

SUSTAINABILITY REPORT 2022

BIRN GROUP



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About the report

This is the first sustainability report from Vald. Birn A/S ('BIRN'). The report covers the 1st January – 31st December 2022 financial year and all production units in the group ('BIRN Group'). The sustainability report also forms part of the management report in the company's 2022 annual report to be published in May 2023.

With the report we are preparing our data collection to meet the 2024 directive, under which all large companies have to be able to report on the positive and negative impacts of their activities on society, the climate and the environment.

The report therefore follows the ESG structure to describe environmental, social and governance conditions. BIRN's various sustainability initiatives are based on the principles of the UN's Sustainable Development Goals. The group has also partnered with the ReFlow eco-tech company which helps create an overview of environmental data and calculate total carbon emissions.

This report was completed in March 2023. Errors and omissions excepted.



TOWARDS A GREENER BIRN

New management, new group management and a new group strategy. Also a new visual identity for all group companies. A lot has happened in the BIRN Group during the past year.

The high level of activity is a positive sign and testifies to the high aspirations we have as a group. This sustainability report also helps to underscore these aspirations. As one of the first iron foundries in the world we are once again cementing our leading position by making sustainability a strategic focus. We are thereby meeting the increasing sustainability and social responsibility demands, we, as a supplier, are seeing from our customers.

We also have a major responsibility towards our employees. We want to create a culture of pride in our group, where employees look forward to coming to work and feel proud when they leave the workplace at the end of the day.

Together with our customers, partners and employees we thus aim to take even more responsibility for the world around us. In fact, we are already taking responsibility. The circular mindset is deeply rooted in everything we do. For example, 93% of the material used to produce cast iron at BIRN in Holstebro consists of recycled material.

We have partnered with the ReFlow eco-tech company. ReFlow will assist with data collection and mapping of our carbon emissions and thereby help us optimise our processes and minimise our climate footprint. Through our partnership with ReFlow we expect to be able to present a realistic and measurable sustainability strategy for the BIRN Group in 2024. We have also launched an extensive employee satisfaction survey across the group to ensure we become an even better workplace.

You can read all about this and more in this report. Enjoy the read.

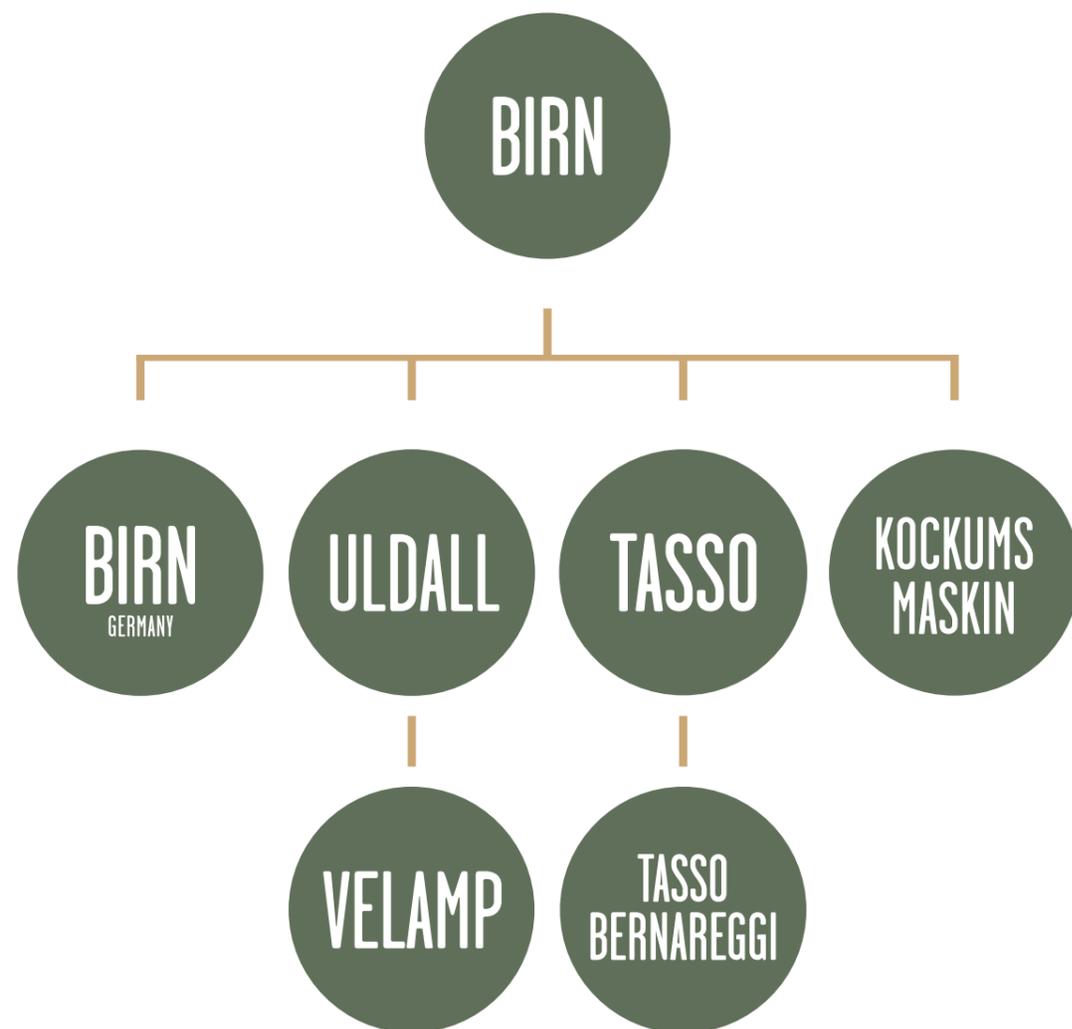
Kind regards

Claus Beier
Group CEO, BIRN Group

ORGANISATION

BIRN Group is one of Northern Europe's largest iron foundry groups. The group companies specialise in different types of casting, processing and distribution of cast iron solutions.

