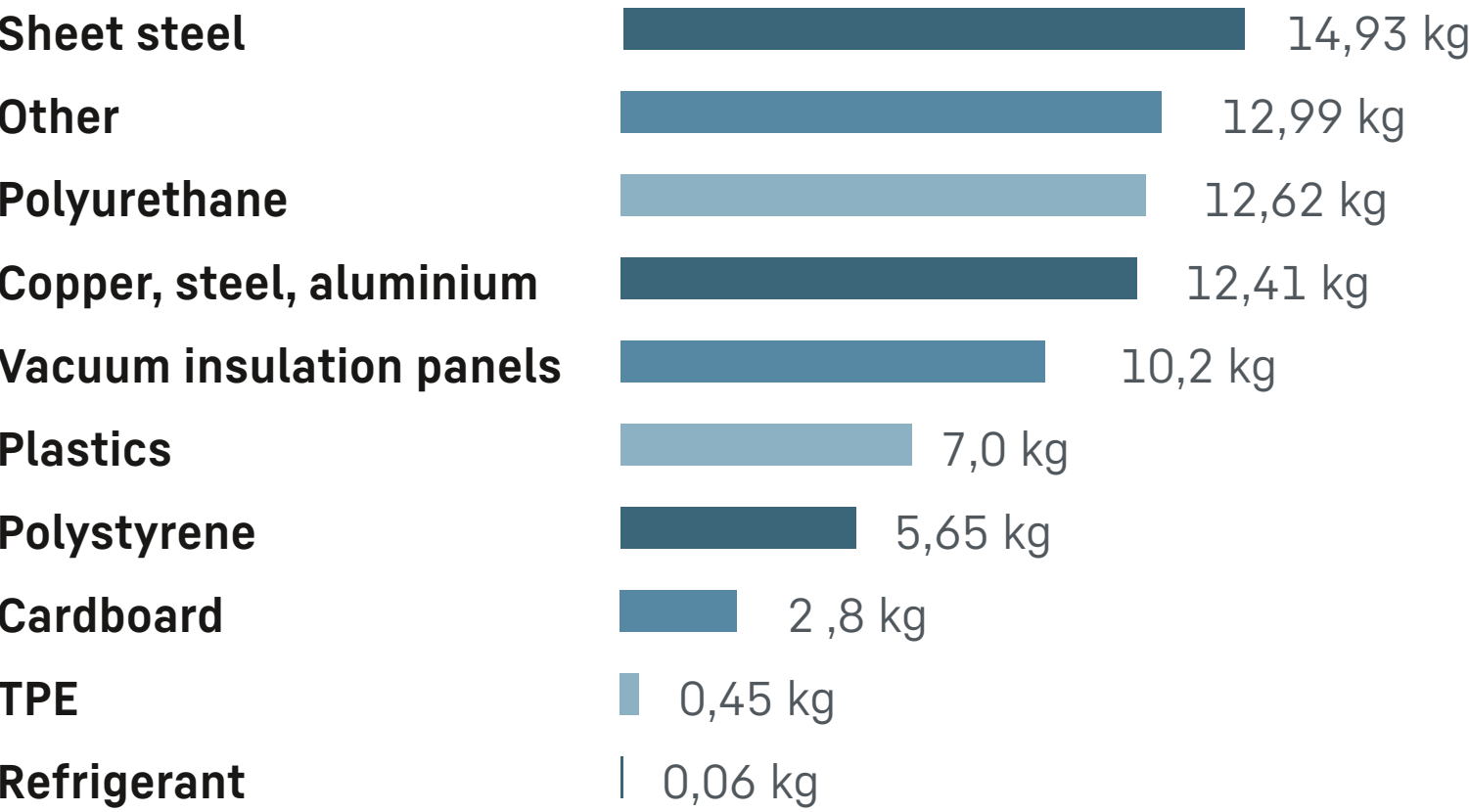
Materials: Plastic

Benefit: For the inner container, we use materials containing 55 % of recyclates from post-consumer waste in the mass-balance approach. This ensures optimal performance with a minimal ecological footprint.

FNa 6635 – material distribution in percentage



FNa 6635 – material distribution in kg

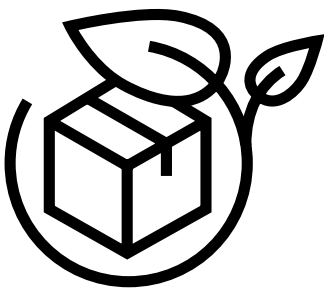


Our goals for future packaging

We are committed to introducing environmentally conscious packaging materials as part of a long-term process to reduce our carbon footprint. Each product presents unique challenges, such as size and transport requirements, demanding packaging that meets rigorous transport and stacking tests while upholding our high-quality standards – ensuring that safety and practicality go hand in hand with our sustainability efforts.

Optimising packaging volume and weight is a key part of our approach, helping to minimise material use and environmental impact. We aim to integrate packaging into existing recycling systems, with paper-based components standing out due to their high collection rates. We prioritise materials with high recycled content that are also easy to recycle, such as switching from polystyrene to more sustainable options for strapping tape and shrink wrap.

Our commitment to sustainability does not stop there. We continuously refine our packaging, eliminating unnecessary materials, increasing recycled content, and reducing plastic use – for example, replacing plastic bags with paper alternatives for accessories. With smarter packaging, we take meaningful steps toward a more sustainable future.



Packaging materials for our FNa 6635

1. Cardboard

Paper-based components are particularly advantageous, as they have the highest collection rates. Cardboard boasts excellent collection rates, thanks to well-established recycling infrastructures in most countries. As a fully recyclable material, it is largely reused, reducing the need for virgin fibres. Being bio-based, it requires no fossil resources. Even if improperly disposed of, cardboard naturally returns to the biological cycle and decomposes without harming the environment.

2. Recycled expanded polystyrene (rEPS)

For base and top cushioning, we use recycled expanded polystyrene (rEPS), commonly known as Styrofoam. This material is moisture-resistant, offers excellent cushioning properties, is lightweight, and fully recyclable. With 95 % recycled content, the rEPS we use is made almost entirely from recycled materials, supporting a functional circular economy.

3. Strapping tape

Our polypropylene (PP) strapping tape is composed of over 30 % recycled material, ensuring durability and the ability to support the appliance's weight, even when improperly used as a carrying aid.

Our goals and measures

- **Eliminate plastic use wherever possible.**
- **Starting in 2025, all sites will gradually switch from plastic to paper-based adhesive tapes.**
- **Continuous replacement of EPS**
 - Switch to paper-based materials for top cushioning instead of EPS.
 - By 2030, we aim to eliminate EPS for the majority of our appliances.



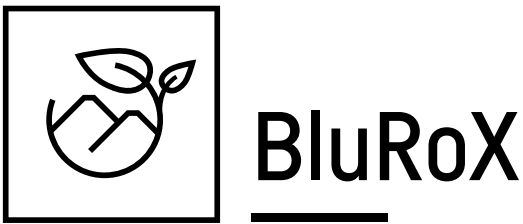


Innovation starts by breaking the mould.

BluRoX – rethinking the way we make things

We are constantly evaluating the way we build our appliances, starting with smarter material choices and minimising their use wherever possible. At the same time, we are driving innovation to develop technologies that transform how our appliances are designed and manufactured.

BluRoX is such an innovation. This technology combines volcanic rock and vacuum insulation, offering exceptional energy efficiency in a compact design. It significantly lowers energy consumption and sets a new standard in sustainable refrigeration.



Designed for circularity, perlite can be reused at the end of the appliance's lifecycle, while the insulation's separation from surrounding components allows for easy processing of the outer housing and inner container. BluRoX facilitates easy repairs and material reuse, contributing to a more sustainable and environmentally responsible lifecycle.

[MORE ABOUT OUR BLUROX TECHNOLOGY](#)

Regulations and requirements

Our appliances are subject to numerous legal regulations in various target markets. Since our primary focus is on European markets, we prioritise compliance with EU requirements. However, as many of our appliances are manufactured for additional markets worldwide, such as the Americas and Asia, they therefore have to meet the respective standards of those regions.

RoHS

The restriction of hazardous substances (RoHS) for electrical appliances is a "classic" regulation. The limits and bans – originally covering four heavy metals and two flame retardant groups, later expanded to include four plasticisers (phthalates) – have been adopted by numerous countries worldwide. This makes RoHS globally recognised and no longer a particular challenge.

REACH and SVHC

The European Chemicals Regulation (REACH) is an extensive law that governs the authorisation, labelling, and restriction of chemicals among other aspects. Since our appliances use very few chemicals, article 33 is the most relevant to us. This article requires disclosure of Substances of Very High Concern (SVHC) to customers. If an item contains any of these substances in concentrations exceeding 0.1 % by weight, this information must be passed through the supply chain. End customers can find information about SVHC in their appliances on our website. The frequent addition of new SVHCs (every six months) and limited awareness of the regulation across Europe still pose challenges. Additionally, appliances containing SVHC must be uploaded to the SCIP database (Substances of Concern in Products), where this information is publicly accessible for the entire lifecycle of products and materials.

[Check your product for SVHC substances according to REACH.](#)

Biocidal Products Regulation

This regulation governs the use of biocidal products, which must be approved for specific applications. For example, a biocide may be permitted for certain products but not for others. In our case, biocides are primarily used in door seals to prevent mould growth.

F-Gas Regulation

The European F-Gas Regulation governs the use of fluorinated gases and complements regulations on ozone-depleting substances (which include chlorine). Over the years, fluorinated gases with high Global Warming Potential have been increasingly restricted, and their availability in Europe has been reduced through quota systems.

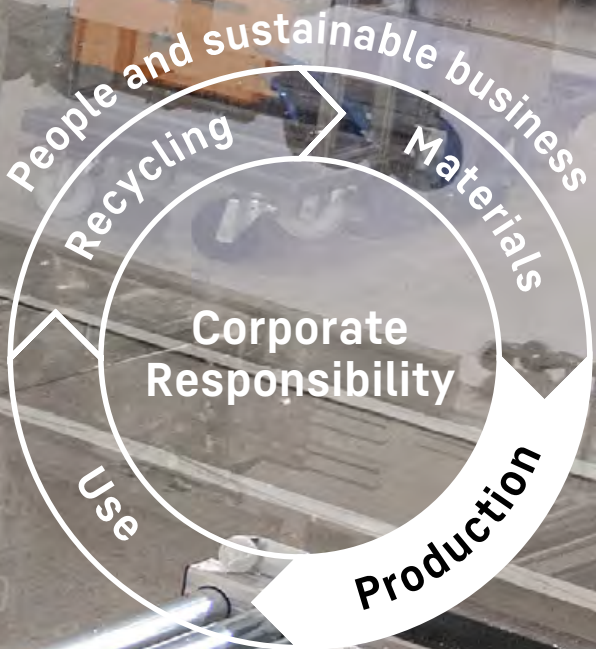
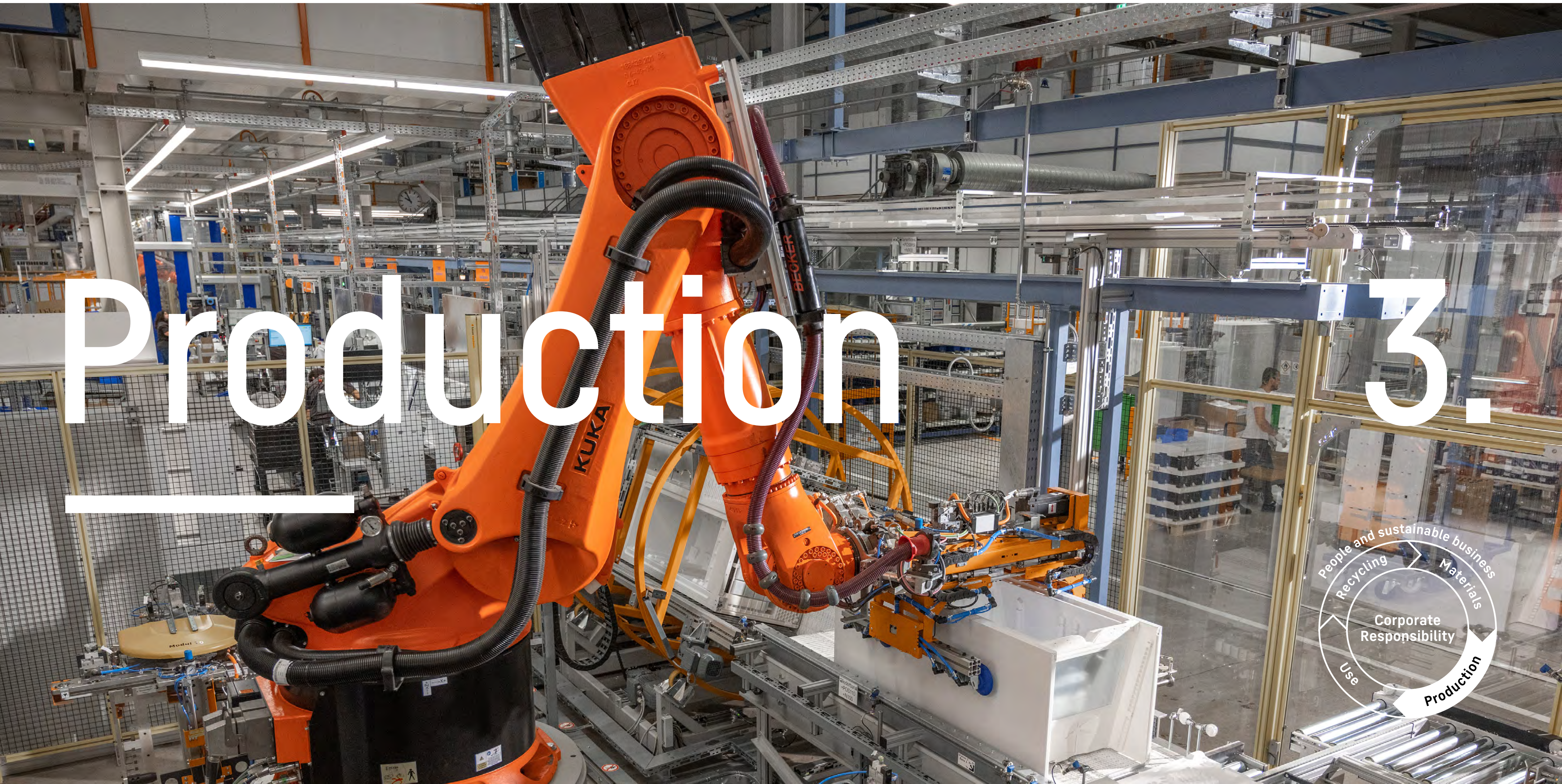
All our fridges and freezers have been insulated with hydrocarbon-based foaming agents since 1993. Since 1996, only pure hydrocarbons (predominantly R600a) have been used as refrigerants in Liebherr's household appliances worldwide. Until 2020, we used fluorinated refrigerants in some professional appliances, but we began transitioning these products to hydrocabon-based refrigerants in 2013. Since 2023, however, we have been offering two professional appliance types that use an HF(C)O-based foaming agent with a GWP lower than 4. Aside from these exceptions, fluorinated gases have been eliminated from our appliances.

EUDR (from 30.12.2025)

The upcoming European Union Deforestation Regulation (EUDR) is a critical step in combating global deforestation and ensuring sustainable supply chains. It requires companies operating in the EU to demonstrate that products placed on

the market do not contribute to deforestation or forest degradation. This involves strict due diligence processes, including the traceability of raw materials and ensuring compliance with legal requirements in the country of origin.

The EUDR aligns with our commitment to responsible sourcing and environmental stewardship. We continuously evaluate and enhance our supply chain practices to ensure materials used in our products meet the highest sustainability standards.



Operating responsibly – wherever we are

An overview of our Liebherr Appliances production sites around the world

Liebherr Appliances' state-of-the-art production sites around the world are continuously working to uphold and improve our high standards of quality, sustainability, and innovation. Our facilities, located in Germany, Austria, Bulgaria, Malaysia, and India, each play a crucial role in delivering high-quality refrigeration and freezing solutions.

At every site, we integrate our commitment to environmental responsibility into each step of the manufacturing process. With a focus on

optimising energy efficiency, and reducing emissions, our production facilities contribute to our global vision of sustainable growth while also supporting local communities.

Our decentralised organisational structure allows each site to adapt to local market demands while maintaining a consistent commitment to sustainability and corporate responsibility across all locations.



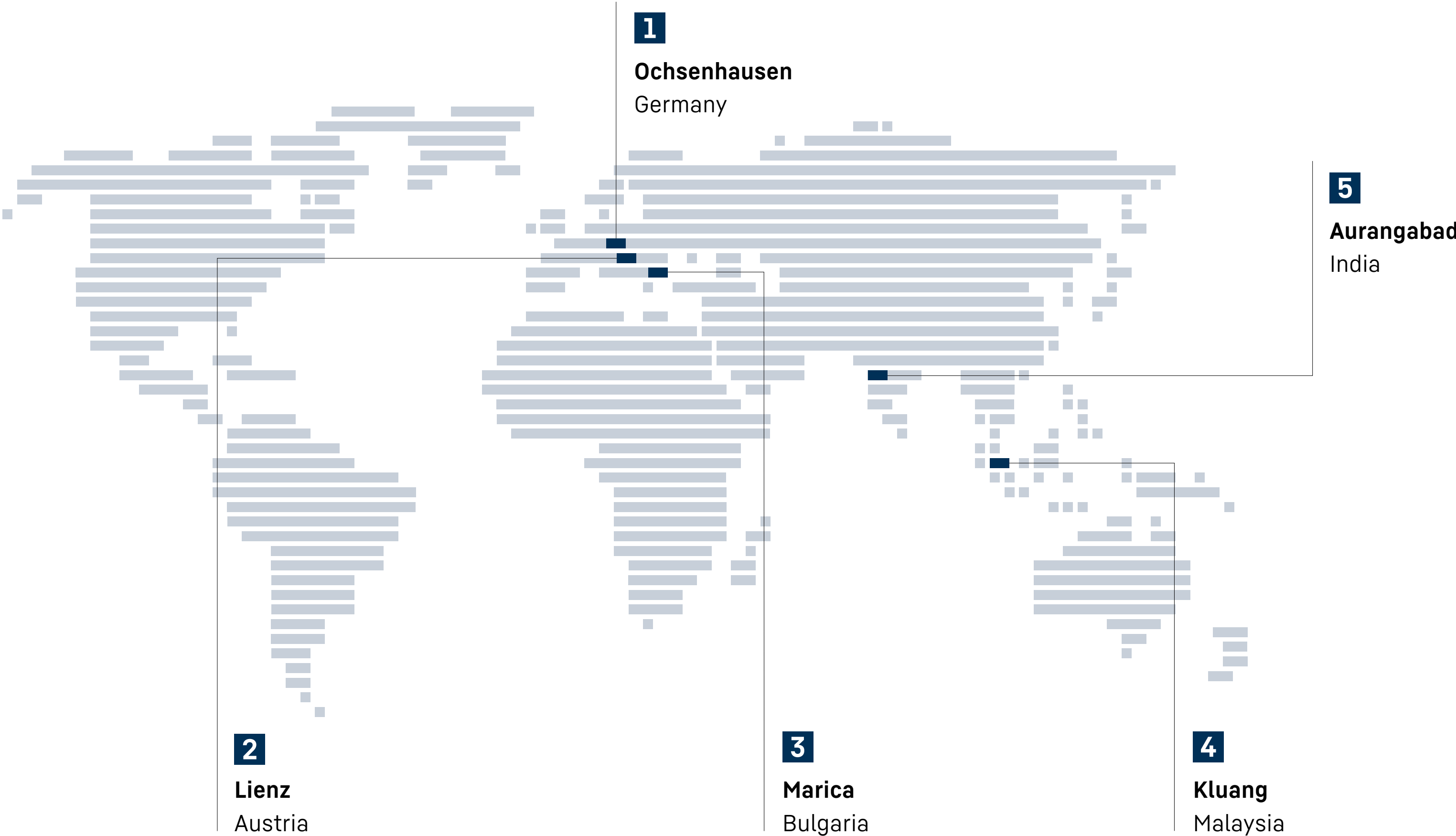
Liebherr-Hausgeräte GmbH

production sites

Words are good. Facts are better.

We have implemented certified environmental and energy management systems across many sites. Our focus is on energy efficiency, green power adoption, and reducing greenhouse gas emissions. For the whole Liebherr Group, an expert group on the topic of Corporate Carbon Footprint has been established to calculate and track Liebherr’s emissions, covering Scope 1 (direct emissions) and Scope 2 (indirect emissions from purchased energy). Efforts are ongoing to consolidate data for Scope 3 emissions (indirect emissions from the value chain).

Our initiatives also extend to waste reduction, recycling, and sustainable water management, especially in high-stress areas. Employee health and safety are prioritised and supported by comprehensive training and compliance measures. We ensure responsible supply chain management and maintain sustainable logistics practices to minimise our overall impact.



Ochsenhausen, Germany

Founded in 1954, Ochsenhausen is the headquarters and largest production site of Liebherr appliances. With 2,045 employees (as of december 2024), the site produces premium fridges and freezers, including fully integrated and freestanding models. The continuous expansion has shaped the site, including the opening of a Customer Centre in 2019.

Sustainability is at the core of operations. The site runs on renewable energy, including a 2 MWp photovoltaic system, and achieves a 95 % recycling rate, based on the total volume of waste generated at the site. The employee suggestion scheme drives improvements in efficiency and environmental performance, ensuring continuous progress.

Ochsenhausen is dedicated to its community, supporting student career programs and hosting an engineering competition with local schools. In collaboration with the Kneipp Association, it has created a 10-hectare biodiversity biotope to enhance local ecosystems.

Additionally, the canteen reduced waste by eliminating plastic packaging, using locally sourced food, and donating surplus baked goods in perfect condition to the St. Martin's Food Bank in Ochsenhausen, which supports those in need.



Key facts

- Founded:** 1954
- Company premises:** 310,000 m²
- Production focus:**
 - Premium household appliances
 - Fully integrated appliances: Fridge-freezers, fridges, freezers, and wine cabinets
 - Freestanding appliances: High-quality fridge-freezers and freezers

Key facts

- Founded:** 1980
- Company premises:** 210,000 m²
- Production focus:**
- Energy-efficient household and professional appliances
 - Freestanding appliances:
Fridges and freezers
 - Chest freezers:
For professional applications
 - Professional appliances:
Fridges
 - Integrated appliances under worktop

Lienz, Austria

Nestled in the stunning Dolomite mountains, the Lienz site has been a key Liebherr production facility since 1980. With 1,342 employees (as of december 2024) it produces energy-efficient refrigerators and freezers, catering to both household and professional markets. The focus is on high-quality, customisable appliances that prioritise sustainability and performance.

Lienz is a leader in environmentally responsible manufacturing in Austria, running on 100% green electricity since 2014 and using energy-efficient district heating. A deep well system efficiently supplies cooling water for production while preserving natural resources.

Marica, Bulgaria

Founded in 1999, the Marica site near the historic city of Plovdiv has grown into one of our largest production facilities, employing approx. 1,800 people (as of december 2024). The site produces fridges and freezers for global and professional markets. Its strategic location in a historic trade region strengthens Liebherr Appliance's position in Europe.

Committed to sustainability, Marica maintains a 91 % recycling rate based on the total volume of waste generated at the production site. It operates a deep well water system, and monitors energy consumption with advanced tracking software. The site is also active in community initiatives, partnering with Plovdiv’s city administration for environmental projects like “Active Green Day” annually.



Key facts

- Founded:** 1999
- Company premises:** 252,750 m²
- Production focus:**
- High-value, cost-efficient fridges
 - Freestanding appliances: From entry-level fridges and fridge-freezers to high-end appliances
 - Wine appliances: high-end appliances for wine storage with two or three adjustable temperature zones

Key facts

Founded: 1986 (part of Liebherr since 2007)

Company premises: 22,000 m²

Production focus:

- Appliances designed specifically for the Asia-Pacific market
- Freestanding appliances: Fridge-freezers
- Chest freezers: Models for households and small businesses



Kluang, Malaysia

Since 2007, the Kluang site has been an integral part of Liebherr’s production network, focusing on professional refrigeration for the Asia-Pacific markets. The site has around 350 employees (as of december 2024), strengthening Liebherr’s regional presence.