The group has 760 employees, and companies in Denmark, Germany, Sweden and Italy.



BIRN Group in figures

78,047 tonnes

Sold goods

760

Employees

125.1 GWh

Electricity consumption

7

Companies

1,856,392 m³

Natural gas consumption



CIRCULAR BUSINESS MODEL IS PART OF OUR DNA

Circularity is part and parcel of the BIRN Group mindset and has been for many years. What is now seen as a key sustainable development parameter is something we have always seen as common sense. The circular business model is part of our DNA as a group and also crucial in relation to our sustainable development.

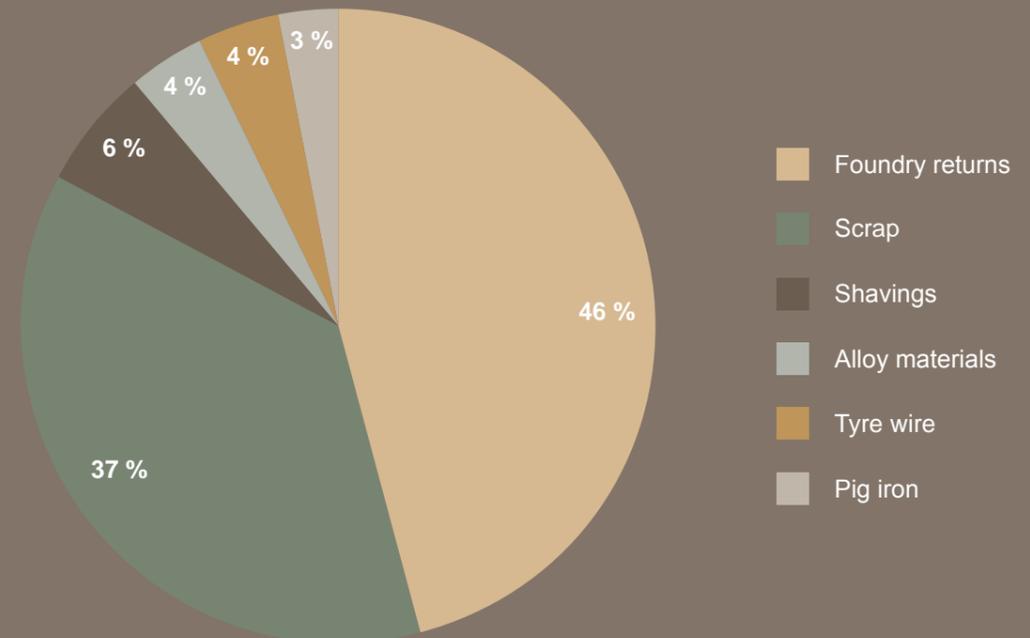
93 per cent of the material used to produce cast iron at BIRN in Holstebro is recycled. Scrap metal, iron shavings from our own production and remelted components are used. The quality of the scrap is crucial to the quality of the items we produce. Our incoming goods inspection procedures are therefore also important.

In addition to recycled metal, reusing water and heat is also an important part of our circular approach. Cast iron production involves energy-intensive processes at high temperatures. Instead of letting the energy go to waste we have worked for a number of years to utilise the excess heat from processes such as melting, casting and heat treatment for space heating in our buildings. We also use heat recovery from our ventilation systems.

Some of our specific recycling initiatives are presented on the following pages.



For BIRN in Holstebro to produce and deliver around 47,000 tonnes of cast iron each year, approx. 90,000 tonnes of iron must be melted. Much of this iron comes from scrap metal and recycled foundry returns. Foundry returns refer to running systems and feeders.



BIRN's raw material consumption in 2022

Casting sand recycled rather than deposited as landfill

BIRN in Holstebro uses large amounts of sand during the casting process. All sand is reused several times. To maintain good sand quality two per cent of the casting sand is replaced with new sand each day. However, the sand that is removed does not end up as landfill but is recycled in construction projects.

Sand is an important element in BIRN's casting processes as it is used in the foundry's specially designed moulds. Sand is ideal for casting as it can withstand the extreme heat of molten iron. BIRN uses more than 21.4 tonnes of fresh sand and 38.4 tonnes of core sand each day. Only two per cent of the sand used by the foundry each day is new sand, the balance is recycled from previous casting runs.

"We recycle our sand several times but it eventually reaches a point where it can no longer be used in our processes. However, it can still be used by the construction industry to make foundations for buildings and roads. We therefore pass it on for recycling," says Lars Jørgensen, CTO at BIRN.

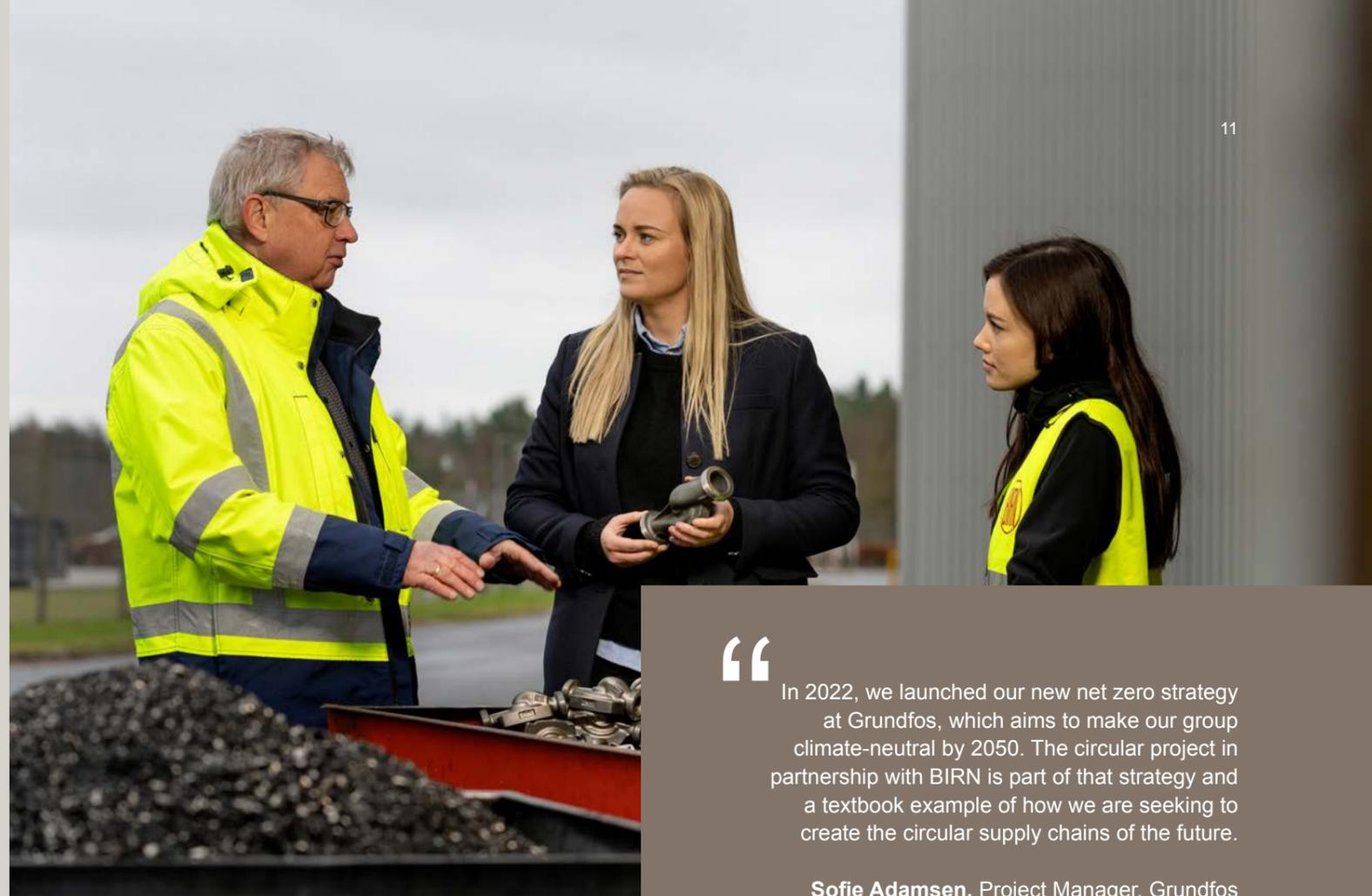
Since the recycled sand may contain residuals from the casting process a special permit is always required in order to use it for construction purposes. However, BIRN is very happy to assist with this administrative process so that it does not become a burden for the recipient:

"The sand is typically covered with asphalt, concrete or similar and the site where it is used will be registered as containing casting sand, including all sand test results. This requires a permit but we are familiar with the application process. We therefore often assist recipients of our used casting sand with this," explains Lars Jørgensen.



98%
recycled sand

Only two per cent of the sand used by BIRN each day is new sand. The remainder is recycled from previous casting processes.



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In 2022, we launched our new net zero strategy at Grundfos, which aims to make our group climate-neutral by 2050. The circular project in partnership with BIRN is part of that strategy and a textbook example of how we are seeking to create the circular supply chains of the future.

Sofie Adamsen, Project Manager, Grundfos

Circular partnership with Grundfos breathes new life into old pump housings

Last year, Grundfos launched its net zero strategy which aims to make the pump group carbon-neutral by 2050. BIRN has been the preferred supplier of cast iron pump housings to Grundfos for many years and is supporting this ambitious goal through a circular project.

Grundfos produces more than 16 million circulation pumps, submersible pumps and centrifugal pumps each year. Such vast production will always result in waste material but a new project aims to help the pump group reduce waste to a minimum.

As part of the project, Grundfos sends defective and worn-out pump housings back to BIRN. The cast iron is reused, for example in new pump housings which are subsequently used in Grundfos pump systems.