Aurangabad, India

Liebherr’s newest production site opened in 2018 in Chhatrapati Sambhaji Nagar, formerly known as Aurangabad, India. The Government of Maharashtra officially renamed Aurangabad to Chhatrapati Sambhaji Nagar in 2023. This site specifically caters to the Indian market and spans 50 hectares, employing approximately 320 people as of december 2024. With an expandable production capacity, the site is well-positioned for future growth, reinforcing Liebherr’s long-term commitment to the region. Sustainability is a growing priority here: in 2023, a 1 MW photovoltaic system was installed, and a rainwater collection system now captures 625,000 litres annually to help replenish groundwater and reduce water stress in the region.



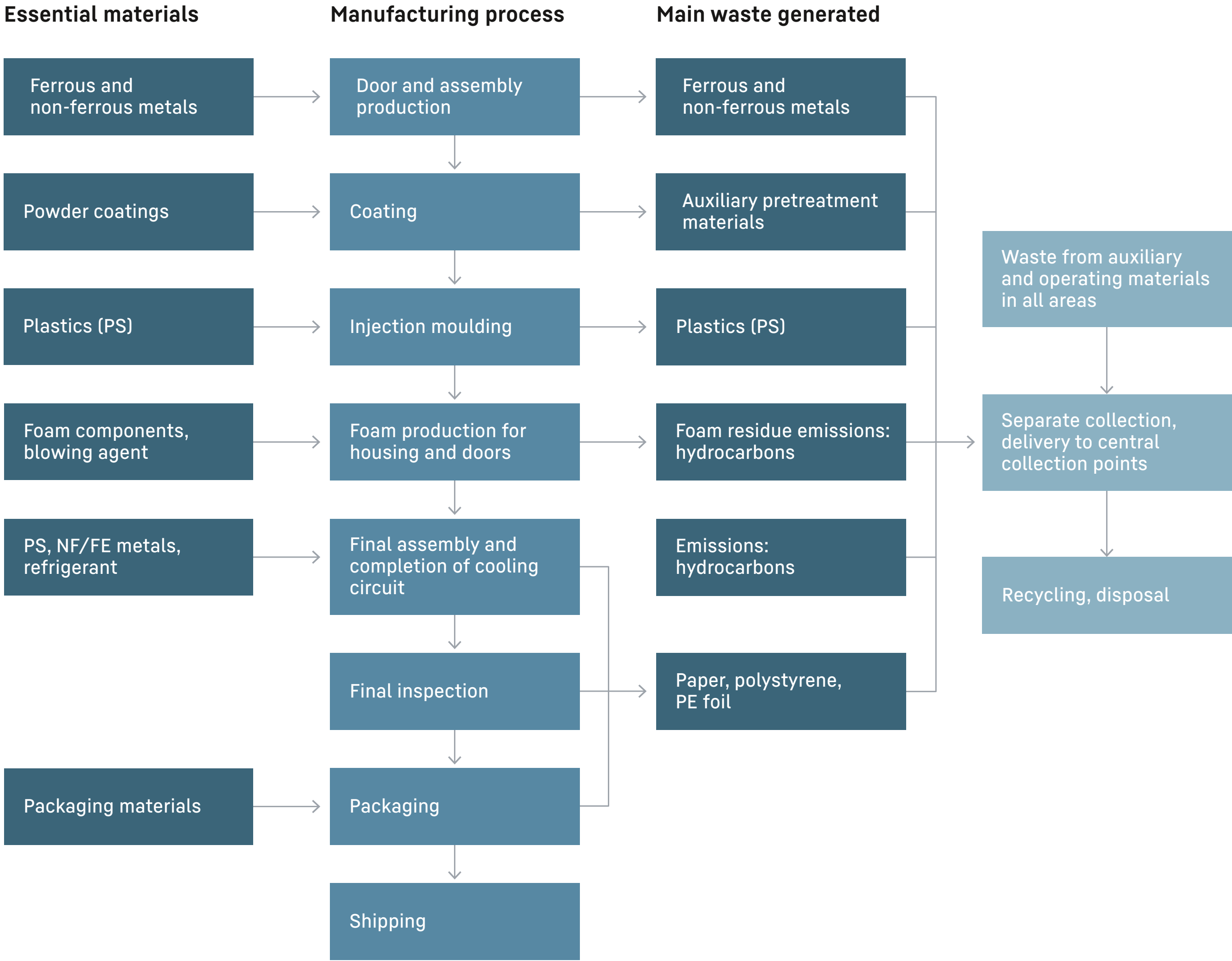
Key facts

- Founded:** 2017
- Company premises:** 200,000 m²
- Production focus:**
- Appliances designed specifically for the Indian market
 - Freestanding appliances: Fridge-freezers and fridges
 - Chest freezers: Models for households and small businesses



Production process and waste stream

Rough representation
of production processes
with the main material
and waste streams





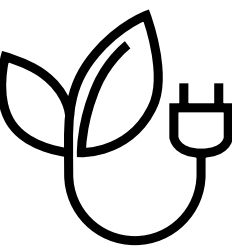
Our progress
in numbers



Key figures across our focus topics

Our commitment to responsible business practices, environmental stewardship, and employee well-being drives continuous improvement. While challenges remain, our progress reflects meaningful steps toward a more sustainable future.

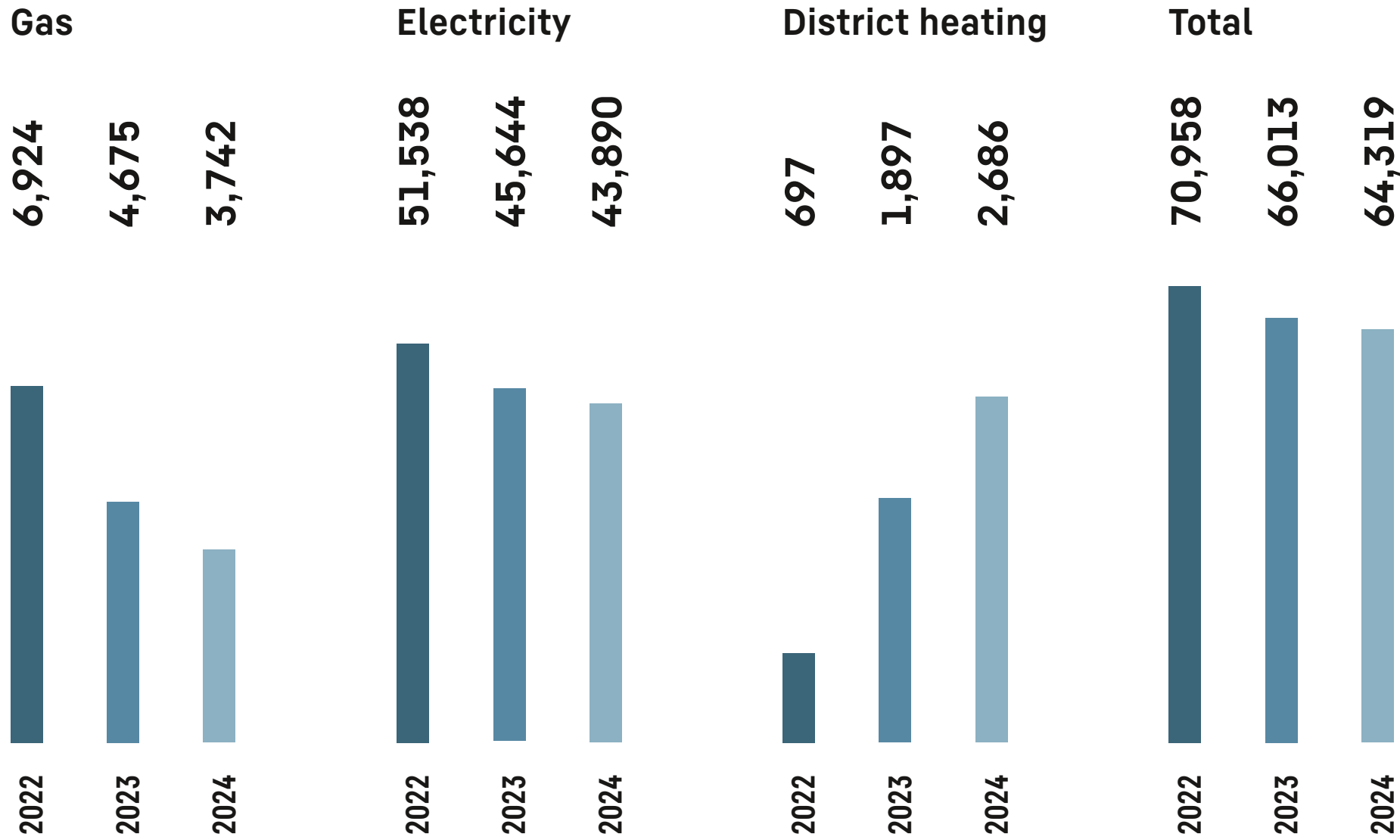
We are committed to environmentally conscious production, reducing energy demand and increasing the use of renewable energy. Beyond carbon reduction, we minimise waste, manage water responsibly, and prevent contamination, ensuring our environmental impact is reduced across all areas of operation.



Energy consumption

Liebherr Appliances has reduced overall energy consumption by 9 % since 2022. To reduce energy consumption, ISO 50001-certified management systems track and optimise usage across its European sites (Ochsenhausen, Lienz, Marica). Further efficiency measures include building renovations, intelligent LED lighting, process optimisations, and a cross-site monitoring system to ensure continuous improvement of energy management.

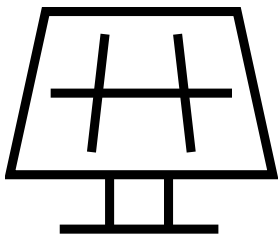
Consumption of main energy sources in MWh*



*at all five production sites of Liebherr Appliances

Key facts and measures

- 9 % energy reduction (6,639 MWH) since 2022
- Monitoring and reporting:
Tracks energy flows and efficiency
- ISO 50001 at our three European production sites
- Upgraded insulation and smart LED lighting
- Ochsenhausen: Energy storage and central heating
- Production site Lienz:
Deep well system and district heating



Expansion of renewable energy

Liebherr Appliances is expanding its use of renewable energy across its production sites. This includes photovoltaic systems, already installed in the factories in Ochsenhausen and Sambhaji Nagar (3 MW in total). The sites in Lienz and Ochsenhausen have been running on 100 % green electricity since 2014 and 2018.

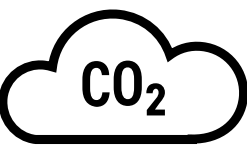
Additional measures to promote renewable energy include self-generated solar water heating in Marica and the utilisation of air heat from compressed air and deep well water in Lienz.

We are continuously advancing our sustainability efforts by expanding the use of renewable energy across our production sites in the long term. These initiatives are a cornerstone of our strategy to reduce our carbon footprint.

Key facts and measures

- Approx. 5,000 MWh generated from PV systems in Ochsenhausen since 2022
- 100 % green electricity at our sites in Lienz and Ochsenhausen
- Use of air heat by compressed air and deep well water for cooling at Lienz production site
- Marica: Self-generated solar water heating – 11 MWh savings per year
- Aurangabad: 1 MW PV system, installed 2023





CO₂ emissions

Liebherr Appliances’ is committed to continuously reducing CO₂ emissions in the coming years through targeted measures, with specific goals currently being defined. Our primary goal is to avoid and reduce CO₂ emissions before considering compensation strategies. Our direct CO₂ emissions (Scope 1) stem from gas and fuel used at our production sites, while indirect emissions (Scope 2) mainly result from electricity consumption and district heating.

In 2024, total CO₂ emissions reached 30,576 tonnes, with 8,554 tonnes from Scope 1 (direct emissions from gas and fuel) and 22,022 tonnes from Scope 2 (indirect emissions from electricity and heating). To cut emissions, we are switching to green electricity – already in place at the production sites in Lienz and Ochsenhausen – and expanding renewable energy like photovoltaic systems.

CO₂ emissions*

	Scope 1	Scope 2	Total
2022	4,606	31,441	36,047
2023	5,360	22,364	27,724
2024	8,554	22,022	30,576

* at all five production sites of Liebherr Appliances in tonnes CO₂ eq

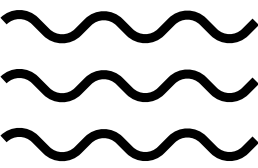
Key facts and measures

- -15 % CO₂ emission reduction since 2022 (5,471 t)
- Direct CO₂ emissions (Scope 1): 8,554 tonnes (2024)
- Indirect CO₂ missions (Scope 2): 22,022 tonnes (2024)
- 100 % green electricity at Lienz and Ochsenhausen production sites
- Monitoring and reporting: CO₂ emissions tracked across sites, with KPIs for energy intensity and plant base load.

Compared to the year 2022, Liebherr Appliances were able to reduce CO₂ emissions in Scope 1 and 2 by approximately 15 %. The data points and measurement bases of the environmental indicators presented have been gradually adjusted between 2022 and 2024. The increase in Scope 1 emissions from 2023 to 2024 is primarily due to energy sources for internal production processes and process adjustments.

We are also improving the energy efficiency of our appliances, optimising processes to use less gas and compressed air, and making logistics more sustainable through regional sourcing and efficient lorry loading. These are measures that contribute to reducing Scope 3 emissions, which currently cannot yet be fully tracked comprehensively. Efforts are ongoing to consolidate data for Scope 3 emissions.

Scope 3 emissions include all indirect emissions across a company's entire value chain – from the production of purchased goods and services to transportation, business travel, employee commuting, product use, and disposal. Additionally, we closely monitor CO₂ emissions through cross-site reporting, and key performance indicators, ensuring continuous progress toward a lower carbon footprint.



Water

Liebherr Appliances is committed to conserving natural resources and using water responsibly. Since 2022, measures such as optimised cooling, reduced paint water use, and process water recycling have helped maintain water consumption at a sustainable level (-1 %).

Our production sites in Lienz and Marica use well water alongside public supply. The Lienz site has sourced cooling water from a deep well since 2013, returning it via a dual-circuit system with a heat exchanger to prevent groundwater contamination. This well also irrigates green spaces and cools server rooms. A rainwater collection system in Sambhaji Nagar captures 625,000 litres annually from the roof, helping to replenish groundwater and mitigate water stress in the region.

Waste water discharge at the sites in Ochsenhausen, Lienz, Marica, and Kluang, totalled 46,942 m³ in 2024, all carefully monitored. Comparable data for India was not available due to local specificities. Ongoing efforts, such as expanding well water use and installing groundwater heat pumps, support sustainable water management.

Total water consumption*



Waste water discharged



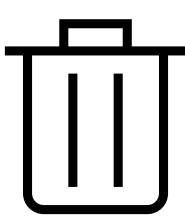
* at the Ochsenhausen, Marica, Lienz and Kluang production sites in m³ water consumption without well cooling of the production site in Lienz. The European Sustainability Reporting Standards (ESRS) define this as water consumption, although no water is contaminated. This would lead to a higher number in the water consumption.

The water consumption following the ESRS would be:

2022: 824,749
2023: 837,048
2024: 844,130

Key facts and measures

- Deep well at our sites in Lienz and Marica
- Rainwater collection system at our site in Aurangabad

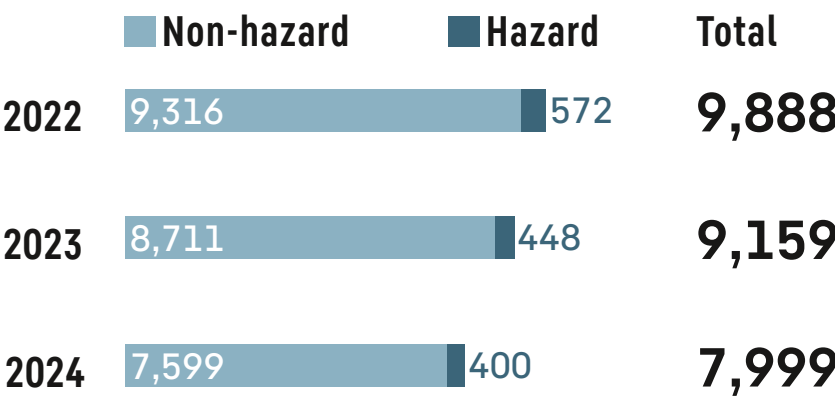


Waste

We firmly believe in closing the loop – minimising waste and keeping valuable materials in use for as long as possible. By prioritising circularity, we are reducing waste, optimising disposal processes, and increasing recycling rates to preserve resources and lower our environmental impact. Through process optimisations and production adjustments, we were able to reduce the total amount of waste at the sites of Ochsenhausen, Lienz, Marica and Kluang from 9,888 tonnes (2022) to 7,999 tonnes (2024), which is approximately 19 %.

A key focus of our efforts was on reducing hazardous waste. Hazardous waste is subject to strict regulations and must be treated using special processes to prevent environmental damage. These include recycling, safe landfilling, incineration or chemical neutralization. Between 2022 and 2024, we successfully reduced hazardous waste across all production sites by 30 %, lowering it from 572 tonnes to 400 tonnes.

Trend in total waste generated*



Key facts and measures*

- Total waste: 7,999 tonnes across all sites (2024)
- Reduction by 19 % since 2022 (1,889 tonnes)
- Hazardous waste reduced by 30 % from 572 tonnes to 400 tonnes (2022–2024).

* at the Ochsenhausen, Lienz, Marica and Kluang production sites in tonnes

Accurate waste monitoring is essential to identify optimisation potential, reduce environmental impact, and ensure efficient resource management.

An example of our precise monitoring: In 2024, the Marica plant recorded a waste generation of 65.29 kg per tonne of production and 4.07 kg per appliance.

Liebherr Appliances works closely with recyclers to improve material recovery and reduce environmental impact. At the Ochsenhausen production site, a careful waste separation system has pushed the recycling rate close to 95 %. The factory in Lienz has optimised water use in powder coating, reducing waste disposal frequency. Marica's waste separation system enables 91 % of waste to be recycled, with minimal landfill contributions.

EcoVadis

Liebherr Appliances is committed to enhancing its sustainability performance, as demonstrated by its EcoVadis rating, which evaluates corporate social responsibility across areas such as environmental impact, labour practices, ethics, and sustainable procurement.

EcoVadis, a leading global sustainability rating platform, assesses companies on environmental, social, and ethical performance. Liebherr Appliances consistently ranks among the top performers in its industry, particularly in environmental sustainability and responsible sourcing. This reflects our dedication to integrating corporate responsibility into our operations and continuously improving policies to reduce environmental impact.

Sustainability remains a key focus, with initiatives aimed at optimising resource efficiency, ethical supply chain management, and employee well-being. External evaluations provide valuable insights that support ongoing improvements in responsible business practices.

[MORE ABOUT OUR ECOVADIS RATING](#)

Liebherr Appliances holds several ISO certifications. These internationally recognised standards ensure that the company maintains high operational and sustainability benchmarks.

ISO 9001 (Quality Management):

This certification guarantees structured processes for maintaining consistent product quality, customer satisfaction, and continuous improvement. Regular internal and external audits ensure compliance.

ISO 14001 (Environmental Management):

This certification establishes a framework for reducing environmental impact, improving resource efficiency, and ensuring compliance with environmental regulations. It helps organisations implement sustainable practices and continuously enhance their environmental performance.

ISO 45001

(Occupational Health & Safety Management):

This certification ensures a structured approach to workplace safety, risk reduction, and employee well-being. It focuses on preventing work-related injuries and illnesses while promoting a safe and healthy work environment.

ISO 50001 (Energy Management):

This certification highlights the company’s efforts to optimise energy use, systematically improve efficiency, and monitor energy flows across our European sites.

ISO certifications at Liebherr Appliances production sites:

Ochsenhausen (Germany):

ISO 9001, ISO 14001, ISO 50001, ISO 45001

Lienz (Austria):

ISO 9001, ISO 14001, ISO 50001, ISO 45001

Marica (Bulgaria):

ISO 9001, ISO 14001, ISO 50001, ISO 45001

Sambhaji Nagar (India):

ISO 9001

Kluang (Malaysia):

ISO 14001, ISO 9001



View our certificates

- ISO 14001:2015 DE
- ISO 14001:2015 EN
- ISO 50001:2018 DE
- ISO 50001:2018 EN
- ISO 9001:2015 DE
- ISO 9001:2015 EN
- ISO 45001:2018 DE
- ISO 45001:2018 EN

Use



4.



Always on – always improving

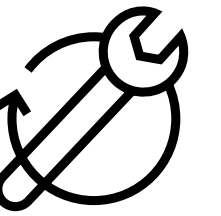
Optimising the use phase of our appliances

The use phase contributes greatly to the environmental impact of an appliance. That is why we focus on energy efficiency, durability, and reparability – ensuring long-lasting performance while reducing costs and footprint. Our technologies also help minimise food waste, supporting a more sustainable way of storing and preserving food.





Making it last. And last. And last.



Durability and repairability of our appliances

At Liebherr, durability and repairability are central to our philosophy and sustainability strategy. Whether for household or professional consumers, our appliances are designed to deliver long-lasting quality and reliability, ensuring efficient use over many years. By extending product lifespans, we reduce resource consumption and waste, promoting a more responsible use of resources.

We craft our appliances using high-quality materials, subjecting every component to rigorous testing to ensure reliability and longevity. Features like easy-to-repair designs and readily available spare parts further minimise downtime and align with regulations such as the EU Ecodesign Directive, which prioritises repairability and extended product use.

Durable products not only conserve resources but also provide our customers with long-term value. Through robust materials, precise engineering, and a global service network, we support a more sustainable lifestyle. This commitment reflects our responsibility to the environment, our customers, and future generations, reaffirming our dedication to sustainability and customer trust.

Materials that stand the test of time

We are driven by a commitment to deliver appliances that embody our promise of exceptional quality, timeless design, and genuine value. Durability and reliability are central to our philosophy, ensuring long-term performance and environmental responsibility. By carefully selecting high-quality materials, we minimise the need for frequent replacements, enhancing sustainability and customer satisfaction.

Our dedication to excellence extends to every detail. To make maintenance easier and reduce the need for harsh cleaning agents, we use stainless steel with an anti-fingerprint finish. Interior materials are specifically chosen for their easy-to-clean properties, which not only prolong the appliance's lifespan but also reduce the environmental impact of cleaning over time.

Through ongoing innovation, precision, and a focus on longevity, we create appliances that seamlessly combine functionality, aesthetics, and sustainability, delivering reliable performance for years to come.

For an in-depth look at the materials we use, visit the [Materials](#) section.





Examples of outstanding quality

BluRoX – insulation for long-lasting energy efficiency

Our latest innovation is the patented BluRoX technology. It uses a more effective form of cold insulation: a vacuum. Finely ground lava stone, known as perlite, stabilises the vacuumed components. BluRoX ensures optimal thermal performance over the entire lifetime of an appliance. This was determined through long-term measurement series with various samples in Liebherr's laboratories.

[MORE ABOUT OUR BLUROX TECHNOLOGY](#)

Timeless design

Liebherr appliances are more than functional – they are a style statement. With their timeless design, they seamlessly integrate into any space, maintaining a modern and elegant appearance even after years of use. At Liebherr, form and function go hand in hand to deliver enduring value.

Durable interiors: drawers built to last a lifetime

The interiors of Liebherr appliances reflect our commitment to durability. Drawers and shelves are made from robust materials designed to withstand heavy use while maintaining reliable functionality for decades.

[SEE THE MATERIAL WE USE](#)

The test of time

At Liebherr, our commitment to quality extends to even the smallest components. Take, for example, our door hinges: before they are approved for use, they must endure at least 100,000 opening cycles, equivalent to over 15 years of regular use. This rigorous testing isn't limited to hinges – all functional parts of our appliances are evaluated to meet the same high standards for durability and reliability. Our dedication ensures that every component contributes to a long-lasting, high-performance appliance.



Service quality for long-lasting appliances

Liebherr appliances – both household and professional – are built for a minimum lifespan of **15 years**, significantly above the industry average. Designed for repair, they can be restored to operation when needed. Service specialists receive continuous training, including online courses, to stay updated on targeted diagnosis approaches and repair concepts.

Always available: our Liebherr service hotline
At Liebherr, we listen to our customers. Whether they have questions about refrigeration and freezing or need support, our service team is there to help. For their convenience, all our call agents are accessible through our hotline: one number for all the customer's needs.

[SEE OUR SERVICE PAGE](#)

Exceptional service quality
With a global network of authorised service partners, Liebherr ensures fast and efficient solutions. In approximately 85 % of cases, our technicians resolve issues on the first visit – sometimes even

remotely, eliminating the need for a visit altogether. Regular training ensures they stay well-prepared to offer knowledgeable and efficient assistance. This approach reflects our commitment to supporting customers and maintaining the high standards of our appliances.