BIRN has positive experience with partnerships across supply chains, to the benefit of the companies involved and the environment, reports Lars Jørgensen, Technical Director at BIRN:

"We're keenly aware of which materials should be used in our cast iron solutions. This highly specialised knowledge allows us to recycle a wide range of materials – such as defective or used pump housings – which are given new life after being remelted," he says.



Circular project increases recycling

An optimisation project has increased the amount of tyre wire briquettes in BIRN's melting iron from 15 to 25 per cent.

After completing their service on the roads car tyres in Denmark are typically recycled as swings in playgrounds or as granulate in artificial turf. But that is only half the story. But that is only half the story because in addition to rubber car tyres also contain steel wire which is sent to BIRN. BIRN in Holstebro is the only foundry in Denmark to add briquettes of recycled tyre wire, combined with cast iron shavings from the foundry's own production to its melting iron.

Proportion of briquettes increased by ten percentage points

These briquettes were invented about ten years ago by Kurt Bjarne Larsen, who is Technical Foundry Manager at BIRN today. The briquettes supplement the scrap in BIRN's

melting processes and until recently have comprised about 15 per cent of the foundry's melting iron since their invention. Through a circular optimisation project BIRN has now succeeded in increasing this proportion to 25 per cent. While this is only an increase of ten percentage points it still has a major impact on BIRN's energy consumption, as the briquettes reduce melting time.

"This is circular economy at its very best. Tyre wire is an unattractive material for many players but for us at BIRN it is highly attractive. It helps stabilise the company's costs but also benefits the environment as we're recycling a material that would otherwise just have to be disposed of," says Kurt Bjarne Larsen.

From disposal to recycling

TASSO has worked with sustainability in a structured and focused manner since 2011, with recycling and waste separation at source becoming key elements during the process. What used to be deposited in landfill or disposed of as waste is now collected, sold and recycled.

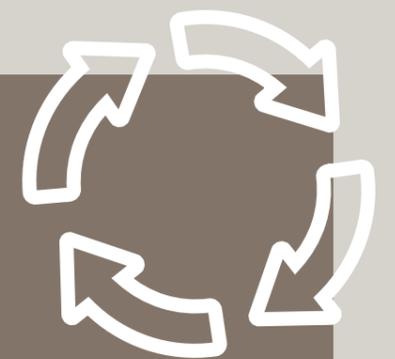
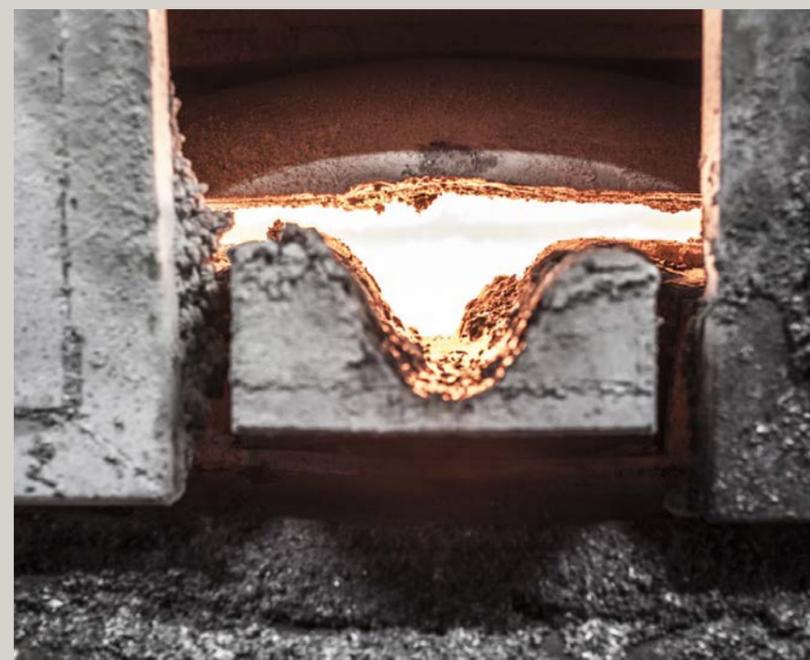
One of these elements is graphite which TASSO's dies are made of. The dies only last for a single production cycle before being discarded. For many years the iron foundry had to pay to dispose of about ten tonnes of graphite each year. However, after conducting thorough market research the waste is now sold as a product.

"In the beginning our graphite was treated as waste. But it turns out there are other companies that can use the material from our dies. So instead of disposing of them we now sell them as a product. We've found a Belgian partner who is willing to pay for our graphite waste," says Kristian B. Pedersen, CEO of TASSO.

From cost to income

TASSO has worked with environmental and resource optimisation for so many years that it has become a key part of the company's DNA.

"In addition to the environmental benefits, recycling graphite ties in very well with our general focus on sustainability. And while the bottom line effect is marginal, we still gain something from these small improvements," says Kristian B. Pedersen.



10 tonnes of graphite

Recycled every year from TASSO's dies.

DATA-DRIVEN PROCESS OPTIMISATION

It is clear that carbon footprints will be a key competition parameter in the future. We have therefore chosen to make data-driven process optimisation a central element in our sustainability strategy. A data-driven approach to production will allow us to create an innovative workflow that helps reduce our carbon emissions across the companies in the group.

To take the next step towards calculating and documenting the life cycle analysis (LCA) and carbon footprint of our products we have partnered with the ReFlow eco-tech company.

Using a comprehensive set of data we can map the carbon footprint of our products in collaboration with ReFlow and thereby arrive at a realistic target for our carbon reductions. The partnership thus allows us to create initiatives to reduce the environmental impact of our products without compromising on quality.

Our customers are increasingly wanting to be able to document each product's carbon footprint. We want to and must be able to meet their demands. Through our data-driven approach to process optimisation we will be able to offer our customers and partners new opportunities in the design process, this so they can in future choose products also based on their carbon footprint.

Based on the data we also expect to be able to present a realistic and measurable sustainability strategy for the entire BIRN Group in 2024.

The partnership with ReFlow spans all the companies in the group and should thus be seen as a major step in our green transition.



- Founded in 2018
- Helps companies map their carbon footprint
- Specialises in life cycle analysis
- 16 employees – primarily environmental and software engineers
- Award-winning climate technology engineering company (SDG Tech Awards)
- www.re-flow.io



BIRN'S SUSTAINABILITY STRATEGY

As one of Northern Europe's largest foundry groups we must run our business responsibly and lead the way for our sector – especially when it comes to sustainable development.

We have seen a greater focus on sustainability and rising expectations in recent years from our customers and governments. We have therefore pulled out all the stops for a greener BIRN and are currently defining a concrete sustainability strategy to ensure that we operate responsibly across our value chain – in relation to our production, human resources and logistics.

One example is implementation of the UN's Global Goals. At this point we have chosen to focus on four. These are the Global Goals for affordable and clean energy, decent work and economic growth, responsible consumption and production, and climate action.

Documentation and transparency are also key parameters in the strategy. Our recently established partnership with the ReFlow eco-tech company is therefore a central component in BIRN's work with sustainable development and our coming sustainability strategy.

The current energy crisis which has led to sky rocketing electricity and gas costs also means that we have to think longer term about alternatives for large parts of our production. Our sustainability strategy must also help overcome challenges like these by identifying new and greener technological solutions that benefit the BIRN Group, our customers and the planet.

BIRN GROUP AND THE GLOBAL GOALS

Since their launch in 2015 the UN's Global Goals have served as a guideline for how to work towards more sustainable development – for people and for the planet. At the BIRN Group the Global Goals are the starting point for our work with sustainability.

BIRN Group has chosen four Global Goals to focus on – in relation to energy, jobs, consumption, production and climate – which our work either directly or indirectly supports.



Global Goal 7 – Affordable and clean energy

At BIRN Group we aim to reduce our carbon emissions through energy optimisation of our internal processes. We also wish to contribute to the green transition by converting our natural gas consumption to electricity or a similar heating source, thereby helping to eliminate the last fossil fuel sources.



Global Goal 8 – Decent work and economic growth

A good safe working environment is crucial to our company as employees are our most important resource. The BIRN Group is therefore committed to developing safer workplaces where machines perform the heavy and more risky work.



Global Goal 12 – Responsible consumption and production

We wish to further strengthen our circular business model through a strong focus on responsible consumption and production. We are therefore investigating the possibilities for further reducing our consumption, for example in relation to energy and waste heat and for recycling more.



Global Goal 13 – Climate action

BIRN Group is committed to minimising its negative impact on the environment. This commitment is reflected in our recently established partnership with the ReFlow eco-tech company which will help reduce the carbon footprint of our products.



RISKS AND OPPORTUNITIES

Risks and opportunities go hand in hand for many companies. Through continuous, proactive risk management, BIRN Group has a solid foundation for making the right decisions at the right time – at both group and company level. We are thus working towards ensuring that risks do not get in the way of or hamper the achievement of our goals.

In this way we can gain thorough insight into our risk management and how it affects the entire organisation and surrounding community. This in order to ultimately steer the BIRN Group safely through difficult times.

RISKS AND OPPORTUNITIES	ACTIONS
<p>Energy supply</p> <p>2022 was a year of much uncertainty – especially as regards our energy supply. The entire BIRN Group is dependent on energy in the form of electricity and natural gas. The high energy prices during the energy supply crisis therefore also affected the group's companies.</p> <p>The possibility of periodic area 'brown-out' measures has also been announced, to maintain the general security of supply in the rest of society.</p>	<ul style="list-style-type: none"> Establish internal contingency plans to ensure staff safety and minimise damage to equipment in the event of a blackout. Engage in dialogue with decision-makers in Vestforsyning and Energinet (who distribute electricity) regarding blackouts, to identify the company's risks in connection with possible shutdowns to the energy supply. Engage in dialogue with energy providers in order to participate in planned shutdowns and consumption adjustments, to advance energy security in society.
<p>Labour force</p> <p>BIRN Group is dependent on being able to recruit, retain and develop its competent employees. Reducing employee turnover is therefore also an aim.</p> <p>In order to develop our workforce we need to focus on attracting and retaining talent, while maintaining a balanced age composition across the group.</p> <p>BIRN Group employs many different nationalities. This cultural diversity demands measures to ensure the best possible inclusion.</p>	<ul style="list-style-type: none"> Conduct employee satisfaction surveys in all companies in the BIRN Group. Develop a strategy for talent development, including exploiting BIRN Group's diversity for further competence development. Cooperate with relevant educational institutions. Increase structured efforts in relation to employee development and succession planning. Ensure a sustained marketing effort in order to profile the company as an attractive workplace. Offer all employees language courses as a tool to build a culture characterised by a sense of equality and community spirit.