[SEE OUR SERVICE PAGE](#)

With our own sales and service companies in key regions and a network of service partners and Liebherr field service technicians in some areas, we provide clear guidelines to maintain customer-oriented service. This structure allows for prompt repairs and reliable customer assistance.

Finding local service has never been easier
To find the nearest authorised Liebherr service partner, customers can visit our website and use the online search tool to find qualified dealers and our service teams in their area.

[FIND AUTHORISED LIEBHERR APPLIANCES DEALERS](#)
[FIND LIEBHERR APPLIANCES TRADE AND SERVICE PARTNERS](#)

Manufacturer's warranty that goes beyond
Freshness without compromise: in many regions, our fridges and freezers come with a two-year manufacturer's warranty, covering the costs of remedying defects caused by material or production faults. In selected countries, customers have the option to extend this warranty with the WarrantyPlus certificate.

[EXTENDED WARRANTY](#)

Enjoy peace of mind with **Liebherr's 10-year manufacturer's guarantee**. In Germany and other select markets, customers can purchase an energy-efficient promotional model before 31 December 2025 and register their appliance online within 12 months via the SmartDevice app or our web form.

Pre-sales support: finding the perfect fit
When searching for a new fridge or freezer, customers can share their priorities with us. We will assist them in finding the perfect model. In selected markets, our product experts are

available through phone, email, or social media to answer any essential questions before making a purchase.

Customers who already own a Liebherr appliance can count on our team for guidance on usage and care, ensuring they get the most out of their appliance anytime and anywhere.

[FIND AUTHORISED LIEBHERR APPLIANCES DEALERS](#)
[FIND LIEBHERR APPLIANCES TRADE AND SERVICE PARTNERS](#)



Spare parts availability for long-term support

As of 2023, we've increased spare parts availability from **10 to 15 years after the end of production** for each model. This applies to all functional components and stockable equipment parts and surpasses the seven-year requirement set by the Ecodesign Regulation. This extended availability is retroactively guaranteed for all appliances produced since **January 1, 2021**, ensuring customers can repair and extend the lifespan of their appliances.

We ensure that spare parts can be replaced using commercially available tools, making repairs easier for professional technicians. Certain components, such as interior fittings, can also be replaced by customers with basic repair skills. Relevant documentation, such as operating instructions, can be downloaded from the Liebherr website. Additionally, information on spare part availability and ordering options is provided.



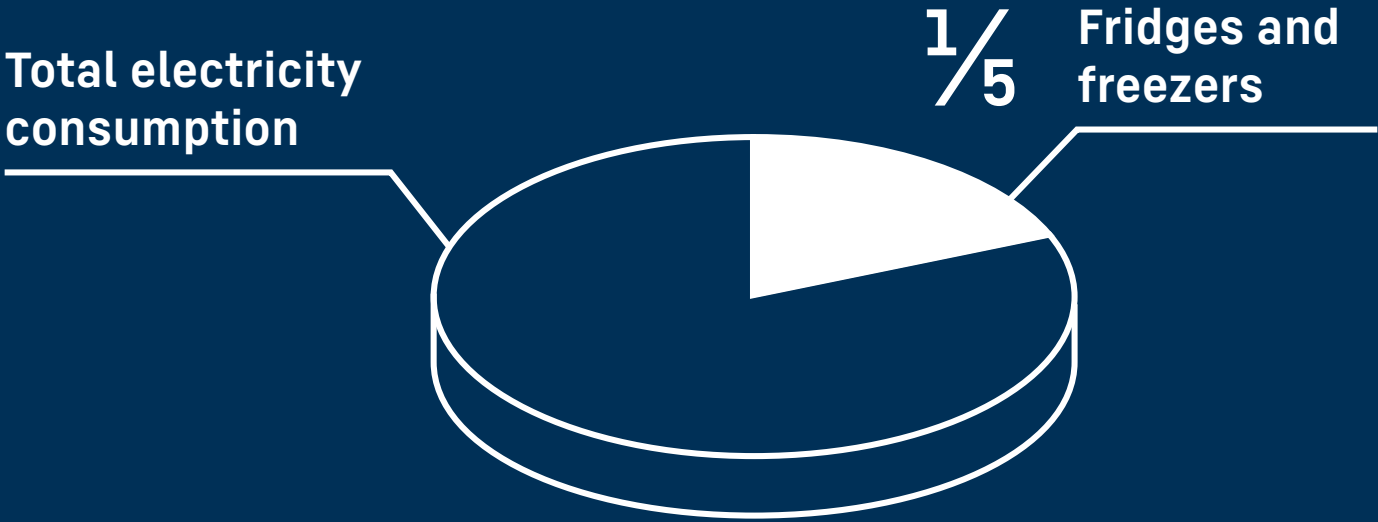


Better cost
efficiency –
better for the
environment



How energy efficiency makes an impact

Rising energy costs and climate change are pressing challenges. In Germany, for example, fridges and freezers account for approximately 20 % of the electricity consumption in an average household* (Germany).



*Source: German Environment Agency (UBA), 2023.
Based on an average household in Germany.

The use phase accounts for the majority of their environmental impact – up to 90 % for less energy-efficient models. This makes improving energy performance a top priority for us and our customers.

By optimising refrigeration components, insulation materials, and operational systems, we continue to enhance energy efficiency, lowering both environmental impact and energy costs over an appliance’s 15-year lifespan.

Customers also play a crucial role in reducing the carbon footprint of their appliances by choosing climate-friendly energy sources. Together, these efforts highlight our commitment to designing appliances that not only perform exceptionally but also help build a more sustainable future.

Source: [UMWELTBUNDESAMT 2024](#)

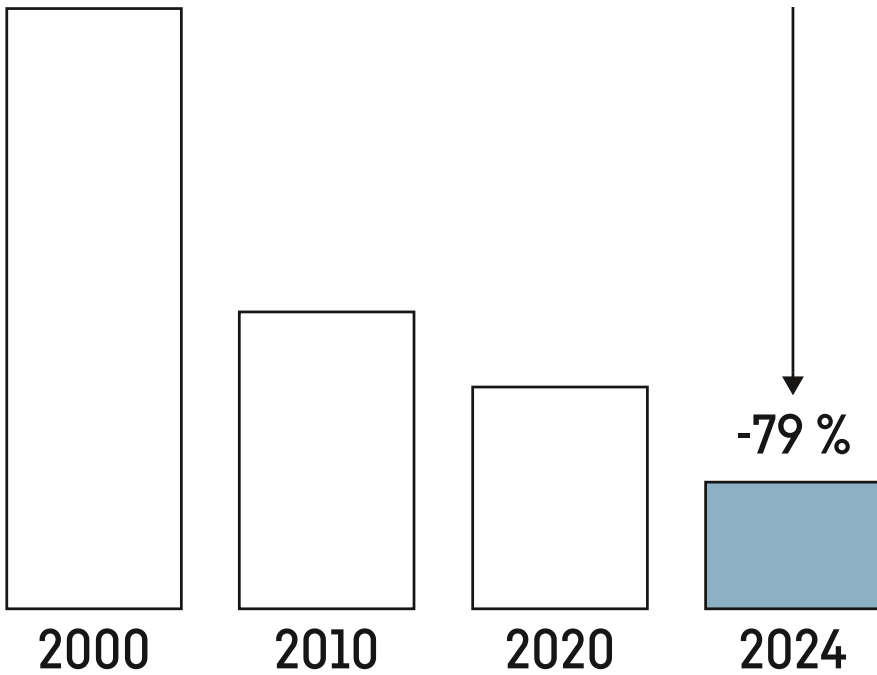
Reducing energy consumption – step by step

We prioritise energy efficiency to reduce environmental impact and address rising energy costs. With the use phase accounting for the majority of an appliance's ecological footprint, we focus on developing technologies and designs that minimise energy consumption. As a result, our fridges and freezers today use just a **fifth of the electricity** they did 24 years ago.*

The Energy Efficiency Class Label (EEC Label)

With energy efficiency becoming increasingly important due to rising costs and climate change, choosing the right appliance can make a real difference. The reformed EU energy label, introduced in 2021, empowers consumers to make informed decisions. The corresponding EU regulation [\(Regulation \(EU\) 2019/2019\)](#) also sets out further tightening of the Energy efficiency index (EEI) requirements for certain product sub-groups. Its clear A-to-G scale, combined with features like QR codes linking to the [European Product Registry for Energy Labelling \(EPREL\)](#) database, makes it easier than ever to identify appliances that save energy.

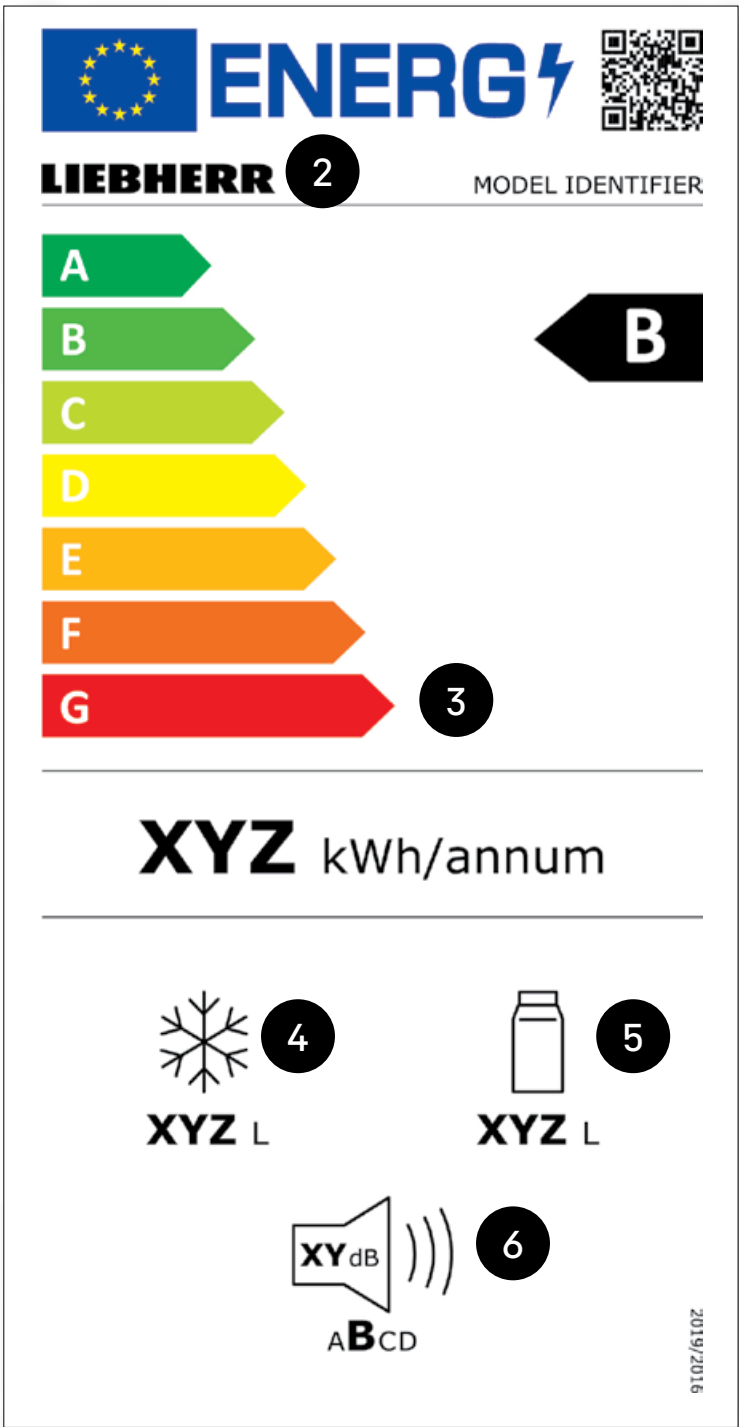
Development of the power consumption of Liebherr freestanding and fully integrated appliances



Reference appliances:
2020: KGN3446 (492 kWh/a)
2024: CBNbsa10 (104 kWh/a)
* Freestanding fridge-freezer with NoFrost, approximately 200 cm high and 60 cm wide

We focus on optimising every component for efficiency – from space-saving vacuum insulation panels, over continuous improvements in the components of our cooling technology, to smart features like **EnergySaver** and **HolidayMode**. Our appliances are designed to perform not only sustainably, but also quietly, meeting the highest noise standards.

Every Liebherr appliance is labelled at the plant, with a unique serial tag for traceability. QR codes link directly to the EPREL database, providing essential information to help consumers and retailers make responsible choices.

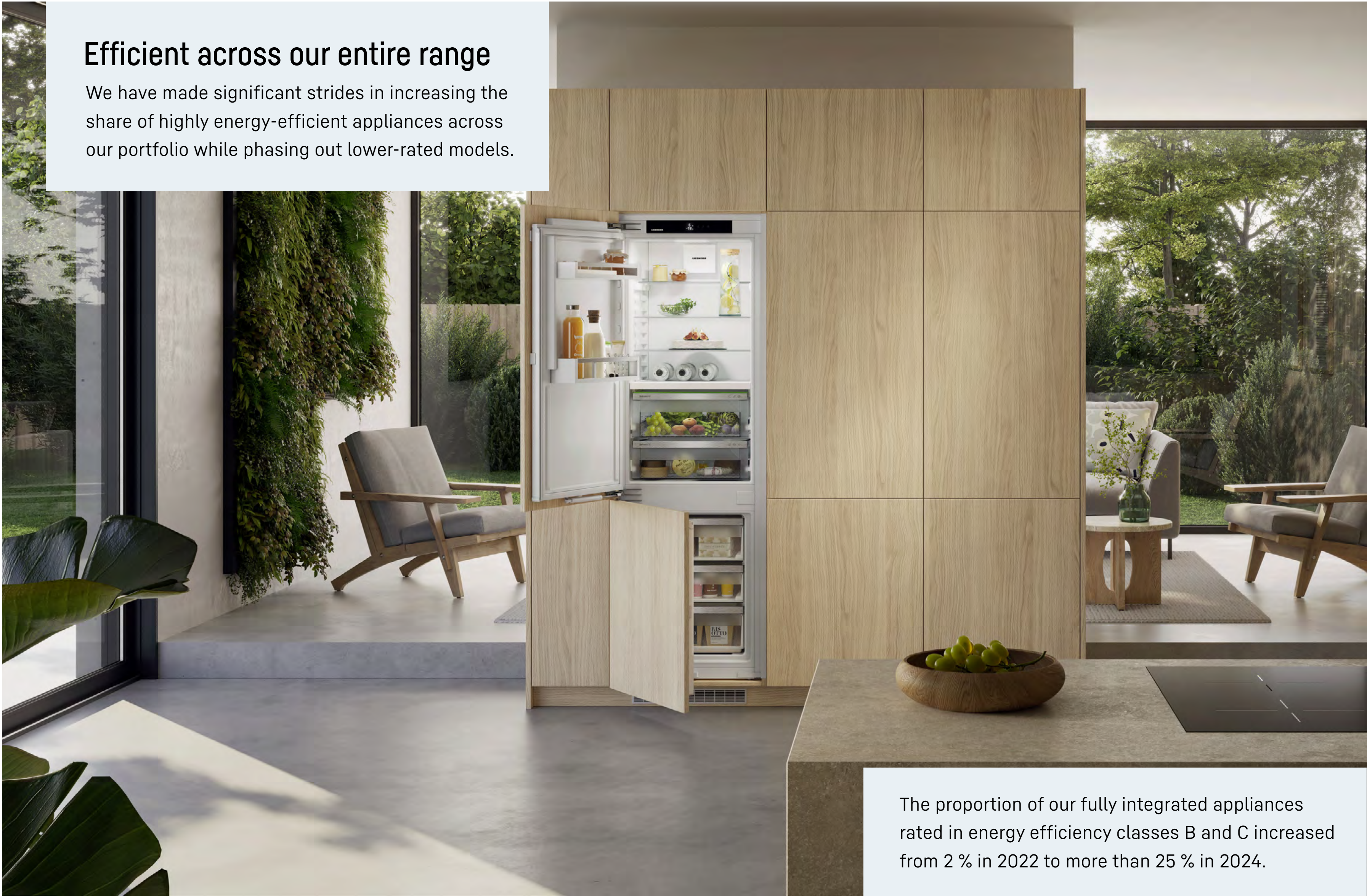


This is what the EU energy label looks like:

1. The QR code for identifying the product in EPREL (European Product Database for Energy Labelling)
2. The model identifier for manual identification of the product in the EU's EPREL database, e.g. using the article number
3. The efficiency scale from "A" to "G". "G" and "F" for special appliances
4. The total volume of all freezer compartments
5. The total volume of all cold storage and fridge compartments
6. The noise level is now classified into classes "A" to "D"

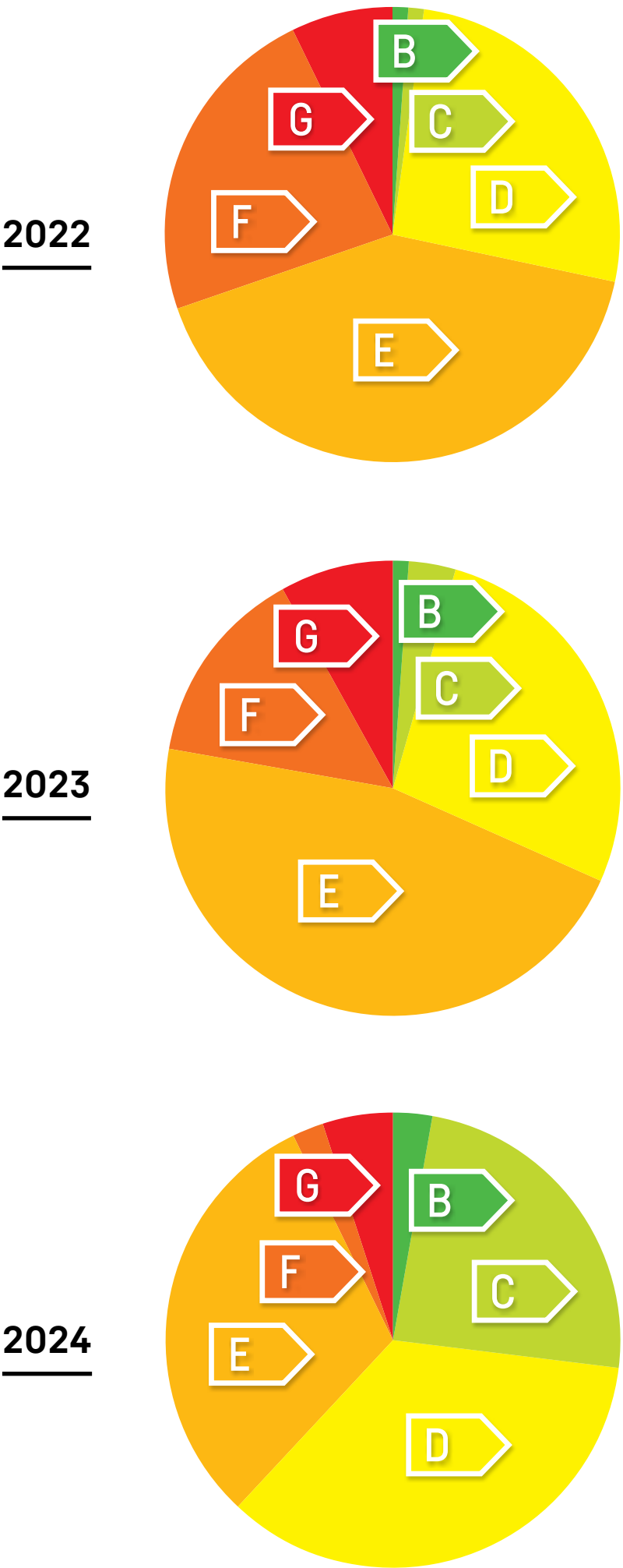
Efficient across our entire range

We have made significant strides in increasing the share of highly energy-efficient appliances across our portfolio while phasing out lower-rated models.

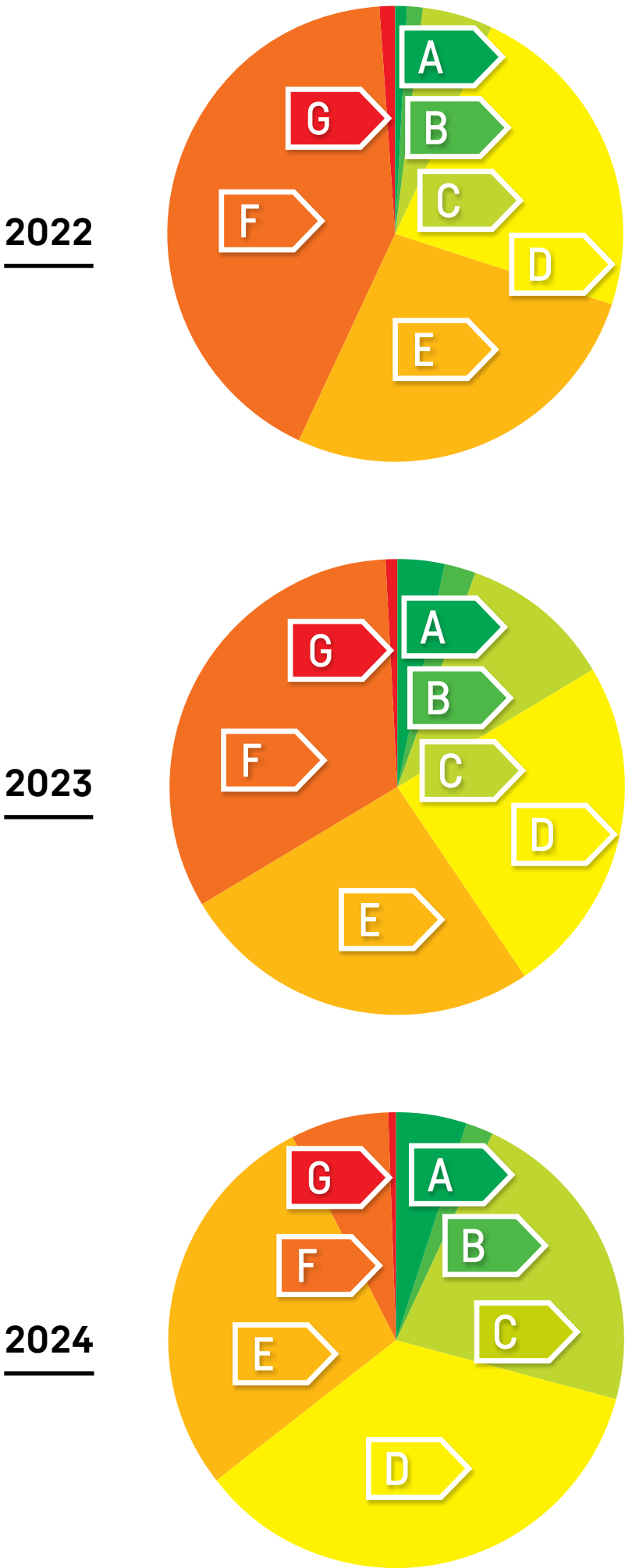


The proportion of our fully integrated appliances rated in energy efficiency classes B and C increased from 2 % in 2022 to more than 25 % in 2024.

Improvement in energy efficiency of fully integrated appliances



Improvement in energy efficiency
of freestanding appliances



The proportion of freestanding appliances rated in energy efficiency classes A, B, and C increased from approximately 6 % in 2022 to nearly 30 % in 2024.



Efficiency in every detail

At Liebherr, we see energy efficiency as an evolving challenge. While we have made meaningful strides, our focus remains on innovating cooling technologies and designs to reduce environmental impact while meeting customer needs. For us, this means leaving no stone unturned – continuously working on improving every detail.

Super Cool

Super Frost

Measures for optimising cooling technology and control systems

VCC: precision cooling for optimal energy use

Our **Variable Capacity Compressors (VCC)** adjust cooling output by varying speed, ensuring energy is used only when needed. This flexibility allows for rapid cooling when necessary while maintaining quiet and efficient operation at lower speeds during regular use. By optimising energy consumption, VCC technology plays a key role in reducing the environmental impact of our appliances without compromising performance.