RISKS AND OPPORTUNITIES	ACTIONS
<p>Safety</p> <p>Despite our long-term efforts to improve safety we have employees who are injured at work every year.</p> <p>If safety rules are not followed then dangerous situations can arise.</p>	<ul style="list-style-type: none"> Greater focus on promoting safe behaviour. Introduce micro-campaigns as a tool to continually maintain focus on safe behaviour in the workplace.
<p>Recycling and waste</p> <p>BIRN Group actively utilises residual materials from other companies to increase recycling and promote responsible production.</p> <p>Residual materials from BIRN Group's own processes are either reused internally or passed on to other companies.</p>	<ul style="list-style-type: none"> Actively investigate opportunities to test new types of residual materials in production. Allocate skills and production equipment to testing and validation in the search for new opportunities. Continue the work of minimising waste from production and explore opportunities for partners to purchase residual waste, thereby creating new material flows.
<p>Carbon emissions</p> <p>BIRN Group needs to be able to make well-informed decisions about the handling of carbon emissions in the value chain.</p> <p>Furthermore, it appears that market access will be regulated based on products' sustainability performance. The group therefore has to be able to give customers factual information about the carbon impact of products.</p>	<ul style="list-style-type: none"> Map the companies' carbon emissions through comprehensive Life Cycle Assessments (LCAs). This will be the baseline for giving customers detailed data on the carbon footprint of new components as early as the design phase. BIRN is pursuing, for example, a long-term plan to convert extraction systems for better air filtration and heat recovery. This will reduce the consumption of natural gas used for space heating.
<p>Extraction and filtration</p> <p>In our processes a lot of air is currently used for cooling and extraction. The filtered air therefore contains a lot of heat from the casting processes. We want to recycle this heat, while ensuring that the air is efficiently filtered.</p>	<ul style="list-style-type: none"> At BIRN in Holstebro several filter systems will be updated in the coming years to include heat recovery functions and supplemented with increased filtration. Filter bags in the company's fettling shop will be replaced more frequently to further reduce the risk of airborne rust emissions.



CLIMATE, ENVIRONMENT AND CARBON EMISSIONS

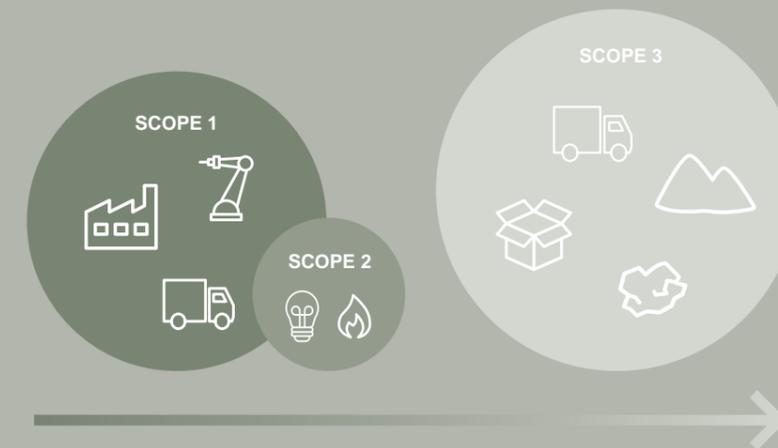
BIRN Group takes a dedicated and structured approach to reducing our environmental and climate impacts. This requires a thorough overview of the group's total climate footprint – from our own production out to our suppliers.

BIRN in Holstebro emitted 18,926 tonnes of CO₂ equivalents in 2022. 33 per cent of these emissions come from the company's own casting processes and other production plant (scope 1). The remaining, indirect emissions derive primarily from the production of electricity.

The estimated emissions mainly belong in scope 1 and partly in scope 2 – i.e. direct and indirect emissions from sources owned or controlled by the group and from sources purchased and used by the group.

In order to gain a full overview of BIRN Group's total climate footprint (covering scope 1, 2 and 3) a partnership has been established with the ReFlow eco-tech company. Through data collection they will help us map the carbon emissions of each subsidiary and of the group as a whole. This mapping will also be a useful tool in connection with the design of new customer components, allowing us to propose various scenarios with the least possible carbon impact. Based on the results of the mapping we will be able to present a long-term sustainability strategy with realistic and measurable objectives in 2024.

However, our focus on the climate and environment is nothing new. On the following pages we discuss some of the initiatives that have already been launched that will benefit the world around us.



Direct emissions

Emissions from activities owned or controlled by the company. At BIRN Group these derive mainly from production (casting, machining and surface treatment), heating buildings and transporting goods to customers.

Indirect emissions

Emissions from the production of electricity and natural gas (BIRN Group's primary energy sources).

Other indirect emissions

From production and services not owned or controlled by the company. At BIRN Group these are suppliers of scrap (alloy materials), casting sand and the like.

Solar cell plant reduces carbon emissions

In 2010, TASSO BERNAREGGI took a major step towards producing more green energy by installing a large solar cell plant at the company's 5,600 square metre warehouse.

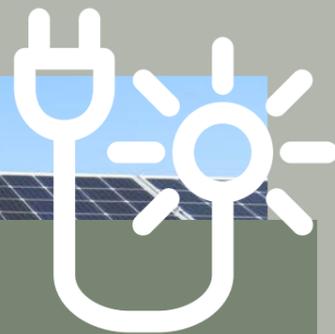
In summer 2022, TASSO BERNAREGGI, in Italy, made its next major investment in the solar cell plant when it renovated the large rooftop system. The solar cell plant has given TASSO BERNAREGGI a non-polluting energy source that has so far covered about one third of the company's energy consumption.

"The solar cell plant is a major part of our path towards a greener future. We're continually investigating potential solutions that can help reduce our carbon footprint. Taking advantage of our company's sun-rich location to generate more green energy was therefore a natural step," says Kristian B. Pedersen, CEO of TASSO BERNAREGGI.

Annual carbon emissions reduced by 40 tonnes

Since renovating the solar cell plant, TASSO BERNAREGGI has been able to reap the benefits of their investment. The plant has increased the share of green power used for the company's production. This increased amount of non-polluting energy has meant TASSO BERNAREGGI has reduced their annual carbon emissions by approx. 40 tonnes.

"Sustainability is an incredibly high priority, and we work with it in many different areas. We're therefore also very pleased to see our investment contribute to such a marked reduction in our carbon emissions," says Kristian B. Pedersen.



40 tonnes of CO₂

The amount by which TASSO BERNAREGGI has reduced its annual carbon emissions since establishing a solar cell plant at the company's 5,600 square metre warehouse in Italy.



“

It was very important for the future partnership that the results of the surface treatment line audit showed that BIRN is able to meet the necessary quality requirements for the supply of coated castings to the Volvo Truck Group.

Per Gustafsson, SQA/SQE, Volvo GTP

New surface treatment plant markedly reduces natural gas consumption

In 2018, BIRN began work on a new surface treatment plant. This resulted in the closure of the old painting plant and its large drying ovens.

Since 2021 BIRN has been treating components in a new surface treatment centre where new technology makes it possible to coat castings with a water-based ED paint, rather than the solvent-based paints used previously.

The new surface treatment plant means that BIRN can offer customers various types of surface treatments at the same plant. Closure of the old painting plant has resulted in a 170,000 Nm³ annual reduction in natural gas consumption for the drying ovens, in particular.

"Our surface treatment plant has been under construction for several years and the processes and chemicals have required a lot of running-in. This running in has sometimes been in cooperation with our customers. The process started around 2017 and we were able to completely shut down the old painting plant in 2021," reports Lars Jørgensen, CTO at BIRN.

New and improved surface treatment

In the new surface treatment plant ED paint is applied using electricity, so only the amount of ED paint that is required is applied. The surface treatment has been tested at BIRN and in external laboratories. Results show that the new surface treatment protects components better against rust than before.

It is not only BIRN that has high praise for the new plant. There has also been positive feedback from Volvo, as it helps meet the necessary quality requirements for the supply of coated castings to the Volvo Truck Group:

"The final result of the audit was very satisfactory and reflects the great effort the BIRN team has put into completing the necessary steps to get an approved coating line," says Kishore Veeraraghavan, Technical Specialist & Lead Auditor – Surface Treatment, Volvo Group Purchasing.



MORE ENERGY-EFFICIENT CASTING

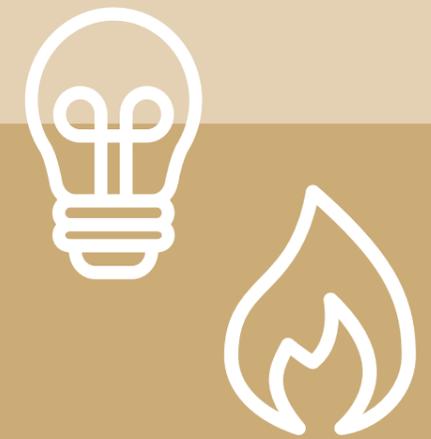
Casting is an energy-intensive process, and the majority of BIRN's energy consumption therefore derives from melting furnaces, holding furnaces, heated casting machines etc.

Our casting processes and other process equipment are powered primarily by electricity and partially by natural gas. In 2022, BIRN in Holstebro used a total of 103,700 MWh of electricity and 1.7 million cubic metres of natural gas. To optimise our energy consumption it therefore makes sense to work along two tracks.

One track is about increasing the energy efficiency of our processes. This covers a number of projects, including BIRN's partnership with Energy Cluster Denmark (described elsewhere in this report).

The other track focuses on the transition to more climate-friendly energy sources, especially wind energy. All BIRN Group companies are currently working on purchasing certificates for renewable energy – primarily wind energy with a Guarantee of Origin certificate and on reducing or completely phasing out their use of natural gas.