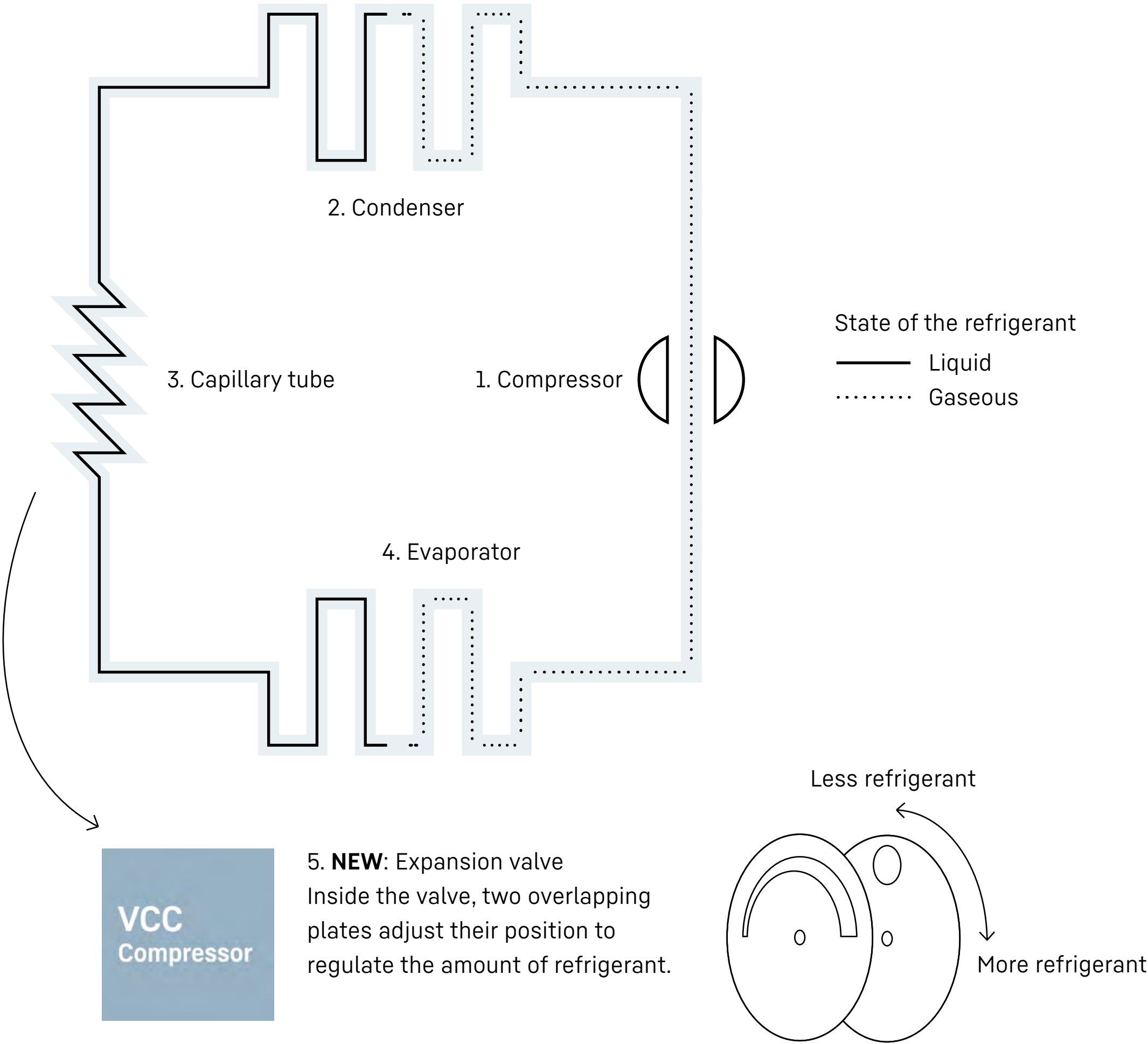
Features like **SuperCool** and **SuperFrost** benefit from VCC’s ability to quickly increase speed, ideal for rapid cooling or freezing of new items.

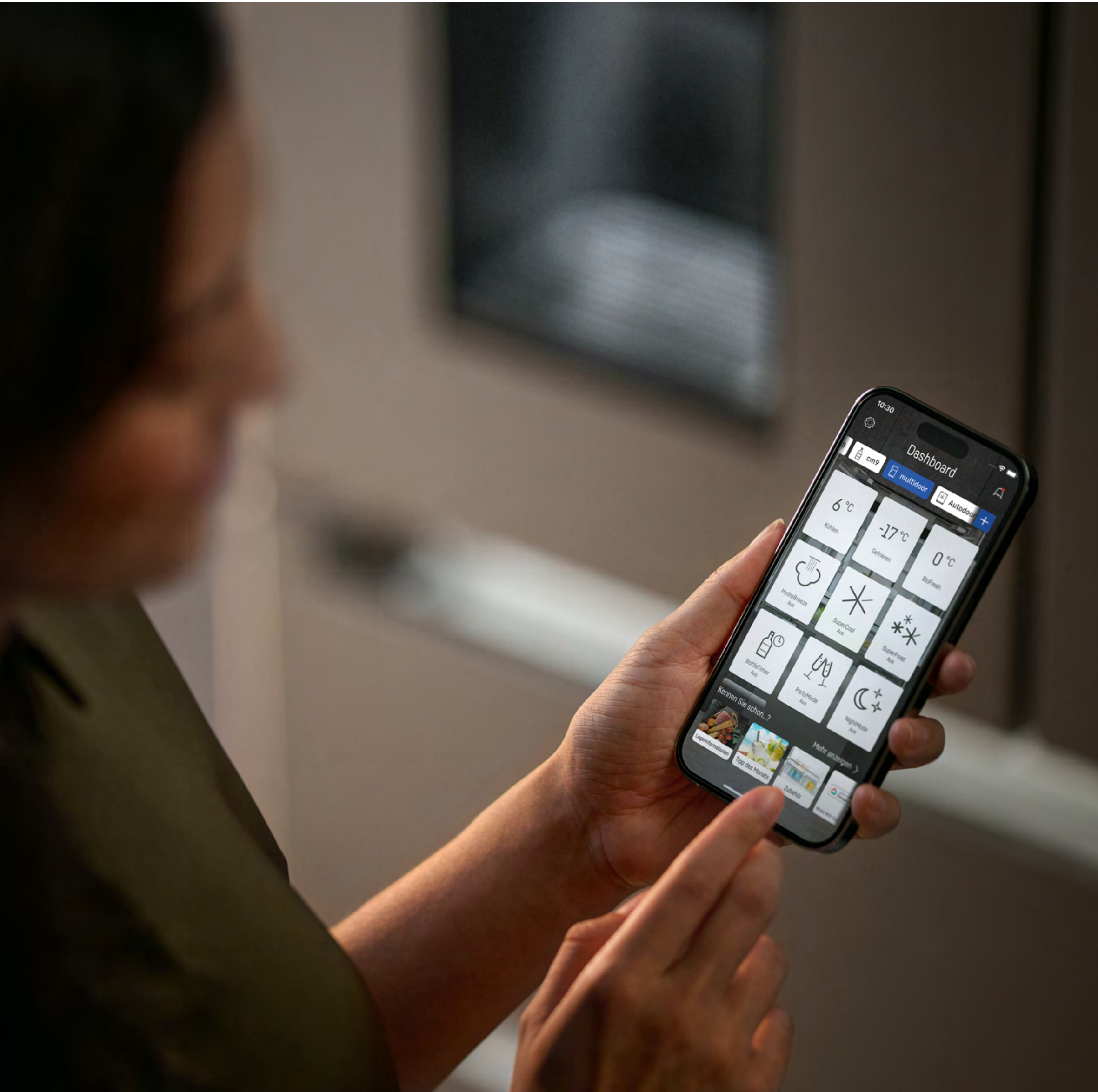


Advanced cooling, lower footprint:
our microexpansion valves

Microexpansion valves, a new addition to Liebherr Appliances’ cooling technology, deliver enhanced energy efficiency and quieter operation by precisely regulating the refrigerant flow. Unlike traditional fixed-diameter capillaries, these valves adjust pressure and volume dynamically, ensuring that the refrigerant reaches the evaporator fully liquefied for optimal cooling performance. This adaptability allows the system to respond to varying conditions, such as ambient temperature, maintaining efficiency and reducing noise.

The benefits of this innovation are significant: Energy consumption can be reduced by up to 12 % – contributing to lower operating costs and a smaller carbon footprint. Additionally, noise is minimised through advanced design features, including vibration-dampening components, making appliances such as the FNb 505i, FNa 6625, and 6635 with 33 dB(A) among the quietest on the market.





**Smart
Device**

Everything under control

Our adaptive cooling systems, electronic controls, and innovative features ensure every item is stored in its ideal conditions, while also reducing energy consumption and environmental impact.

Staying fresh with adaptive cooling

Our adaptive cooling technology, or "good-dependent temperature management," adjusts the cooling process based on the specific needs of the stored items. This ensures that each food type is kept at its ideal temperature, preserving freshness and reducing waste.

Smart, efficient controls

Liebherr appliances utilise precise electronic controls paired with temperature sensors to optimise cooling cycles. These controls, working seamlessly with our highly efficient compressors, enable our appliances to operate with exceptional energy efficiency.

Variable Capacity Compressor (VCC) technology – as mentioned earlier – further enhances this by adjusting compressor speed based on demand, ensuring optimal performance while minimising energy use.

Innovative refrigerant circuit

Our advanced refrigerant circuit, controlled by electronic systems and powered by microexpansion valve technology, ensures precise and flexible management of refrigerant flow. By adjusting to changing conditions like ambient temperature, this system maintains efficiency and performance, offering a significant improvement over traditional designs.

SmartDevice for connected convenience

The SmartDevice technology integrates seamlessly with our BluPerformance appliances offering enhanced security, monitoring, and remote control. From switching off the fan when the door opens to sending notifications, SmartDevice makes managing your appliance easier and more intuitive.

Advanced insulation for maximum efficiency

Effective insulation is crucial for reducing energy consumption, ensuring that cold air remains inside the appliance. We continuously refine our insulation materials, exploring new formulas to enhance thermal performance. Our aim is to optimise energy efficiency while maintaining maximum internal storage space.

To further improve efficiency, we use high-quality, durable vacuum insulation panels (VIPs) in many of our foam-based appliances. These space-saving panels not only enhance energy efficiency but also maintain low energy consumption over years of use.

Our latest innovation, the patented BluRoX technology, combines vacuum insulation with perlite, eliminating the need for polyurethane in insulation.

[MORE INFORMATION ON BLUROX](#)



Vario
Temp

Other innovations and measures

Smart energy modes for everyday convenience

The **EnergySaver** function gently increases the default temperature, enabling significant energy savings without affecting the appliance's cooling performance. This feature ensures efficient operation while reducing overall electricity usage.

For customers with fridge-freezers, **HolidayMode** is designed to optimise energy efficiency during extended absences. This function sets the fridge compartment to 15 °C, effectively preventing odours even with the door closed, while the freezer continues to operate as usual. HolidayMode helps maintain freshness and significantly lowers energy consumption compared to regular operation.

Flexible storage with VarioTemp

VarioTemp is an innovative feature that allows flexible use of the freezer compartment in a fridge-freezer. The freezer compartment temperature can be adjusted from -2 °C to +14 °C, transforming it into a versatile space for individual needs.

Possible use cases:

- **Additional cooling zone**
The freezer compartment can be used as an extended cooling zone for beverages or snacks when needed, such as during parties.
- **Cellar compartment**
For storing temperature-sensitive food like potatoes or onions, the freezer compartment can be set to higher temperatures and used as a cellar compartment.
- **Expanded fridge space**
When extra space in the fridge is needed, the freezer compartment can temporarily serve as an additional refrigeration area.



Interior
Fit

Innovation at the base:
our plinth design

Our innovative relocation of refrigeration components to the appliance plinth has transformed the design and functionality of freestanding appliances. By moving the condenser and evaporator from the rear to the base, we were able to create significantly more usable interior space without sacrificing performance.

The plinth design also introduces front ventilation, allowing seamless integration into kitchen units with Liebherr’s **InteriorFit** feature. This ensures appliances maintain their sleek, modern appearance while delivering optimal cooling performance.

Introduced in 2016, this technology optimises appliance performance without compromising on user comfort. This groundbreaking design is a key element of Liebherr’s **BluPerformance** line, combining exceptional energy efficiency, increased capacity, and minimal operating noise.

Since their introduction, BluPerformance appliances have consistently achieved top energy efficiency ratings, making them the first freezers on the market to receive an Energy Efficiency Label A classification. The technology optimises insulation while maximising capacity, enabling appliances to consume less energy without sacrificing functionality.

[SEE OUR BLUPERFORMANCE RANGE](#)

LED lighting

LED lighting is standard in our fridges and freezers. It offers low energy consumption, long service life, and high performance – not only reducing power usage but also providing pleasant and effective interior illumination. Smart features like **CleaningMode**, which keeps LEDs on for cleaning while refrigeration is off, further demonstrate our focus on efficiency and convenience.



Food is valuable – ecologically and economically.

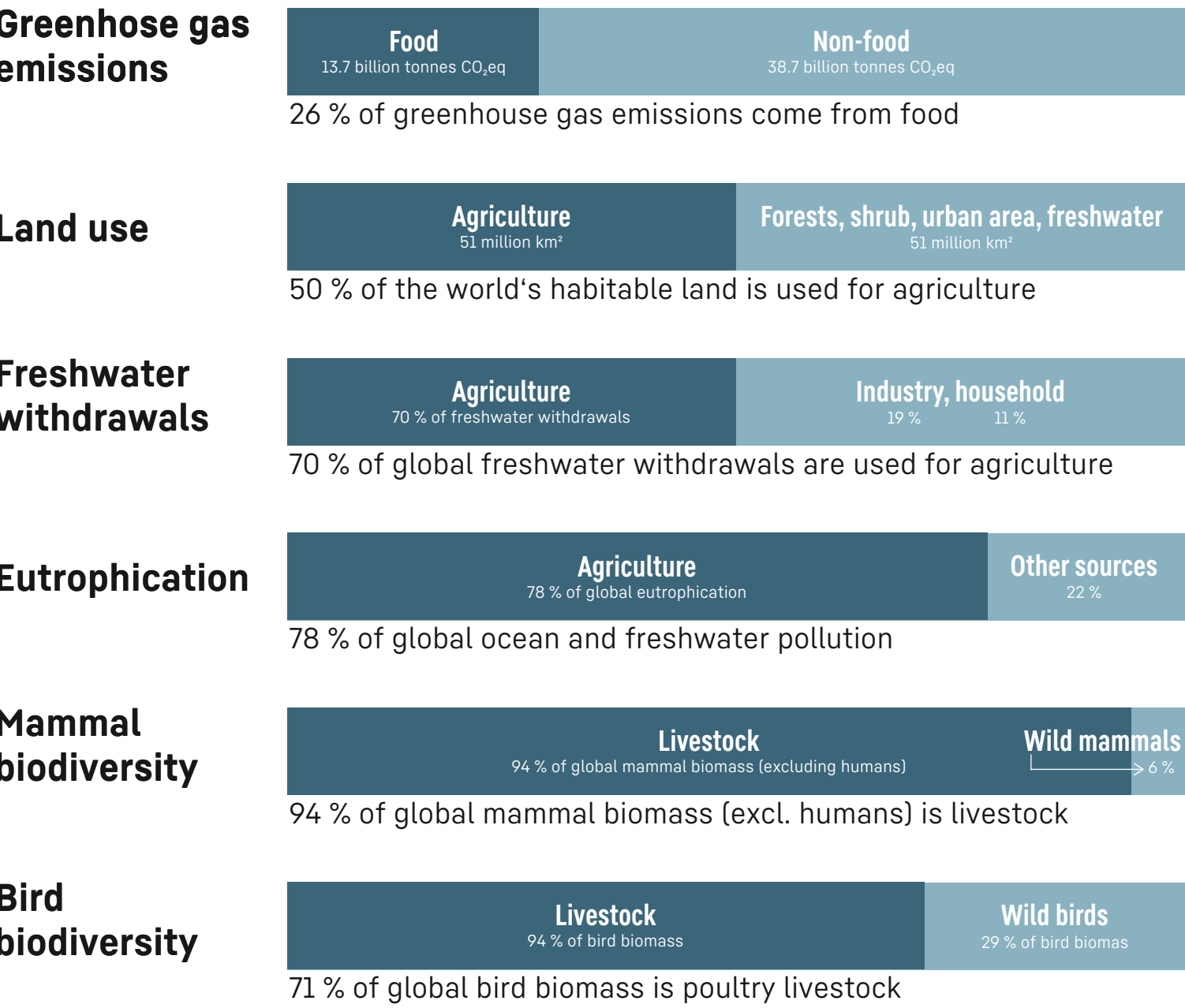
Food production and its impact

Food production has a major impact on the environment and climate. It is responsible for around one quarter of global greenhouse gas emissions – with methane playing a particularly significant role in accelerating climate change. Food also occupies about half of the world’s habitable land and accounts for approximately 70 % of global freshwater withdrawals. Nutrient runoff from agricultural activity contributes to water pollution and eutrophication in both fresh-water and marine ecosystems, driving habitat loss and broader ecological degradation.

Producing food requires substantial resources – including water, land, energy, and labour. When food is wasted, so are all the resources that went into its production. This adds unnecessary strain on the environment and undermines the ecological and economic value of food.



The environmental impacts of food and agriculture



* Data sources: Poore & Nemeck (2018): UN FAO; UN AQUASTAT; Bar-On et al. (2018). OurWorldinData.org – Research and data to make progress against the world's largest problems.

What a waste

Why we need to rethink our relationship to food.

Economically, food waste represents a major financial loss, amounting to approx. 1 trillion euros annually. It impacts farmers, businesses, and consumers alike, and increases waste management costs for municipalities. On a social level, while millions of people suffer from hunger and food insecurity, vast amounts of food are wasted that could otherwise help those in need. Reducing food waste could significantly improve food security and help address global hunger.

The ethical implications of food waste are equally concerning. It highlights social inequalities and

raises moral questions about wasting food when so many people lack adequate nutrition. Additionally, food production often involves the use of pesticides and fertilisers, which harm ecosystems and reduce biodiversity. When food is wasted, these negative impacts occur without any benefit.

Addressing food waste is crucial for improving food security, reducing environmental impact, conserving resources, saving money, and promoting social equity. Reducing food waste can help create a more sustainable and just food system for everyone.

Amount of foodwaste – worldwide

	Global average food waste (kg/capita/year)*	2022 total (million tonnes)
Household	79	631
Food Service	36	290
Retail	17	131
Total	132	1,052

* Data sources: UNEP Food Waste Index Report (2024)

Key facts

1. Food waste contributes to greenhouse gas emissions, particularly methane, exacerbating climate change.

2. Wasted food means wasted resources, including water, land, energy, and labour.

3. The economic loss from food waste is estimated to be over approximately 1 trillion euros annually.

4. Households are responsible for around 60 % of food wasted.
5. One fifth of all food is wasted while 783 million people suffer from hunger.

6. Food waste has social and ethical implications, worsening social inequalities.

7. Food production impacts biodiversity, and wasting food exacerbates these negative effects without providing any benefit.

Source:
FOOD WASTE INDEX REPORT 2024, UNITED NATIONS

What we do to reduce waste

Innovations that help store food better

We waste food. A lot of it. This has a significant environmental and economic impact, and we need to rethink our consumption and the value of food. At Liebherr, we celebrate food and have taken proactive measures to address this issue through innovative appliance design, customer education, and the promotion of energy-efficient appliances.

Our technologies to combat food waste

We have developed advanced freshness technologies to extend the shelf life of groceries, thereby reducing food waste.

DuoCooling, featured in all Liebherr fridge-freezers, employs two separate cooling circuits to prevent air exchange between the fridge and freezer compartments, which helps maintain optimal humidity levels, prevents food from drying out, and reduces spoilage.

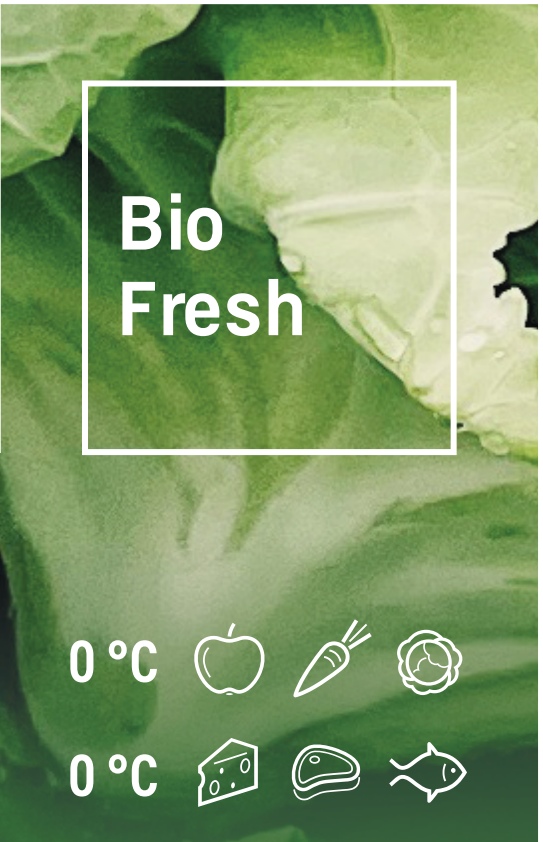


EasyFresh safe is another innovation that provides an airtight compartment for storing loose fruit, and vegetables, keeping them fresh for longer.

BioFresh technology creates a near-freezing temperature zone with controlled humidity, significantly extending the shelf life of fruit, vegetables, meat, fish, and dairy products.

Compartment labelling with pictograms, in accordance with the EU's Ecodesign Directive, indicates the ideal storage locations for different food types, promoting optimal storage conditions.

Additionally, specialised compartments like the Fish & Seafood safe and the **BioFresh Professional** safes offer tailored storage environments, for specific food items and maintaining freshness.





The logo consists of the word "Fresh" in a light blue sans-serif font above the word "MAG" in a bold, black sans-serif font, both enclosed within a white circle.

Claims for food preservation are based on scientific studies which have been analysed and evaluated by Liebherr internal experts and checked by experts in the field of food preservation from the **University of Applied Sciences Münster, Germany**.

Making our voices heard

At Liebherr, we believe in empowering our customers with the knowledge and tools to store food optimally, ensuring maximum freshness, taste, and nutritional value. Here is how our research and innovations make a difference:

Comprehensive food storage guide

Decades of research and expertise have resulted in our detailed storage guide for over 500 food items. This guide offers clear recommendations on the ideal temperatures and humidity levels needed to preserve nutrients, vitamins, and flavours. It is a scientific approach to helping maintain food quality and reduce waste.

Proper food storage is key to preserving valuable nutrients. With years of research in refrigeration and freezing, we have gained deep expertise in optimal storage conditions. Through channels like our FreshMAG blog and social media, we share expert food storage tips, raising awareness and guiding customers in reducing food waste.

Compartment labels for easy organisation

Our fridges feature compartment labels with intuitive pictograms that indicate the best zones for various types of food. These labels, aligned with Ecodesign regulations, make it easy to store groceries correctly and keep them fresh for longer.

FreshMAG:

the source for freshness and inspiration

FreshMAG is Liebherr's online magazine for those passionate about freshness, sustainable eating, and culinary enjoyment. It provides insights into modern freshness technologies, practical storage tips, and creative recipes. Whether customers are looking to extend the shelf life of fruit and vegetables, explore the benefits of BioFresh, or try new kitchen ideas, FreshMAG delivers expert knowledge in an engaging and accessible format.

[DISCOVER FRESHMAG](#)

Collaborating for better food storage

Our extensive network of research and cooperation partners, including the German institution **FH Münster** (University of Applied Sciences Münster) and **Albstadt-Sigmaringen University**, helps us continually enhance our understanding of food storage. This collective knowledge flows directly into the development of our appliances, ensuring that customers have scientifically backed solutions for preserving their food's freshness, taste, and nutrients.

With Liebherr, customers can trust that their food is stored under the best possible conditions, combining science, innovation, and ease of use for a better everyday experience.

Social media

Additionally, we use our **social media** channels extensively for educational content around the topic of food, whether it is on LinkedIn, Instagram – or our most recent TikTok channel.

[SEE OUR SOCIAL MEDIA CHANNELS](#)



Maximising
overall value –
minimising
environmental
impact



Professional appliances

Total Cost of Ownership (TCO) is a critical factor for professional customers. Given the rising costs of energy and the urgent need to combat climate change, energy efficiency has become the focus. Total Value of Ownership (TVO) serves the basic need of professional customers, which is the storage of temperature-sensitive goods at desired conditions for later use. Our appliances are designed to offer not only immediate performance but also long-term value through innovation, durability, and sustainability.

Our commitment to durability and reliability means fewer breakdowns and a longer appliance lifespan, reducing repair and replacement costs. Combined with our service and support network, including long-term spare parts availability, we help businesses maximise their profit.

Sustainability is central to our approach. We design products for recyclability, support circular economy practices, and reduce greenhouse gas emissions to help our customers lower their environmental impact and align with global sustainability goals. We exclusively use pure hydrocarbon-based refrigerant with low Global Warming Potential (GWP), which enhance compressor efficiency while reducing energy consumption and electricity costs.

Liebherr appliances provide the perfect balance of cost efficiency, storage safety, and value enhancement. By focusing on TCO and TVO, we ensure our products provide environmental and financial benefits throughout their lifecycle.





Reducing the Total Cost of Ownership

Our professional appliances are designed to minimise Total Cost of Ownership (TCO) through intelligent, durable solutions. By reducing energy, maintenance, and operational costs over the product’s lifespan, our appliances deliver long-term efficiency, making them a cost-effective choice for businesses.

1. Upfront investment

Liebherr appliances are an economically sustainable investment. Built for durability, with components tested for a 15-year lifespan, they help minimise replacement and repair costs.

2. Energy efficiency

With outstanding energy efficiency, our appliances significantly lower operating costs while conserving valuable resources.

3. Low maintenance costs

– Easy-to-clean materials and design

Simplified cleaning reduces labour costs and streamlines operations.

– NoFrost technology

NoFrost eliminates the need for manual defrosting, avoiding work disruptions and extra expenses.

– Minimal maintenance and repair needs

Liebherr’s professional appliances require minimal maintenance thanks to intelligent design and high-quality components. Engineered for reliability, they help reduce repairs and lower operational costs.

4. Ergonomics and efficiency

Our ergonomic designs facilitate smooth workflows, improving productivity and reducing labour costs associated with daily use.

Optimising the Total Value of Ownership

We aim to enhance the overall value our appliances bring to businesses. From supporting sustainability goals to improving workflows, Liebherr appliances deliver tangible benefits that extend beyond financial savings.

1. Supporting sustainability goals

Our energy-efficient appliances and their long lifespan actively help customers reduce their carbon footprint and meet environmental targets by lowering CO₂ emissions.

2. Saving time

Our product design simplifies maintenance and reduces cleaning time and labour. Our **NoFrost technology** eliminates the need for defrosting, helping to streamline workflows and save valuable time.

3. Storage security

Temperature stability and alarms ensure safe storage and help prevent product losses, while **HumidityControl** creates ideal storage conditions to maintain product quality. **SmartMonitoring** (available in selected markets) enables continuous temperature tracking, alarm alerts, and comprehensive documentation for full transparency.

4. Enhanced productivity and ergonomics

Our ergonomic designs enable effortless workflows, boosting efficiency and delivering added value to daily operations.



Ever more efficient

We continuously improve our refrigeration technology, incorporating advanced features like vacuum insulation panels, variable capacity compressors, and state-of-the-art temperature management systems. These technologies ensure optimal energy use, reduce food waste, and lower running costs.

Putting a label on energy efficiency

Most of the environmental impact of fridges and freezers occurs during their use phase, as they operate 24/7. That is why, for decades, we have prioritised improving energy efficiency across both our consumer and professional appliances.

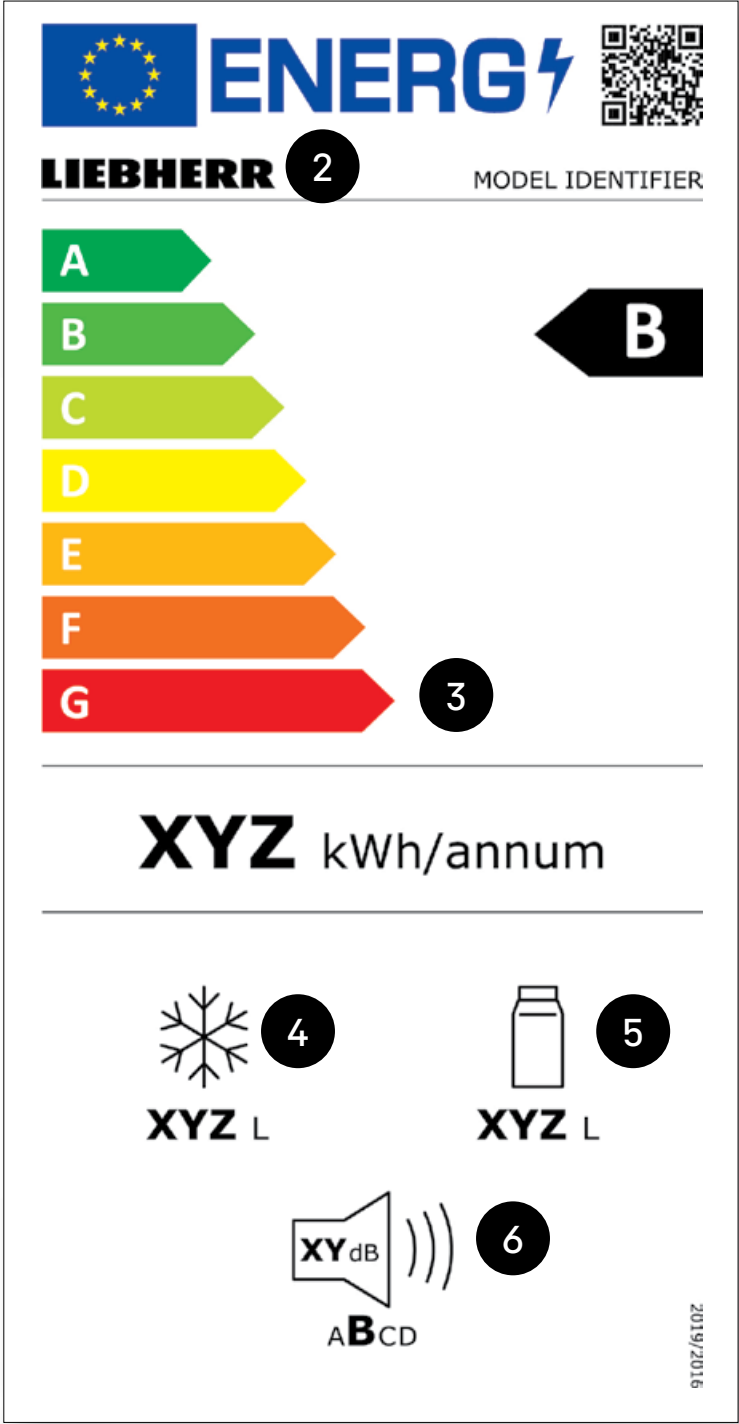
In 2021, a new energy label for professional fridges was introduced, offering a clear classification of energy efficiency. The label rates appliances on a scale from A (highest efficiency) to G (lowest efficiency), helping businesses select products that lower operating costs while contributing to sustainability.

A key element of this label is the Energy Efficiency Index (EEI). The EEI compares an appliance’s actual energy consumption to a standardised reference value, which considers factors such as size, type, and storage conditions. Appliances with a low EEI are especially efficient, consuming significantly less energy than the reference allows.

The EEI is calculated based on:

- **Actual energy consumption**
The real electricity use over a defined period
- **Reference energy consumption**
A theoretical value determined by the appliance’s size and usage conditions
- **Modern technologies**
Features like advanced insulation, energy-efficient compressors, and optimised cooling circuits that reduce energy use

A low EEI indicates not only superior energy efficiency but also lower operating costs and a reduced carbon footprint. The energy label helps businesses make informed decisions, selecting appliances that deliver long-term economic and environmental benefits.



Example of the energy label for beverage coolers:

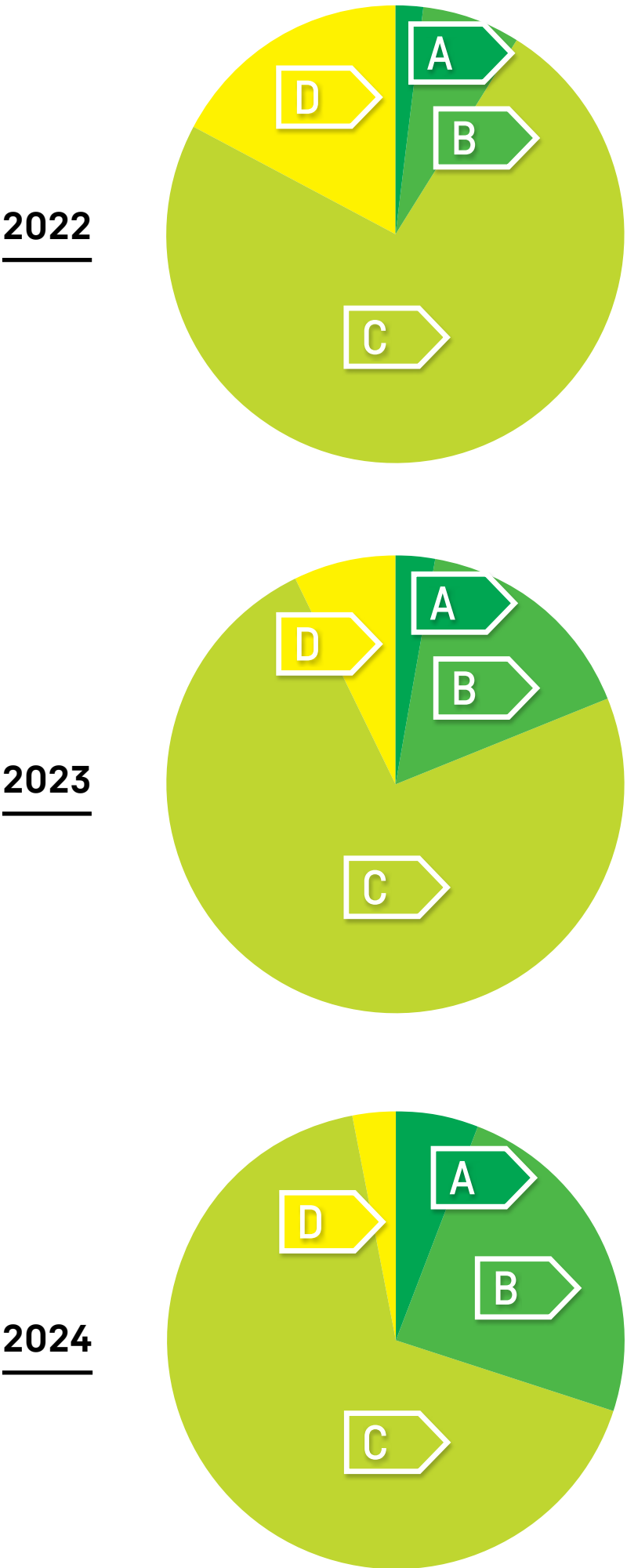
1. The QR code for identifying the product in EPREL (European Product Database for Energy)
2. Labelling
3. The model identifier for manual identification of the product in the EU’s EPREL database
4. The efficiency scale from “A” to “G”
5. The gross capacity in litres
6. The average compartment temperature in degrees Celsius
7. The highest ambient temperature in degrees Celsius at which the appliance will function properly

2019/2018



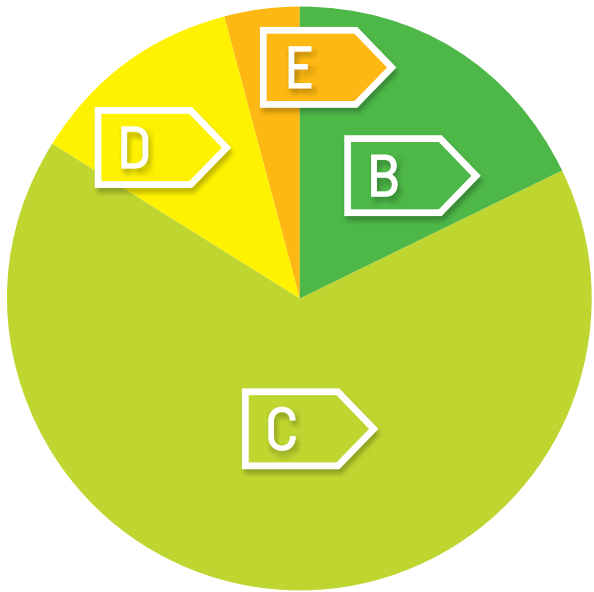
The proportion of professional refrigerated storage cabinet rated in energy efficiency classes A, B, and C increased from 84 % in 2022 to 97 % in 2024; within the same period, the share of appliances rated in classes A and B grew significantly from 9 % to 30 %.

Improvement in energy efficiency of professional refrigerated storage cabinets in the EU

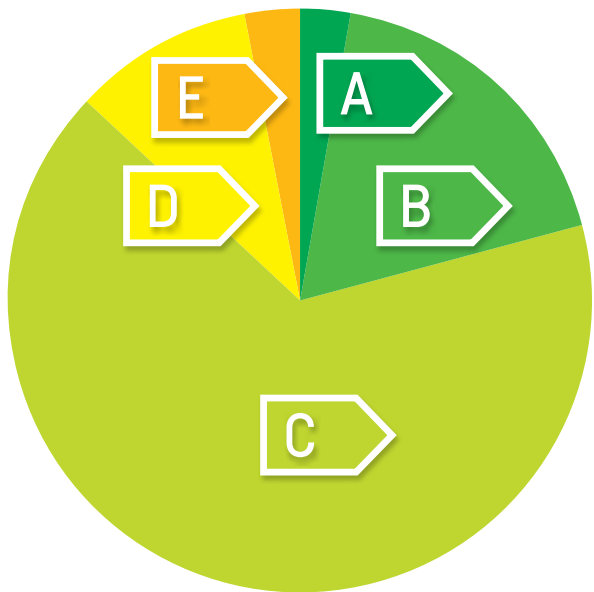


Improvement in energy efficiency of refrigerated appliances with a direct sales function in the EU

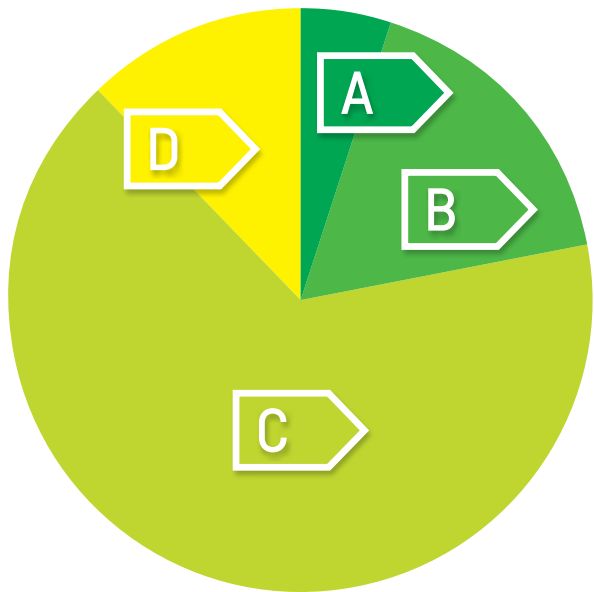
2022



2023



2024



The proportion of refrigerated appliances with a direct sales function rated in energy efficiency classes A, B, and C increased from 84 % in 2022 to 88 % in 2024; 5 % of our appliances were rated EEC A in 2024, whereas there were no EEC A-rated appliances in 2022.



Storage you can rely on

Reliability, no matter the application

Liebherr's professional cooling and freezing appliances are synonymous with exceptional storage reliability. Whether in gastronomy, laboratories, or other demanding environments, our appliances deliver consistent cooling performance and ensure stable temperatures critical to preserving the quality of stored goods.

A robust cooling circuit and the seamless integration of high-quality components guarantee top performance, even under heavy use.

Monitoring for peace of mind

To complement our reliable performance, Liebherr appliances feature comprehensive monitoring systems. Visual and acoustic alarms promptly alert customers to any deviations, enabling swift action to maintain optimal conditions.

With Liebherr, customers are investing in safe, durable, and precise storage solutions designed to meet the highest standards of reliability, offering peace of mind in every application.

[WATCH OUR FILM ON SMARTMONITORING](#)



Recycling 5.



This is not the end.

The status of our recycling efforts

What happens when an appliance reaches the end of its lifecycle? It is the all-important question we continuously ask ourselves.

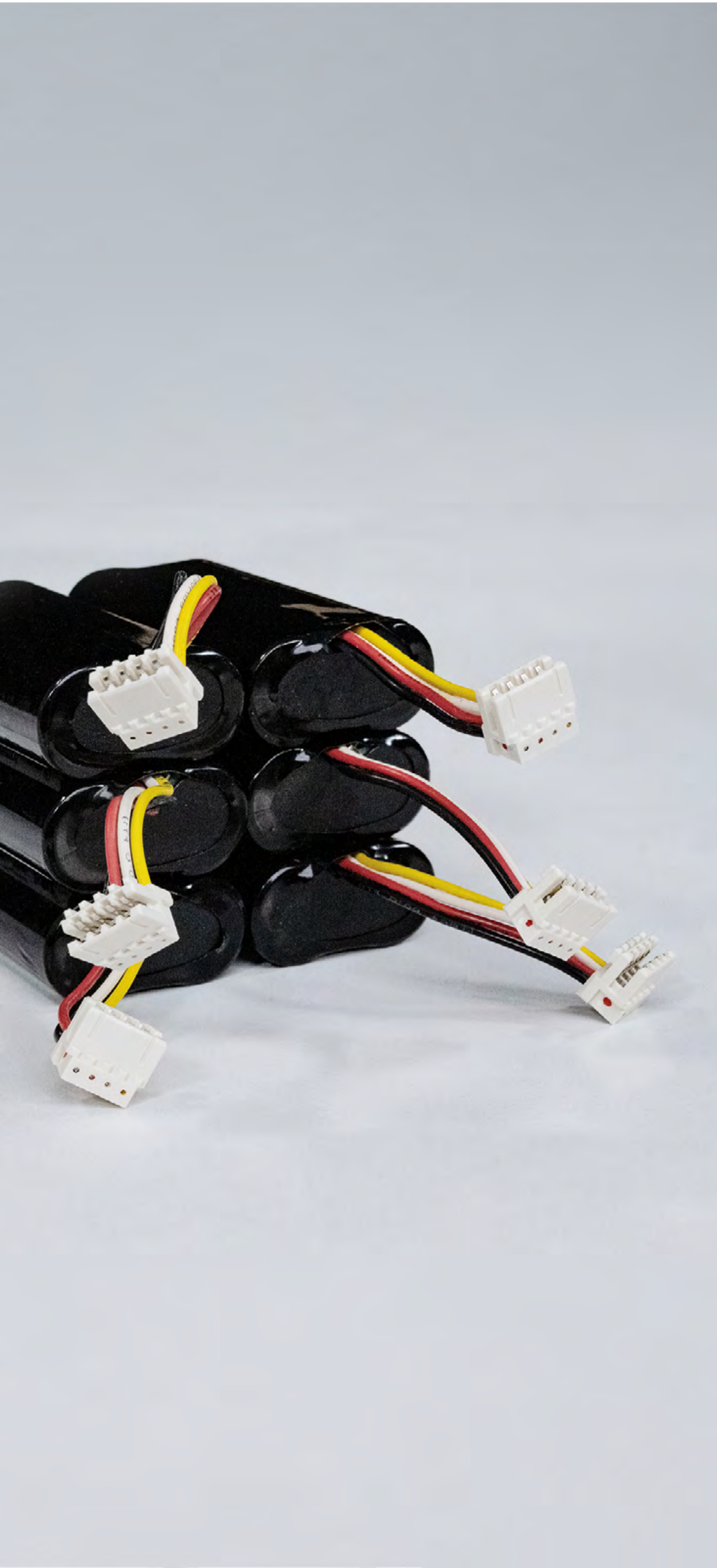
Recycling plays a crucial role in minimising an appliance's environmental impact. We comply with the WEEE Directive (Waste Electrical and Electronic Equipment Directive), which governs the recycling process in the EU, and collaborate with waste management partners to ensure valuable materials are recovered. At the same time, we are advancing the use of secondary raw materials, such as recycled steel, while addressing challenges like food safety regulations and the availability of high-quality recycled plastics.

Through our **Circular by Design** research project, we identified and improved design aspects that hinder easy dismantling and material recovery. We aim to develop appliances that are easier to disassemble, recycle, and repurpose.

A major step in this direction is our patented **BluRoX technology** – a vacuum perlite insulation that enhances energy efficiency while supporting circularity. Set to launch in 2026, the freezer FNx 522i will be built using BluRoX, with a design that allows essential components to be reused at the end of its lifecycle. This innovation has earned it the **Cradle to Cradle Certified® Bronze** status.

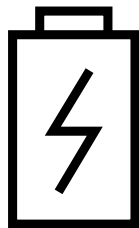
Beyond recycling, longevity remains a key focus. By manufacturing appliances designed to last at least 15 years, we help reduce waste and conserve resources. Every step towards longer-lasting, recyclable products contributes to lowering environmental impact across the entire lifecycle.





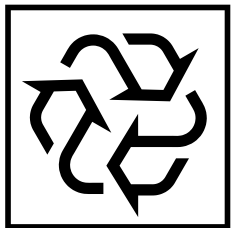
What end users need to keep in mind

Recycling batteries and light sources



Important information about batteries

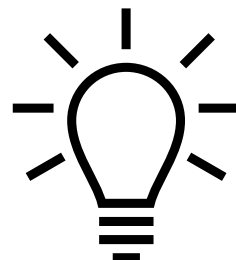
Some of our appliances include batteries that must be removed before disposal. Regulations require owners to separate batteries from discarded appliances and ensure proper recycling. Batteries can be returned free of charge at retail stores or designated recycling and waste collection points, helping to conserve valuable resources and reduce environmental impact.



Lithium batteries

Appliances containing lithium batteries are marked with a specific symbol. When disposing of lithium batteries, ensure the terminals are taped over to prevent short circuits. For detailed guidelines on proper battery disposal, refer to the website of the German Environment Agency (UBA) or the respective authority in your region.

[WEBSITE GERMAN ENVIRONMENT AGENCY \(UBA\)](#)



Light sources

If an appliance includes light sources that are designed to be replaced by the user, these must be removed before disposal and taken separately to a recycling or waste collection point. The appliance manual provides details on whether such light sources are included and how to remove them safely. LEDs do not need to be removed and can remain in the appliance.

Responsible disposal of old appliances

Municipal collection points and retail take-back programmes using Germany as an example

Municipal collection points

Old appliances can be disposed of free of charge at designated recycling and waste collection centres. In some municipalities, doorstep collection services for old electrical appliances are also available. Owners can check with their municipal authority for specific details on local regulations.

Disposal via retail stores

Both physical and online retailers are required to accept old appliances for proper disposal. Retailers with a sales area larger than 400 m² and grocery stores with at least 800 m² of sales space that sell electrical and electronic equipment must offer free take-back of old appliances of the same type. For small appliances (with no dimension exceeding 25 cm), they must accept up to three items free of charge, even without a new purchase – this is known as the 0:1 take-back scheme. For large household appliances, they are required to take back an old appliance when a new one is purchased, following the 1:1 take-back scheme.

Online and mail-order retailers

Online retailers are also required to take back large household appliances, including fridges and freezers when purchasing a new device (1:1 take-back). In the case of small appliances the 0:1 take-back rule is also applicable.

For fridges and freezers, the Liebherr online shop offers disposal services only when purchasing a new appliance. To use this option, customers must select **Disposal of Old Appliance** during check-out under optional service options. Customers will only pay for transportation, as Liebherr covers the disposal costs. This service must be chosen at the time of purchase.

Take-back of small appliances (no dimension larger than 25 cm) need to be at a reasonable distance from the consumer (0:1 take-back). To return small appliances to Liebherr in accordance with the Electrical and Electronic Equipment Act, please use the following link:

[RETURN SMALL ELECTRICAL APPLIANCES](#)

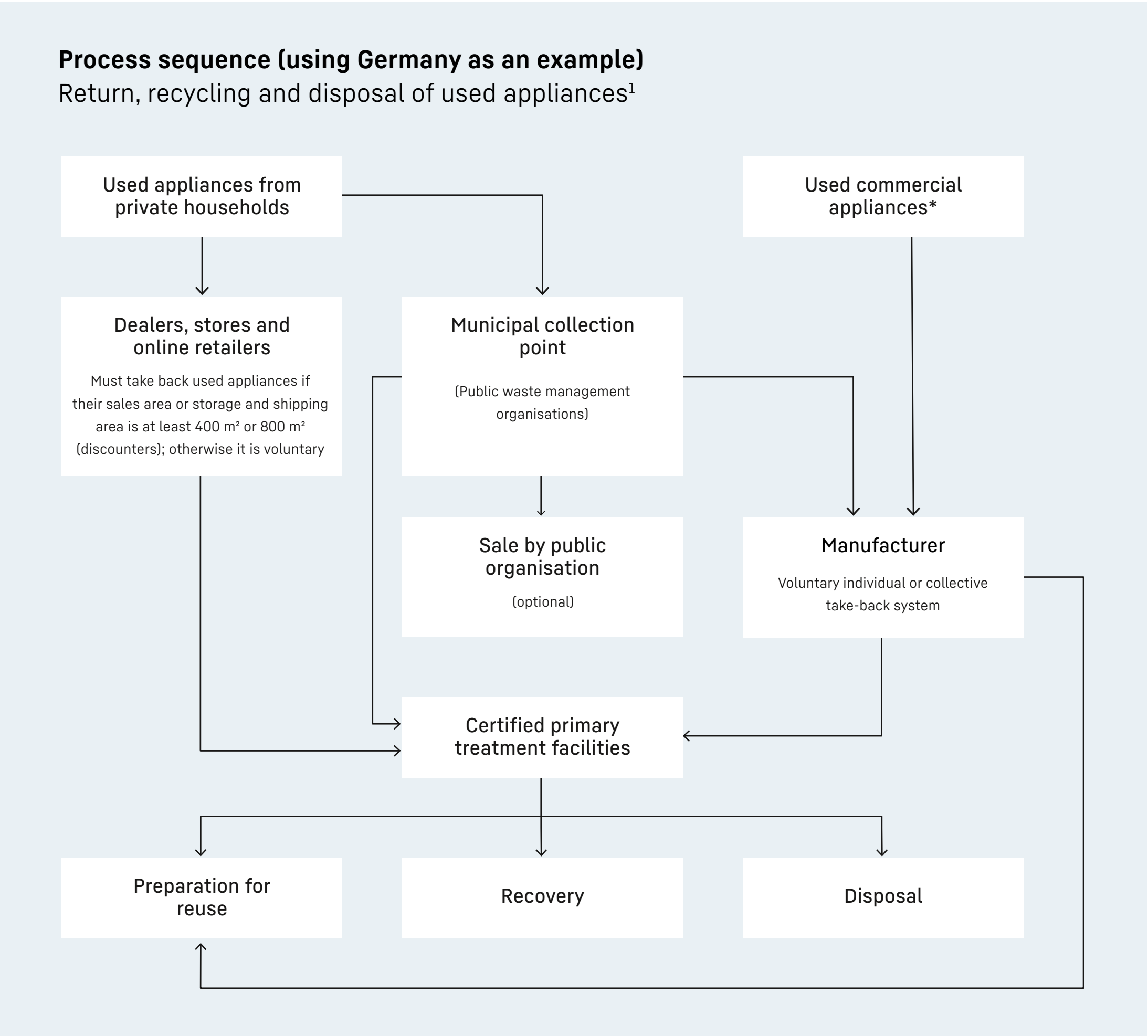


Giving old appliances a new purpose

Given the regional differences in Germany's disposal systems, we actively support campaigns such as **Drop it like E-Schrott**. This initiative of the **Stiftung Elektro-Altgeräte Register** (Foundation old electrical appliances register, EAR), financed by household appliance manufacturers and supported by the German Federal Environment Agency, promotes proper disposal of old electrical equipment nationwide. The correct disposal of old appliances helps recover valuable resources and contribute to a circular economy.

For more information, visit the campaign website.
[E-SCHROTT ENTSORGEN](#)
(only available in German)

Return process of used appliances



Opportunities for households to return old appliances free of charge have been expanded in recent years. Retailers only have to do so in combination with the purchase of another comparable appliance (1:1 take-back).

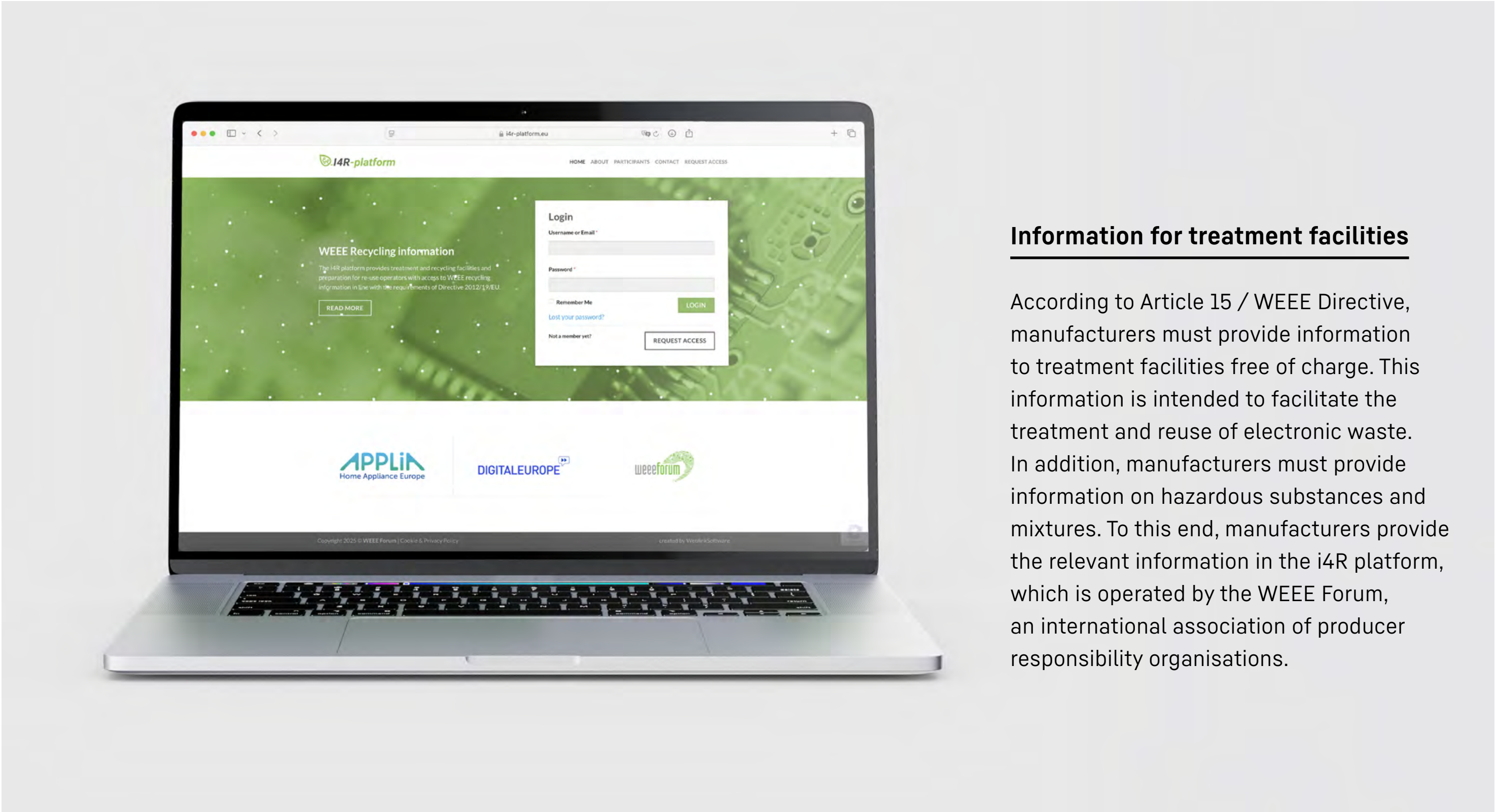
* In contrast to this, manufacturers must provide professional customers with a return option and dispose of the appliances free of charge. Transport may be billed.

¹ (from households and professional appliances)
in Germany as an example, legal framework: ElektroG (2015, last amended 2021)
Processes in other countries may vary.

From collection to compliance

Our commitment to responsible recycling

Once consumers have correctly returned their old appliances, we, as the manufacturer, take responsibility for ensuring that these appliances are recycled in an environmentally sound manner. Through contractual agreements, we guarantee that the returned appliances are processed in compliance with environmental regulations, and that any residual materials are properly disposed of. We strictly adhere to both legal requirements and industry standards. To ensure compliance, we conduct regular audits of recycling facilities. If any facility is found to be non-compliant, we take corrective measures, which may include suspending deliveries to that facility. To address future recycling requirements, collaboration between manufacturers and recyclers must be strengthened and expanded. Our goal is to create a more cooperative approach that will help us effectively meet evolving regulations.



Information for treatment facilities

According to Article 15 / WEEE Directive, manufacturers must provide information to treatment facilities free of charge. This information is intended to facilitate the treatment and reuse of electronic waste. In addition, manufacturers must provide information on hazardous substances and mixtures. To this end, manufacturers provide the relevant information in the i4R platform, which is operated by the WEEE Forum, an international association of producer responsibility organisations.

Informative labelling

To ensure the effective recycling and reuse of old appliances, we maintain an active dialogue with the recycling industry. Since 2018, we have provided detailed recycling information through the Information for Recyclers (i4R) database, replacing earlier Liebherr-issued guidelines.

Our appliances feature stickers to aid recycling plants. A blue sticker identifies Vacuum Insulation Panels (VIPs), indicating their type and location, as VIPs are not visible externally. VIPs offer superior insulation compared to conventional foam. Investigations by APPLiA (European association representing home appliance manufacturers) and Liebherr Appliances have shown that most recycling plants are equipped to process VIP appliances. However, some require retrofitting of air filter systems.

Another sticker marks compressors with high-viscosity oils, ensuring occupational safety during recycling. We continue to collaborate in committees and research projects, which focus on providing recyclers with the information needed to meet legal standards and improve recycling quality for higher material reuse.

Quality assurance in recycling

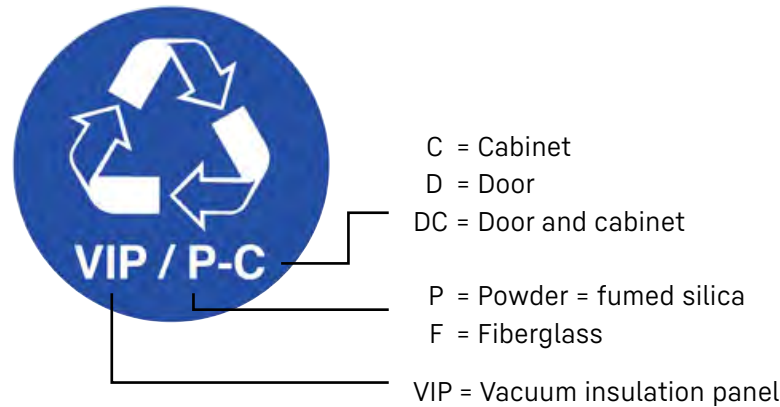
Once we take back appliances, we ensure they are recycled in an environmentally friendly manner, complying with legal and normative requirements, including EN 50625-2-3 and CLC/TS 50625-3-4.

In Germany, for example, manufacturers, not public systems (PROs) oversee disposal, with waste companies inspected by the state and manufacturers. Since 2007, our quality assurance system has monitored the recycling process, conducting regular audits to ensure compliance. Non-compliance can result in penalties, including delivery cessation.

High-viscosity oil label



VIP label





Source: REMONDIS Electrorecycling GmbH

Implementation of the WEEE Directive

The recycling process in the EU is governed by the **WEEE Directive** (Waste Electrical and Electronic Equipment Directive). Its goal is to recover as many valuable raw materials as possible, safely remove hazardous substances, and minimise environmental impact from improper disposal. As the WEEE is an european directive, it must be transposed into national law by the member states in order to become effective.

In Germany, the **Elektro- und Elektronikgerätegesetz (ElektroG)** regulates the responsible disposal of electrical and electronic appliances, including fridges and freezers.

Since 1 January 2019, all EU countries must achieve a minimum collection rate of 65 % for household electronic waste (based on the total weight of devices collected annually and the average weight of new devices placed on the market in the previous three years). At present, almost all EU countries fall short of this quota, which has various causes, including the unrealistic calculation of the collection rate.

For fridges and freezers, the required recovery rate is 85 %, with at least 80 % allocated to reuse and recycling. In contrast to the collection rate, the recovery rate is always exceeded.

The same applies to small appliances and IT equipment sold by Liebherr, where at least 75 % must be recovered, including a minimum of 55 % dedicated to reuse and recycling.

Germany only: For up-to-date information on collection and recycling quotas, visit the website of the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMUV): [Collection and Recycling Quotas Information](#).

[WEBSITE BMUV](#)



Extended Producer Responsibility

A key principle of the WEEE Directive is Extended Producer Responsibility (EPR). This means that manufacturers must ensure the proper disposal of consumer and professional appliances.

Manufacturers play a key role in ensuring the responsible disposal of old appliances by covering the costs of collection, recycling, and environmentally sound processing. Retailers are also responsible for ensuring proper disposal and are required to accept old appliances.

Beyond collection and recycling, product design plays a crucial role. Manufacturers must ensure that appliances are built for easy disassembly and material recovery, making recycling more efficient and reducing environmental impact.

Differences between household and professional appliances

The WEEE Directive distinguishes in some points between domestic (household use) and professional (business use) appliances, with different responsibilities.

Household appliances

Consumers are required to ensure the proper disposal of old appliances. They can return their old appliances free of charge at authorised collection points. Manufacturers must establish accessible collection systems that make appliance returns simple and convenient for consumers.

Professional appliances

Ensuring the correct disposal of professional appliances is essential to preventing environmental harm, conserving natural resources through reuse and recycling, and maintaining accurate tracking and reporting of disposal volumes. Since 1 January 2022, manufacturers in Germany have been required to offer a reasonable return option for professional appliances and cover the costs of their disposal.

When purchasing a Liebherr professional cooling or freezing appliance, customers can return a comparable old appliance for free disposal – even if it is from a different brand. However, this does not apply to non-refrigeration appliances like dishwashers or washing machines. Exception: Professional appliances sold before 15 August 2018 ("historical appliances") are exempt from free manufacturer disposal.

Liebherr ensures proper treatment, preparation for reuse, and recycling by processing returned appliances in certified facilities that exceed legally required recycling quotas. This structured take-back process also allows reporting to authorities and inclusion in public environmental statistics.



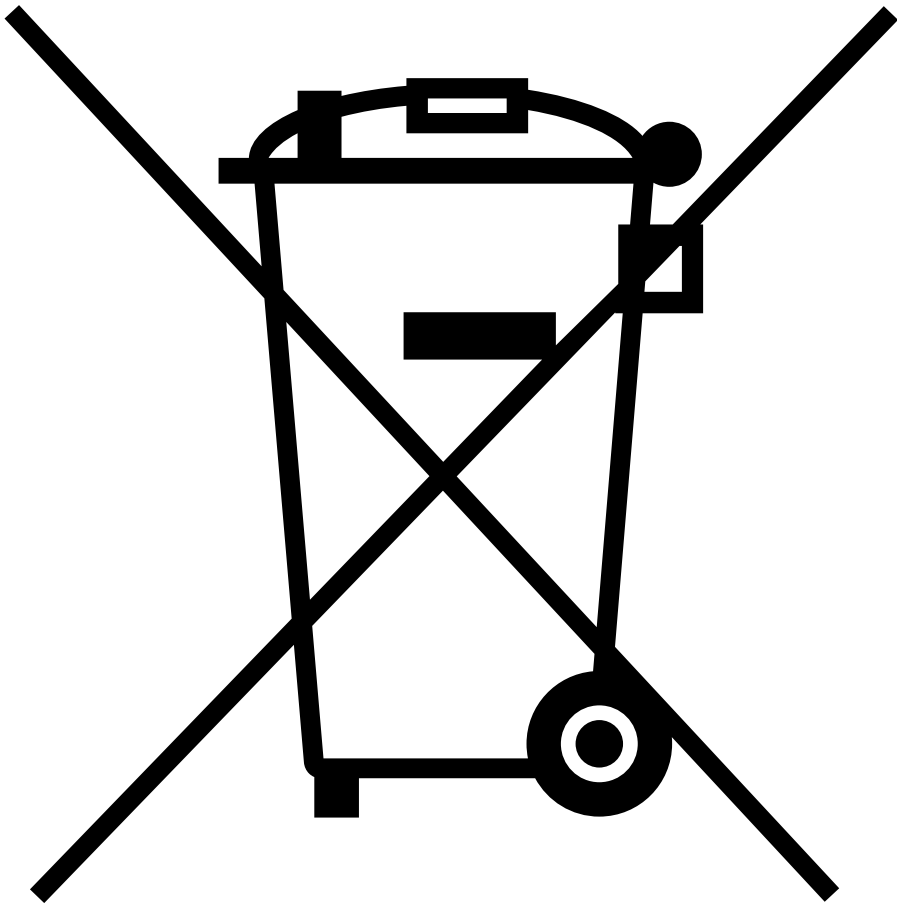
Customer responsibilities

To ensure environmentally responsible disposal, old appliances must be processed according to their designated waste category (e.g., Group 1: Heat Exchangers). Cooling circuits must remain intact to prevent refrigerant leaks. Cooling and freezing appliances must not be discarded as household waste – this is indicated by the crossed-out bin symbol on the appliance.

Before disposal, empty appliances of stored goods or waste, but leave standard accessories like drawers and shelves inside. Some Liebherr

appliances have batteries for data storage or operations; these should be removed and recycled according to battery disposal guidelines. Battery locations are specified in newer models and detailed in the user manual.

Additionally, removable light sources, such as bulbs and fluorescent tubes, must be disposed of separately, while LEDs can remain in the appliance. For appliances with data storage, it is the customer’s responsibility to delete all stored information, particularly personal data, before disposal.



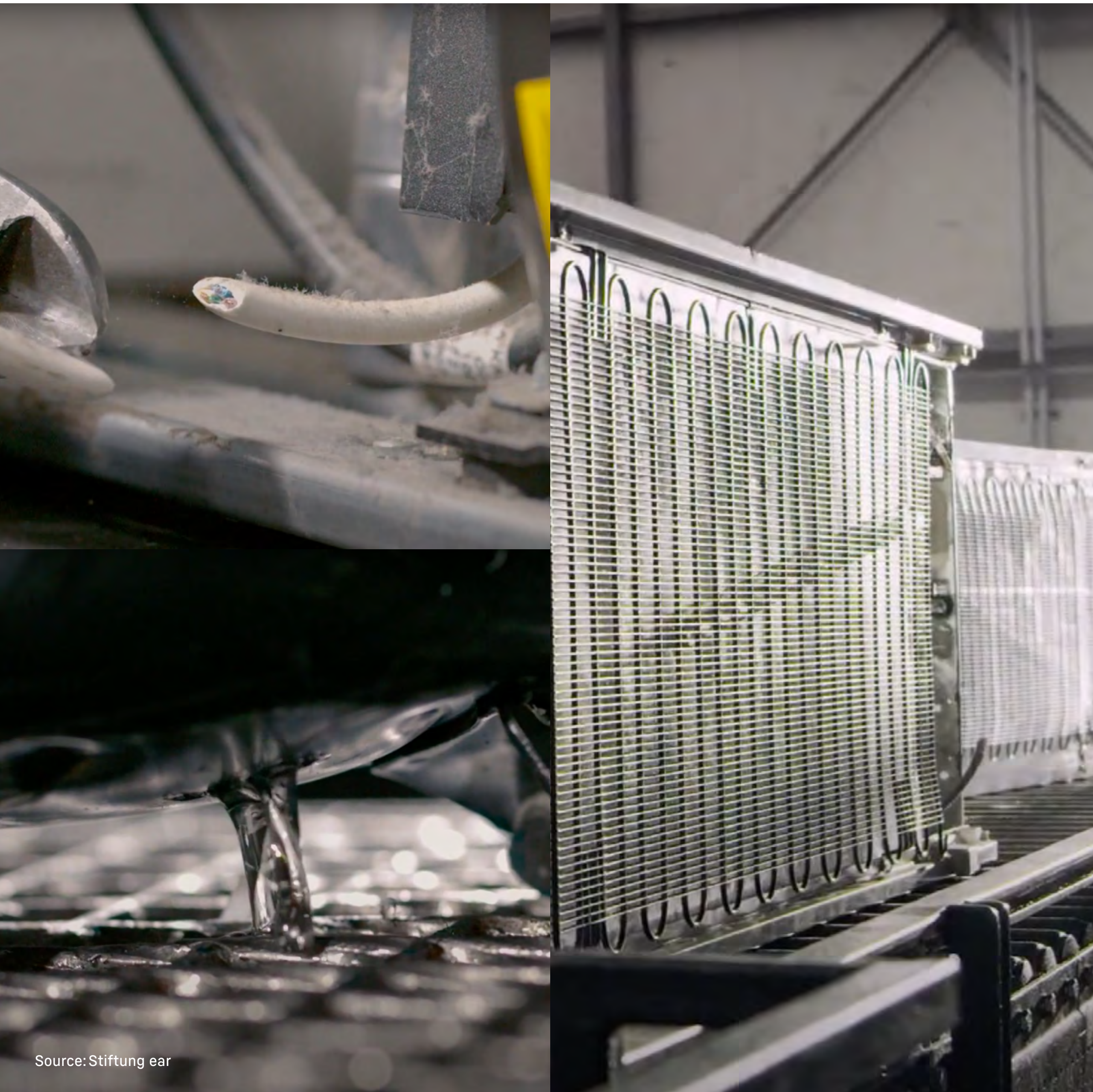
Important

Professional customers **are not obligated** to return old appliances to the manufacturer. If they choose alternative disposal methods, they are responsible for ensuring compliance with waste regulations, including preparation for reuse, correct treatment, and meeting recycling quotas.

How returns are arranged

Return requests **must be made at the time of purchase of a new appliance.**

For assistance, contact:
Professional Customers / Gastronomy and Laboratory
vertrieb-gewerbe.lhv@liebherr.com
Tel. +49 731 17 58 86-38



Source: Stiftung ear

First steps for the circular economy

The recycling process for appliances

The processing of cooling and freezing appliances follows a structured process to recover valuable materials and safely dispose of harmful substances. The process consists of two stages, with step 1 focusing on dismantling and the removal of hazardous components and parts. These specialised steps ensure compliance with industry standards while maximising resource recovery.

Delivery and preparation

Fridges arrive at the recycling facility and are manually unloaded for inspection, ensuring no visible damage or irregularities. Before processing, key preparations are made to ensure smooth and efficient recycling.

Interior components

Drawers and glass shelves are removed.

Power cables

Cables are cut to prevent entanglement in machinery.

External condenser

The external condenser is detached (external metal grille on the back).

Step 1: Removal of hazardous material and valuable components

In the first stage, all hazardous and valuable components are carefully extracted.

- **Coolant extraction**
Specialised equipment removes refrigerant and compressor oil to prevent environmental damage.
- **Compressor removal**
The unit responsible for compressing the refrigerant is dismantled separately.
- **Condenser removal**
Cooling elements and condensers are detached and sorted.
- **Electronics extraction**
Circuit boards, sensors, and control units are removed for specialised electronic recycling.

Difference to professional appliances

- **Manual processing**
Each appliance is disassembled individually to meet its specific requirements.
- **Resale potential**
Once properly processed, extracted materials or entire appliances may be eligible for resale.



Step 1



Step 2: Mechanical shredding and material separation

In this stage, appliances are mechanically shredded, allowing for precise separation of materials.

Blowing agent removal

Harmful gases released during shredding, such as Chlorofluorocarbons (CFC) from insulation foam, are extracted and safely disposed of.

Material sorting

Advanced systems efficiently separate key materials.

- Steel
- Aluminium
- Copper
- Plastics
- Foam

[WATCH A VIDEO ON THE RECYCLING PROCESS](#)

Source: REMONDIS Electrorecycling GmbH



Source: stiftung ear

Recycling roadblocks

The challenge of plastics and insulation foam

While valuable materials like steel, aluminium, and copper can be efficiently recovered, processing plastics and insulation foam remains a major challenge.

The wide variety of plastics with different properties currently is the biggest challenge for pure-grade sorting and high-quality recycling, meaning they cannot yet be reused at the same standard in new products.

Whenever processing technology permits, we use single-variety plastics. Plastic components weighing 50 g or more, as well as natural and synthetic rubber parts of 25 g or more, are marked according to international standards to facilitate subsequent recycling processes. Wherever possible, plastic waste generated during processing is collected, ground, and largely reintegrated into production. Non-recyclable plastic waste is sorted by type and sold accordingly.

Insulation foam cannot be recycled. Instead, it is used for thermal recovery, where its energy content is utilised, though the material itself is permanently lost.



Source: stiftung ear



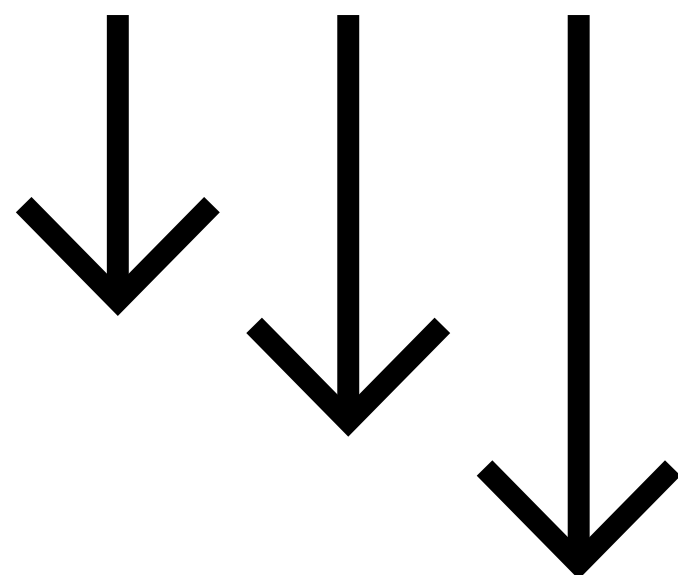
The future
is circular.

Rethinking the way we make things

We are committed to integrating circular economy principles across our operations to minimise waste, enhance resource efficiency, and reduce our environmental footprint. For us, this means designing appliances that are durable, reusable, and recyclable – delivering both performance and sustainability.

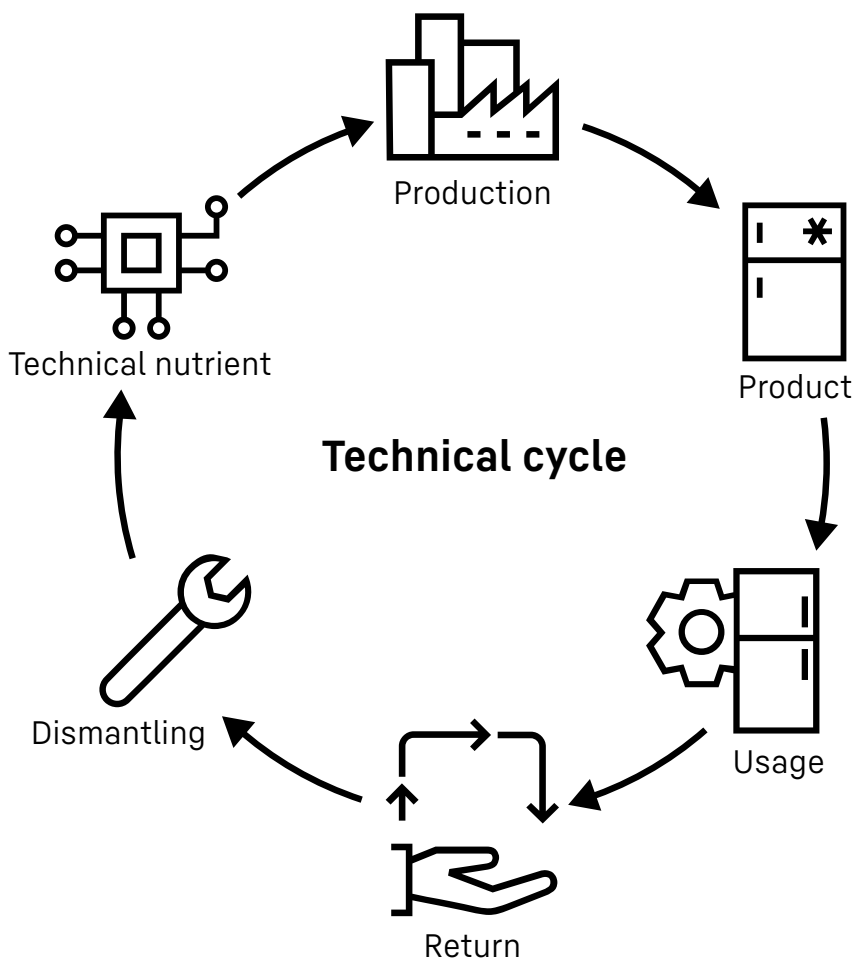
Our long-term vision is clear: to build a future where our products contribute to a sustainable, circular economy. By constantly challenging ourselves to improve and innovate, we are taking meaningful steps towards closing the loop and making a lasting difference.

[MORE ON CRADLE TO CRADLE](#)





Closing the loop: our vision for the circular economy



Our vision for the technical
cycle in the circular economy

Designing for circularity

We are working towards more "circular" appliances by increasingly considering end-of-life scenarios in our design process. A meaningful step in this direction is the FNXa 522i freezer with [BluRoX technology](#), which already integrates circular design concepts to support easier dismantling, reuse, and recycling.

Advancing material selection

We are continuously exploring ways to integrate more renewable materials and recyclates while reducing material variety to simplify recycling. Through ongoing research into alternative materials, we aim to make our appliances even more innovative and sustainable.

Improving recycling processes

We collaborate with recycling companies, providing detailed information through labels and databases to optimise the recovery of raw materials. Our participation in public awareness campaigns helps guide customers on the proper disposal of old appliances.

Extending product lifespans

We design durable, high-quality appliances to reduce waste. By guaranteeing spare parts for at least 15 years, we help keep our products in use for longer, reducing environmental impact.

Minimising waste at production sites

Reducing waste is a priority. We use reusable packaging, optimise material use, and analyse packaging waste from purchased parts to further minimise our impact.

Collaborative partnerships

Collaboration is key. We work with suppliers, recyclers, and research institutions to innovate and improve every stage of our product lifecycle.



BluRoX: A new standard in energy efficiency

The next step in insulation technology

Instead of conventional polyurethane foam, BluRoX utilises a far more efficient vacuum-sealed volcanic rock (perlite) insulation. This material not only provides superior thermal insulation but also reinforces structural stability. Unlike conventional insulation, BluRoX components are not permanently bonded, allowing the outer shell and inner container to be easily separated and efficiently recycled. At the end of its lifecycle, the perlite can be removed without complex processing and directly reused – laying the foundation for a circular economy. The next steps now focus on implementing this innovation at scale.

Given our commitment to durability, BluRoX appliances are designed for a minimum lifespan of 15 years, meaning it will take time before significant volumes reach the end of life. However, we are already working closely with logistics specialists, research institutions, and recycling companies to ensure a fully closed material loop for the future.

From waste to resource

Our efforts for more efficient recycling

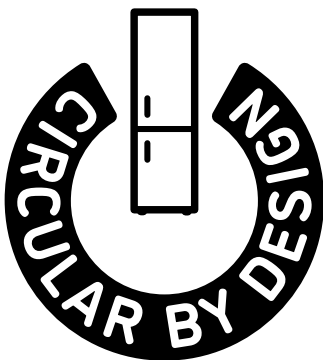
We are committed to continuously optimising recycling processes, even for our conventional appliances. Through intensive research and development, Liebherr Appliances is exploring innovative ways to enhance material recovery and minimise waste. Additionally, we are collaborating with recycling companies and industry partners to drive forward more efficient and sustainable recycling solutions.





Circular by Design initiative

Between 2019 and 2023, Liebherr Appliances contributed to the Circular by Design project, a research initiative dedicated to advancing a resource-efficient circular economy. The project focused on rethinking how fridges and freezers are designed to ensure easy repair, reuse, and recycling, reducing waste and conserving valuable materials.



Traditionally, product design has prioritised energy efficiency, but Circular by Design expands this focus to resource efficiency, ensuring a sustainable raw material supply. The project developed evaluation tools to assess recyclability, explored new business models like repair and leasing, and established digital material flow models to optimise resource management.

The project addressed critical obstacles to circularity, such as:

- **End-of-life considerations in design**
Ensuring appliances are built for efficient disassembly and recycling
- **Component separation**
Overcoming challenges in dismantling electronics and mixed materials
- **Recycled plastic limitations**
Improving safety and quality for use in food contact areas
- **Material supply consistency**
Addressing fluctuations in the availability and quality of recycled materials

Liebherr's role and contribution

As an industry leader and specialist in refrigeration and freezing, we provide technical expertise and appliance models (e.g., CNPes 4758) for research and testing. Findings from the project are directly integrated into our product development, ensuring future fridges and freezers are designed for maximum recyclability. We also actively test our products' recyclability to enhance material recovery rates.

Collaboration and research partners

The project is led by the Helmholtz Institute Freiberg for Resource Technology in collaboration with key research institutions, including the Wuppertal Institute, Folkwang University of the Arts, and industry partners like BEC Becker Elektrorecycling Chemnitz GmbH.

Impact and future outlook

Through Circular by Design, Liebherr is driving the transition towards fully recyclable cooling and freezing appliances while exploring new economic models that reduce dependence on virgin resources. By merging resource efficiency with life cycle assessment, the project paves the way for an industry-wide shift towards true circularity.

With durability built into every Liebherr appliance – designed for a minimum 15-year lifespan – the company is already preparing for the future. By working closely with logistics experts, researchers, and recyclers, we continue to refine solutions for a fully closed material loop, reinforcing our commitment to sustainability and responsible resource management.

People and sustainable business 6.



Our people, our responsibility

Empowering employees and driving sustainable business for lasting success

Our employees are at the heart of everything we do. As a family-run company with a long-term vision, we believe that business success is intrinsically linked to the well-being of our employees, responsible corporate governance, and environmental stewardship.

Our approach focuses on shaping a future where economic stability, ecological responsibility, and social equity work together. This involves creating a work environment where individuals can thrive, ensuring ethical business practices, and supporting innovative solutions that contribute to a circular economy.

Respect for human rights is at the core of our values. We are committed to equal treatment, employee well-being, and workplace safety, while also encouraging personal and professional growth. Beyond our organisation, we actively strive to make a positive impact on the communities in which we operate.

Sustainability also extends to our economic responsibility. We believe in long-term financial planning and self-financing, ensuring stability for future generations. Fair competition, adherence to laws, and strict compliance with internal standards and codes of conduct guide our approach to doing business responsibly.





Our people make us who we are.

Creating a workplace where
people feel valued, supported,
and inspired

At Liebherr, we rely on highly motivated and skilled employees who remain with us for many years, contributing their dedication and enthusiasm to our company. To support them, we create the right conditions – offering secure jobs and a healthy working environment where they can thrive.

With flat hierarchies and a high degree of autonomy, our employees take on responsible roles and have the freedom to make decisions. We encourage entrepreneurial thinking and actively support professional growth through training and development programmes.

Liebherr values diversity, including cultural diversity, as an integral part of our identity. Close teamwork across borders enriches our company, while our workplace culture is shaped by mutual respect, fairness, trust, and integrity.

Human Resources key figures

Key figures for Ochsenhausen, Lienz, Marica, Sambhaji Nagar, and Kluang sites, as well as worldwide sales locations (as of 31 December 2024)

	2022	2023	2024
Permanent staff ¹	6,359	6,362	6,152
Apprentices ²	108	117	129
Proportion of female employees	23%	23.6%	24%
Proportion of employees in management positions ³	10.4%	11.1%	12.5%
Proportion of women in management positions ³	8.5%	9.5%	9.1%
Employee turnover rate	14%	11.7%	10.7%
Ø training hours per employee	7.8	6.5	n.A
Notifiable work/commuting accidents	99	95	64*

¹ Employees with a contract at our companies of Liebherr Appliances ² not including working students ³ team leaders or higher
* In European manufacturing facilities. Global data were not available at the time of publication



Employees in full-time and part-time positions (as of 31 December 2024)

	2022	2023	2024
Part-time	8.6 %	12.4 %	9.0 %
Full-time	91.4 %	87.6 %	91.0 %

Women and men in technical and commercial training (as of 31 December 2024)

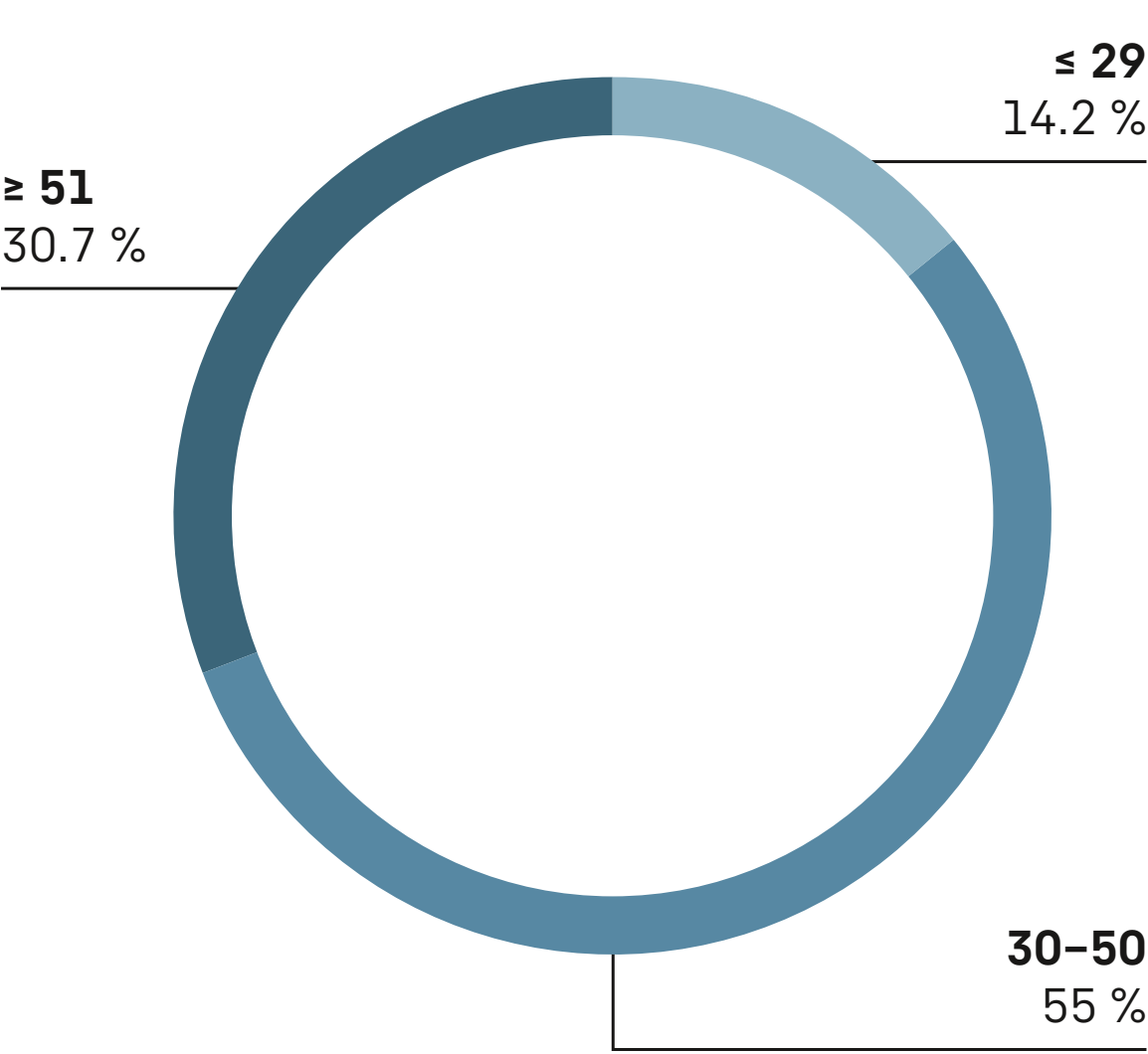
	2022	2023	2024
Proportion of female apprentices	17.6 %	18 %	24%
Proportion of male apprentices	82.4 %	82 %	76 %

Age structure of the permanent staff¹ (as of 31 December 2024)

Age	2022	2023	2024
≤ 29	12 %	13.7 %	14.2 %
30–50	54.7 %	54.4 %	55 %
≥ 51	33.3 %	31.9 %	30.7 %

¹ Employees with a contract at our companies of Liebherr Appliances

Age structure of the core workforce 2024





Prioritising employee well-being

Corporate Health Management at Liebherr Appliances

Our holistic approach to employee well-being
Employee health is a key priority for us. Our Corporate Health Management (HM) is a comprehensive initiative, that brings together multiple departments to promote well-being across all locations. Human Resources and our Time Management department offer practical health initiatives and ensure balanced working hours and ergonomic workplaces, while our Health, Safety and Environment team oversees workplace safety. The goal is to implement a unified health strategy, offering all employees – regardless of location – equal opportunities to maintain and improve their well-being.

Practical health initiatives
Our health programme includes a wide range of initiatives, with a strong focus on preventative care. Many of these are offered across multiple sites in addition to digital formats to ensure accessibility. One example is our partnership with Windhund which provides monthly expert digital talks on mental health, nutrition, sleep and others. These sessions are easily accessible to employees – even outside of working hours.

One of the highlights is the annual Wings for Life World Run, a global charity event that raises funds

for spinal cord research. Liebherr Appliances covers the entry fee for all its participants.

Our global online yoga classes are also highly popular, as they include practical exercises that do not require language skills and are available worldwide. In addition to global initiatives, local programmes are tailored to meet the specific needs of individual sites.

Planning for health initiatives usually occurs at the end of the year, using different insights such as health insurance reports and internal

evaluations as a basis. In collaboration with company management and external partners, we develop concepts that are implemented in the following year. Many of our global programmes receive support from German health insurers, which aids in the implementation process.

Our health goals

In the fast pace of daily life, health can often be overlooked. Liebherr Appliances provides practical opportunities for employees to engage more deeply with this important topic, helping them reflect on their lifestyle choices. Our Health Management programme is designed to:

- Promote employee health, motivation, and productivity
- Encourage employees to take an active role in their well-being
- Enhance employer attractiveness through healthy workplaces and ergonomic solutions

Collaboration across locations

Liebherr Appliances' global Health Management team works closely across multiple locations. Each team member oversees health initiatives at their respective site and regularly coordinates with occupational physicians, local HR teams,

and company management. Employees in Germany, Austria, and Bulgaria exchange best practices monthly to share insights and scale successful programmes.

A key focus is on expanding digital offerings that are flexible, accessible across languages, and available worldwide. We strive to harmonise global and local initiatives, ensuring a consistent and impactful approach to employee well-being.

Overcoming challenges

Implementing a comprehensive health management system comes with challenges. Language barriers and the need for in-person activities can make it difficult to introduce company-wide programmes. Digital solutions – such as our yoga classes, which do not rely on language – help bridge these gaps.

Reaching employees in production roles remains another challenge. To improve accessibility, Liebherr uses digital communication platforms like the employee app Lolyo and physical bulletin boards to share information. Participation rates and employee feedback are continuously reviewed to refine and enhance health initiatives.

Looking ahead

Moving forward, we are placing greater emphasis on helping employees navigate difficult situations and strengthening their individual health. By continuing our close collaboration with external partners and health insurers, Liebherr remains committed to delivering initiatives that enhance both the health and satisfaction of our employees.



Investing in people and the future

How we create opportunities for people to lead, innovate, and collaborate

At Liebherr Appliances and the wider Liebherr Group, employee development is a fundamental part of our company culture. Through structured programmes and initiatives, we nurture talent, strengthen leadership skills, and foster cross-functional collaboration. Our approach focuses on individual learning needs, innovative training formats, and networking opportunities, enabling employees to grow both professionally and personally. These efforts not only enhance Liebherr's attractiveness as an employer but also contribute to our long-term success.



Training and education

With demographic shifts leading to a growing skills shortage, attracting and developing talent is a key focus of our Human Resources strategy. To address this, Liebherr Appliances is strongly committed to vocational training and further education.

A large part of our future workforce is built through comprehensive apprenticeships and dual-study programmes in over 20 technical and commercial professions. These not only provide technical expertise but also develop practical, social, and personal skills.

Through a rotation system, apprentices and students gain exposure to different departments, deepening their expertise while enhancing teamwork and adaptability.

Professional development and lifelong learning

Preparing employees for current and future challenges is the driving force behind our professional development initiatives. Our Human Resources teams implement targeted learning and development programmes aligned with the strategic goals of our business units.

Key focus areas include:

- Continuous development and promotion of in-house talent, both technical and managerial
- International talent management, strengthening Liebherr’s future leadership pipeline
- Specialised training programmes tailored to specific target groups
- Standardising learning opportunities across the organisation to ensure consistency

As industries evolve, so do our learning methods. While passive, externally driven training was once the standard, self-directed learning has now taken centre stage. Employees are encouraged to take ownership of their development, with flexible learning formats supporting their growth.

Programmes at Liebherr Appliances

Talent Factory: Shaping the next generation of leaders

The Liebherr Appliances' **Talent Factory** programme is designed to support employees with exceptional potential. It supports the development of cross-functional and personal competencies while preparing participants for future roles and responsibilities. A particular emphasis is placed on agile working methods and learning, equipping young professionals with the skills to navigate uncertainty and solve complex challenges. Participants also benefit from the opportunity to build an interdisciplinary and international network, strengthening collaboration across Liebherr’s European production sites.

Educational management

At Liebherr Appliances, we believe that learning should be an integral part of everyday work. Our educational management strategy is designed to promote continuous professional growth by providing flexible, accessible, and practical learning opportunities.

A key initiative in this approach is **Self-Paced Learning**, launched in 2021 as a cross-location programme to integrate structured learning into daily work routines. Employees can select from a range

of relevant topics, including communication fundamentals, giving feedback, and developing an agile mindset. This initiative empowers individuals to take charge of their learning and professional growth.

By promoting continuous and informal learning, we not only help employees adapt to change but also enable them to actively shape the future – both within Liebherr and beyond.

Annual Dialogue

Liebherr Appliances' **Annual Dialogue** provides a structured opportunity for employees and leaders to discuss career perspectives and development opportunities. This process fosters transparency, professional growth, and personalised career planning.

The Annual Dialogue is more than just an annual performance review – it is a structured and trust-based conversation that fosters professional development, collaboration, and alignment within the company. Introduced in 2020 across all European locations of Liebherr Appliances, this initiative standardises the performance and development process while ensuring flexibility to address individual needs.

The Annual Dialogue serves multiple purposes:

- Clarifies company strategy, objectives, and responsibilities
- Highlights each employee’s contribution to the bigger picture
- Strengthens teamwork through open and constructive discussions
- Provides leaders with a valuable tool for guiding and supporting their teams
- Forms the foundation for personal and professional development planning

While the focus is on employee growth, a structured framework ensures consistency across teams and locations. The programme has evolved to include relevant topics such as digitalisation, change management, and intercultural collaboration, allowing employees and leaders to select discussion points that best fit their roles.

In 2021, team goals were introduced, encouraging employees to work collectively towards shared objectives – reinforcing a stronger sense of teamwork and cross-functional collaboration.

Encouraging innovation: Ideas Management

Liebherr Appliances actively encourages employees to take initiative and contribute ideas that improve processes and products. Many proposals focus on energy efficiency, sustainability, and innovative product solutions – helping us drive continuous improvement and shape the future of our industry.

Through structured programmes such as the **Employee Suggestion Scheme** (ESS), established in 1995 at the Ochsenhausen site, and the **Continuous Improvement Process** in Lienz and Marica, employees contribute valuable insights. Expert teams review proposals, with selected ideas advancing to development projects.

With hundreds of ideas submitted and a growing focus on sustainability, employee contributions directly shape our processes, products, and environmental impact. By providing platforms for engagement, we empower employees to influence the company's future and strengthen our commitment to innovation.





Programmes at Liebherr Group

Global Trainee Programme

The **The Liebherr Group's Global Trainee Programme** combines international exposure with hands-on experience to provide talented employees with comprehensive, cross-functional development. Participants rotate through different business areas across national and international locations, gaining a deep understanding of Liebherr's global operations.

Complemented by targeted training and project work, the programme enhances both technical expertise as well as social skills and leadership qualities. The goal is to cultivate future experts and leaders who can thrive in international environments and drive innovation within the group of companies.

The Liebherr Group's Mentoring Programme: Learning from experience

Our mentoring programmes connect leaders across different business units in the DACH region, creating opportunities for professional and personal growth. Experienced leaders provide guidance, helping mentees develop skills, expand their networks, and navigate career challenges. While primarily offered in German, the programme is also open to German-speaking leaders from other Liebherr companies. In addition, Liebherr participates in cross-industry mentoring initiatives to support knowledge exchange beyond company boundaries.

Leadership programme

Be a People Enabler is the guiding principle of the Liebherr Group's Leadership Programme, designed for new leaders. A combination of online and in-person sessions helps participants deepen their leadership skills, focusing on areas such as team management, personality development, conflict resolution, and feedback culture. The programme also promotes cross-functional and international collaboration, fostering leadership skills in a global business context.

At Liebherr, leadership is about enabling people – creating an environment where employees can grow, collaborate, and contribute to the company's success. Our structured leadership programmes equip current and future leaders with the skills, tools, and mindset needed to guide teams effectively.

GROW - Basic Leadership Programme

Designed to strengthen cross-functional leadership skills, this programme helps leaders develop their individual leadership toolkit.

Senior Management Programme

Preparation for an advanced position in senior and top management: Preparing employees for senior leadership roles or lateral career moves, this programme focuses on talent development, networking, and reinforcing Liebherr's corporate culture.

Safety first

Occupational safety at Liebherr Appliances

We manage occupational safety and health protection with ISO 45001, integrating these practices into our **Integrated Management System** (IMS) to ensure continuous improvement. Our approach aligns with national occupational safety regulations, safeguarding our employees, external partners, and visitors.

A dedicated team of safety specialists at our sites is responsible for maintaining workplace safety, supported by volunteers who step in as safety officers for additional tasks. In 2024, we recorded 64 reportable workplace incidents at our european manufacturing facilities. To minimise these incidents on a global level, we are actively working to reduce risks through structured accident evaluations. All employees are covered by occupational accident insurance and receive regular safety training.

Our occupational safety and health management system includes structured training sessions during working hours, tailored to the needs of the workplace and the qualifications of employees. Risk assessments are conducted regularly at all sites and incorporate psychological stress factors into our workplace health management strategy. We document all incidents to implement corrective measures and monitor progress to minimise risks.

To ensure optimal protection, all employees are provided with personal protective equipment (PPE) based on risk assessments. Safety guidelines, brochures, and training materials support ongoing safety education, while environmental monitoring evaluates workplace conditions, including noise, dust, lighting, chemical exposure, microclimate, and electromagnetic radiation.

In 2024, the German insurance company "HDI Versicherung" assessed our European locations in terms of potential property damage and business interruption and rated Ochsenhausen as “good” and Lienz as “very good”.

Our commitment to health goes beyond prevention. Medical professionals, certified nursing staff, and on-site emergency services provide immediate medical care across our European sites. Over 500 trained first responders are available for on-site emergency support, and defibrillators are placed throughout our European locations. Additionally, in-house fire brigades and trained response teams collaborate closely with official fire departments, conducting annual fire safety training to enhance emergency preparedness.



A photograph of four men in business suits standing in front of a green wall. The man on the far left is smiling and has his arms crossed. The other three men are also smiling. The text 'Sustainable business' is overlaid on the left side of the image.

Sustainable business

Sustainability is not a buzzword

Sustainability is deeply embedded in our corporate philosophy and reflects our long-term commitment to responsible business practices. As an independent family-run company, we have the flexibility to make fast and autonomous decisions, allowing us to pursue sustainable strategies with a long-term perspective. Our foundation is built on stability, trust, and reliability – values that are equally important to our customers, employees, and business partners.

At the same time, innovation drives our progress. We continuously develop forward-thinking solutions, always placing quality at the heart of everything we do.

Our approach to economic sustainability is based on the belief that long-term success can only be achieved through responsible business practices. We focus on financial stability, sustainable investments, and the continuous improvement of our processes – ensuring that economic, environmental, and social priorities are aligned. This creates the foundation for a future that is both successful and responsible.

THE LIEBHERR GROUP'S CORE VALUES

Managing Directors Liebherr-Hausgeräte GmbH
Steffen Nagel, Thomas Obererlacher, Andreas Seifert, Detlef Walter

The Liebherr Group's core values

We are independent



Our independence enables us to take decisions rapidly and autonomously.

As a family-owned company, we aim for a high degree of freedom in all our decisions and actions. The basis for this is the financial independence achieved by sound business methods and retention of profits within the Group.

The Group's policy of extensive diversification helps to make us independent of economic fluctuations in individual business sectors or markets. Another element in this autonomy is our mastery of core technologies in every detail.

We are a trustworthy partner



We aim to maintain our consistency and trustworthiness for many years to come.

We strive for close cooperation with our customers and business associates, based on loyalty and fair play. Rather than being content with short-lived success, we aim for a long-term relationship.

We supply products and services that create genuine added value and user benefit. Our policy is to be satisfied with our work only when the customer or business associate is satisfied. This has led to steady growth ever since 1949, when the first Liebherr company was established.

We are innovative



We work systematically to keep one step ahead.

Liebherr stands for continuous innovation and successful ideas management on a large scale. What we have already achieved serves as a basis for improvements in every area of the Group's activities.

We encourage our workforce to think creatively and are prepared to tackle even the most difficult technological challenges. Our decentralised corporate structure puts us in a position to react flexibly to competition in global market areas and to transform ideas rapidly into effective results.

Our aim is to achieve technological progress in the best interests of our customers. Every year we invest considerable sums in research and development, to put us in a position to explore new paths and set new trends.

Highest quality in everything we do



We devote all our efforts to best performance.

Our products and services must always measure up to the standards associated with the Liebherr name, and to which we give top priority: the best possible quality and effective support for our customers' business activities. To ensure that our products are manufactured to this high-quality standard, we invest unceasingly in the modernisation of our production facilities.

We promote awareness of quality – and insist on it both in our own work and the work we commission from our business associates.

We accept responsibility

” We aim at all times to fulfil our responsibility to society in general and to the environment.

As a family-owned company active throughout the world, we carry considerable responsibility for society and the environment. We are convinced that we shall only achieve long-term success if we remain aware of this responsibility in all our activities. Protection of humanity and the environment is of special importance in our business activities.

It means that our products and the processes used to manufacture them must be safe, efficient and environmentally acceptable.

Integrity has a high status for us as a family-run company. We undertake to apply fair business methods when competing in world markets.

The Liebherr Group's long history of successful growth is due to a responsible, forward-looking business policy. One of our principles will therefore continue to be “thinking of tomorrow today”.

Our employees are a key factor in our success

” We greatly appreciate the degree to which our employees identify with their company.

We are fortunate to be able to rely on capable, highly motivated employees who remain loyal to us for many years and devote themselves enthusiastically to the Group's interests.

To promote this situation, we create suitable overall conditions: secure jobs and a healthy working environment. The absence of unnecessary managerial levels encourages our staff to take on responsible tasks with ample freedom of action. We promote entrepreneurial initiative and offer our employees various basic and advanced training programmes.

Liebherr stands for diversity in the cultural area as well. The Group draws strength from close teamwork across national borders. Cooperation within our Group is founded on integrity, mutual respect, fairness and trust.



Business decisions and beyond

How our corporate responsibility management drives ethical and sustainable business

Every business decision aligns with economic, environmental, and social responsibility. Sustainability is a guiding principle across all areas of our company, and we expect the same commitment from our business partners. The Liebherr Group's [Code of Conduct](#) establishes clear standards for ethical business practices and integrity, reflecting the core values that define Liebherr.

As part of a long-term oriented family business, our product segment is built on sound economic principles. This foundation enables us to contribute meaningfully to a more sustainable future.

Our approach to environmental responsibility is holistic and economically sound, covering the entire product lifecycle – from design and development based on customer needs, to production, usage, and end-of-life disposal. Key focus areas include energy and resource management, waste reduction, and climate protection.

Beyond our business, we are deeply connected to the communities surrounding our production sites. As a major employer in many regions, we take our social responsibility seriously – actively contributing to local economies and supporting long-term regional development.





A culture of integrity

Our commitment to compliance

Adhering to laws and internal regulations is of the highest priority for us. To uphold this commitment, it is essential to identify potential misconduct at an early stage and take immediate and appropriate action. By ensuring compliance and accountability, we reinforce our corporate values of integrity, fairness, and responsibility.

Whistleblowing and reporting mechanisms

Liebherr Group has a confidential whistleblowing system that allows employees and third parties to report any breaches of human rights, legal regulations, or internal policies – including the Codes of Conduct for employees and suppliers. This ensures transparency and accountability across all areas of our business.

[SEE OUR COMPLIANCE PAGE](#)



Human rights

Liebherr Appliances' approach to human rights

Liebherr Appliances is committed to protecting and promoting human rights across all business operations and supply chains. Sustainability – both economic and environmental – is deeply embedded in our values, alongside our responsibility to ensure fair and safe working conditions.

We firmly believe that long-term success is only possible when economic activities respect both people and the environment. Therefore, we are dedicated to upholding human rights and preventing violations in all areas of our business.

Liebherr Appliances supports the ten principles of the [United Nations Global Compact](#), which focus on human rights, labour standards, environmental protection, and anti-corruption, as well as the [UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS \(SDGS\)](#).

With our German companies, we comply with the German Supply Chain Due Diligence Act (LkSG) by conducting risk analyses and implementing mitigation measures to prevent human rights violations in our supply chain.

Each German Liebherr company affected by the LkSG submits documentation of the implementation and the results of the risk analyses to the Federal Office for Economic Affairs and Export Control (BAFA) and publishes the report on the company website. This ensures that the measures are transparent, traceable and meet the legal requirements.

Implementation and monitoring

To fulfil our human rights due diligence obligations, we systematically assess potential risks within our operations and supply chains.

We align our approach with the Liebherr Group’s [Corporate Responsibility Policy](#), [Code of Conduct](#), and [Supplier Code of Conduct](#), which set binding standards for all employees and business partners.

We expect all employees and business partners to adhere to applicable laws and international human rights conventions. Any violations will be taken seriously and addressed accordingly.

[SEE OUR CODE OF CONDUCT](#)

Accountability and continuous improvement

The management of Liebherr Appliances is responsible for ensuring the implementation and enforcement of human rights due diligence. Our procurement teams play a key role in maintaining these standards throughout our supply chain.

As human rights due diligence is an ongoing process, we continuously review and refine our objectives and measures to adapt to evolving challenges. Through responsible business practices and proactive engagement, Liebherr Appliances is committed to ensuring an ethical and sustainable supply chain for the future.



THE GLOBAL GOALS

Act global. Source local.

Facts and figures
on our supply chain (2024)

79 %

of the purchasing
volume in Europe

594

suppliers of
manufacturing
materials

86.5 %

of the highest-volume
suppliers have an
environmental
management system

95 %

of lorries
travel with
loads of 100 %

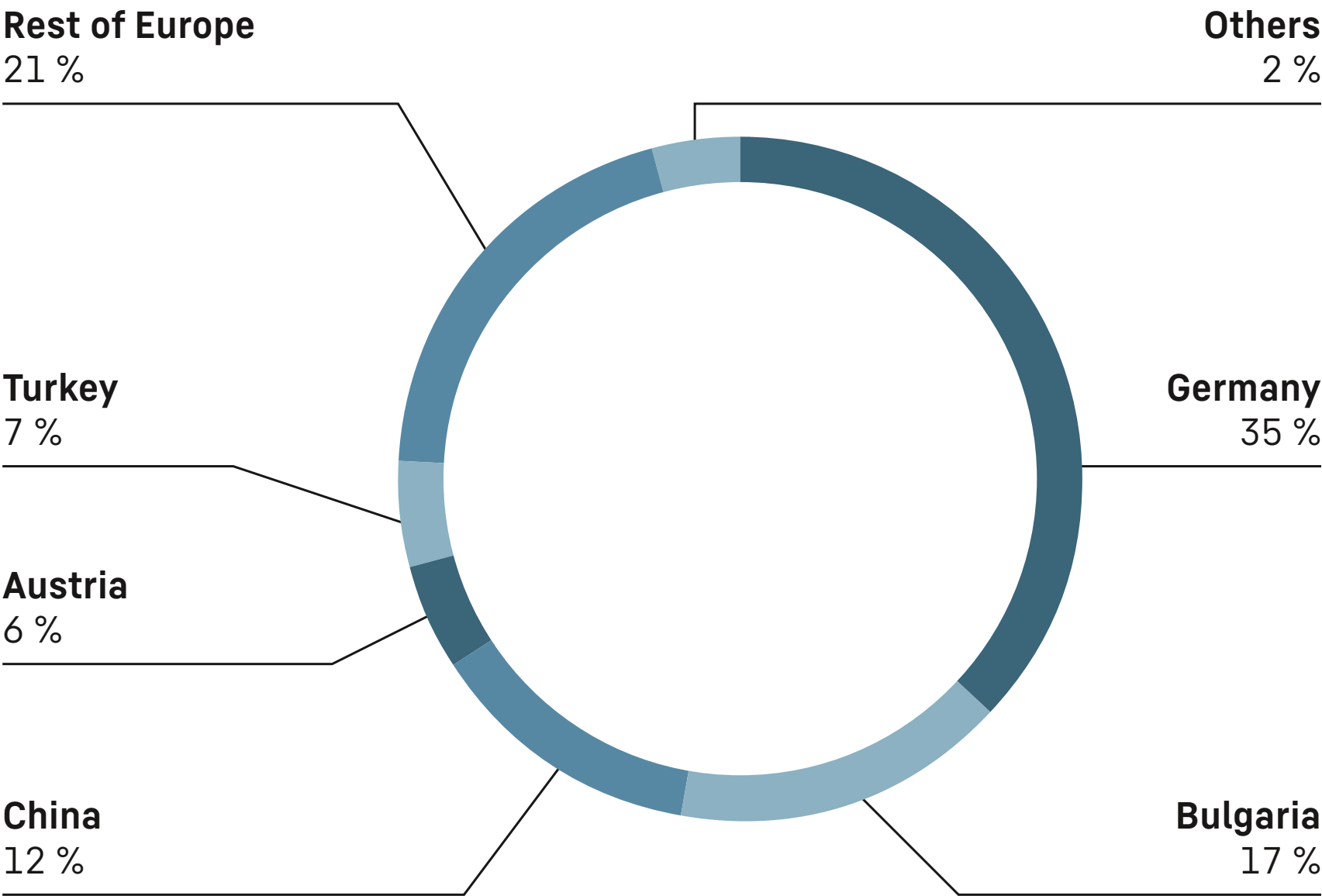
Responsible sourcing and supplier standards

Liebherr Appliances sources 57 % of its materials from partners in the same countries as our European production sites, ensuring supply chain efficiency and demonstrating our focus on regional sourcing. Additionally, 86.5 % of our suppliers have an environmental management system – an increase of 1.5 % over 2023.

Supplier audits are conducted regularly to assess delivery capability and compliance with quality standards. The scope and frequency of these audits are determined annually by purchasing and quality management, with additional risk assessments based on supplier location.

If quality or compliance violations are identified, an escalation process is triggered, which can lead to supplier delisting. Severe breaches, such as forced or child labour, result in immediate contract termination. In other cases, suppliers must demonstrate a commitment to improvement by working with our teams to implement a corrective action plan. Transparency and active problem-solving are essential for continued collaboration. [The Code of Conduct for Suppliers](#) is based on the Code of Conduct of the Liebherr Group and specifically reflects what Liebherr expects from its suppliers in this respect and what commitments they are making to Liebherr.

Proportion of purchase volume of manufacturing material

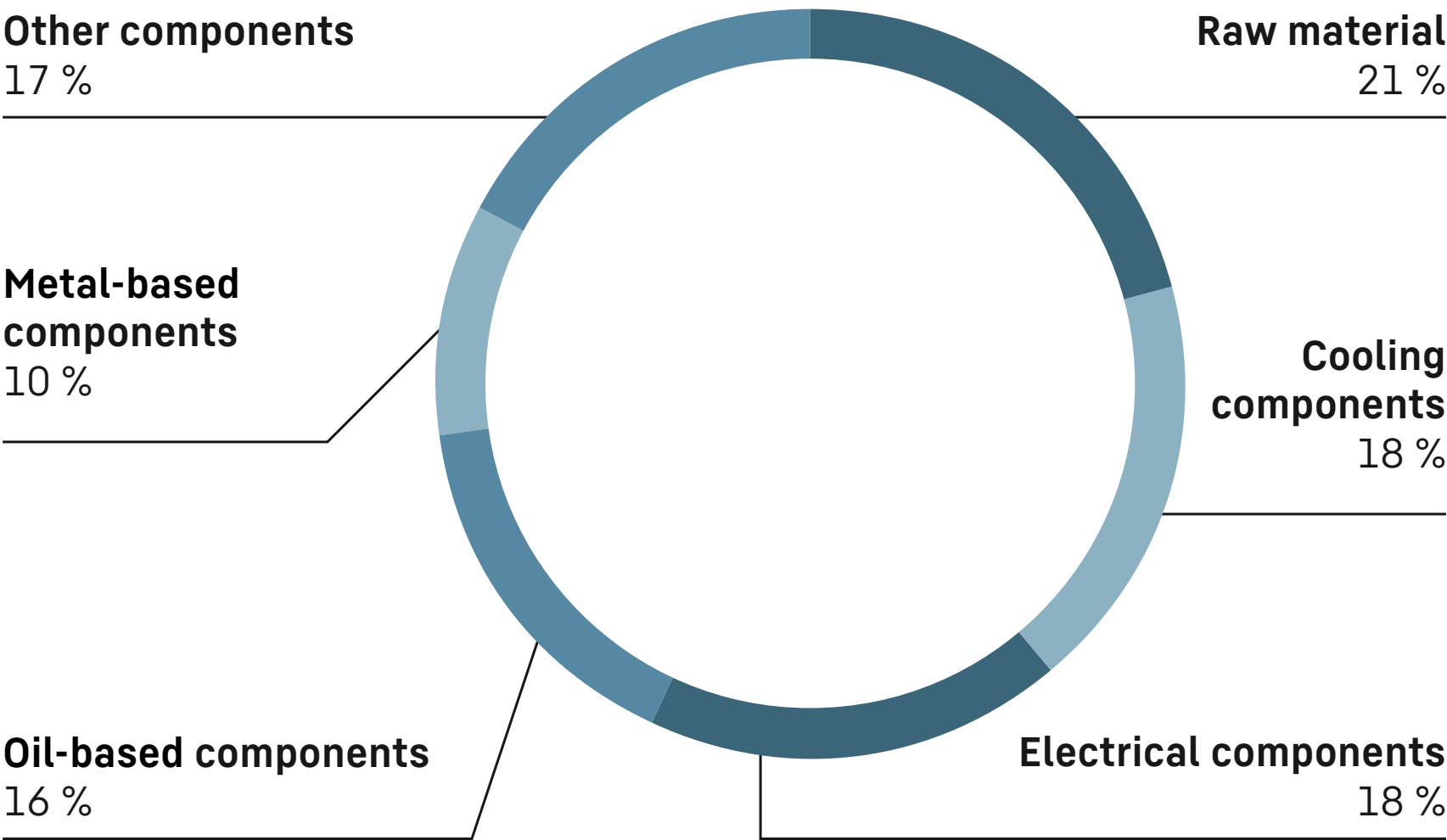


Share of purchasing volume

Liebherr Appliances collaborates with over 594 suppliers, ranging from global corporations to medium-sized businesses and small enterprises, including social workshops. This broad supplier base enables us to maintain high-quality standards, ensure supply chain resilience, and integrate sustainability principles into our procurement processes.

By working closely with reliable and responsible suppliers, we ensure high-quality materials, efficient sourcing, and continuous innovation – all while supporting sustainability and ethical business practices across the supply chain.

Total purchase volume





Optimised logistics for efficient transport

Liebherr Appliances is committed to maximising cargo space utilisation to enhance transport efficiency and reduce emissions. Currently, 95 % of lorries leaving central warehouses are fully loaded, minimising both environmental impact and costs. By optimising transport processes, we help strengthen supply chain efficiency while actively reducing our carbon footprint.

To achieve this, we employ strategic logistics solutions, including:

Centralised warehousing

Factory-based and regional warehouses ensure efficient distribution in core markets.

Optimised shipments

Carefully planned transport routes ensure vehicles are fully loaded.

Route optimisation

Continuous improvements prevent empty trips and enhance transport efficiency.

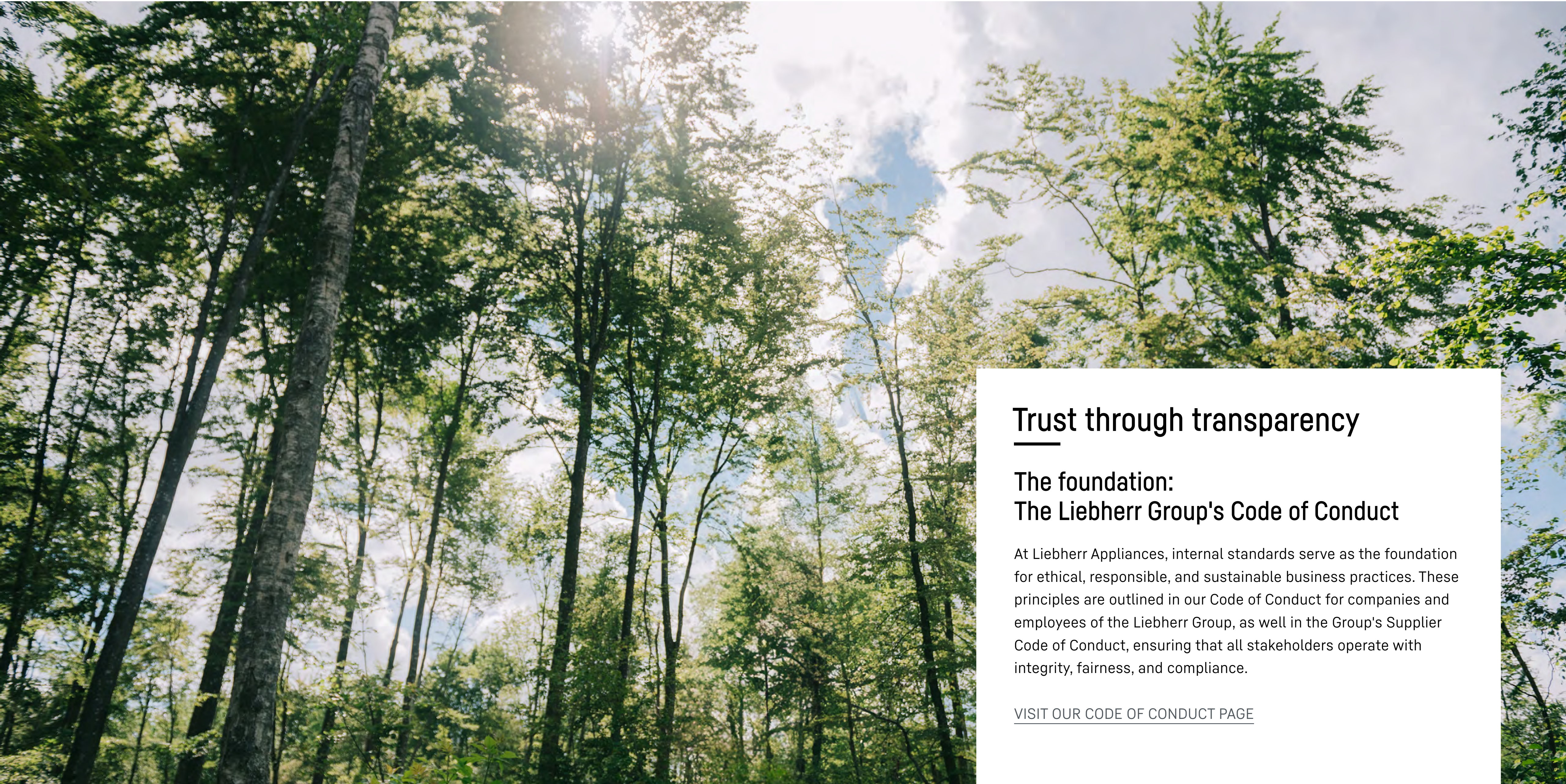
Regular factory transports

Materials are moved efficiently between sites, with reusable packaging and pallets loaded for return trips.

Multimodal logistics

A combination of road, rail, and sea transport is used, with rail preferred whenever possible.





Trust through transparency

The foundation: The Liebherr Group's Code of Conduct

At Liebherr Appliances, internal standards serve as the foundation for ethical, responsible, and sustainable business practices. These principles are outlined in our Code of Conduct for companies and employees of the Liebherr Group, as well in the Group's Supplier Code of Conduct, ensuring that all stakeholders operate with integrity, fairness, and compliance.

[VISIT OUR CODE OF CONDUCT PAGE](#)