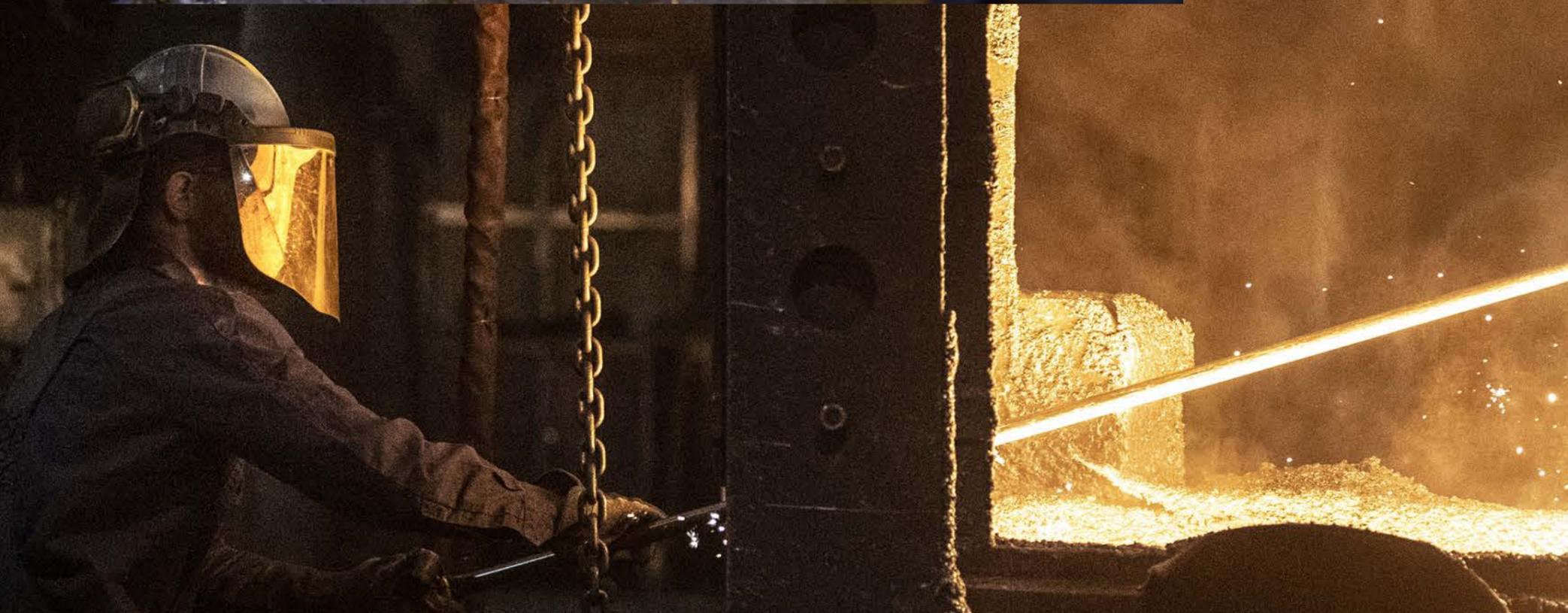
There is also great potential in recovering heat from our foundries. TASSO currently supplies surplus heat corresponding to the annual consumption of around 250 households – an example that the rest of BIRN Group will explore the possibility of following in the future.



Consumption in 2022 for BIRN in Holstebro:

1.7 million m³
natural gas consumption

103,700 MWh
electricity consumption



Partnership with Energy Cluster Denmark to optimise melting processes

BIRN aims to minimise its climate footprint through data collection. To do this the foundry in Holstebro has teamed up with the national cluster organisation for the energy sector in Denmark – Energy Cluster Denmark.

Melting iron requires a large amount of energy but this can be significantly reduced if done under the right conditions. BIRN has partnered with Energy Cluster Denmark and others to find the most optimal energy consumption. As Denmark's innovation cluster for the entire energy sector, Energy Cluster Denmark will help the foundry collect the necessary energy and process data at its factory in Holstebro.

“From experiments we know that under the right conditions we can melt one tonne of iron using 570 kWh (via induction), which is more than 80 kWh less than our average of 650 kWh. We're therefore confident that there is great potential for energy savings once we identify the key parameters for optimising the melting process,” says Lars Jørgensen, CTO of BIRN.

The tools for extracting the key data from production are being developed in a joint project called ‘Data-driven energy monitoring and optimisation of industrial processes’. Other project parties in addition to Energy Cluster Denmark are Kongskilde Industries, the University of Southern Denmark, Fellowmind and Inuatek.

Surplus heat utilisation

TASSO began a partnership with Fjernvarme Fyn in 2014, which has since supplied up to 4,600 MWh of district heating annually to households on Funen.

It is no secret that TASSO operates using high temperatures. Fjernvarme Fyn has greatly benefitted from this heat since 2014 when the district heating utility signed an agreement to use the iron foundry's surplus heat. The agreement was expanded to encompass another system in 2020, increasing the supply of surplus heat to the district heating network. In addition to heating around 250 households on Funen, utilising the surplus heat from the industrial processes saves society 400 tonnes of CO₂ annually.

“Utilising surplus heat from our cast iron production is a natural extension of our focus on reducing our carbon emissions and our work with the Global Goal of responsible production. It's also simply common sense

to find partners who can utilise some of the resources we cannot utilise ourselves,” says Kristian B. Pedersen, CEO of TASSO.

Up to three million litres of water saved annually

Another advantage of distributing the surplus heat to the district heating network through the partnership with Fjernvarme Fyn is that the need to operate the cooling towers is reduced. The cooling towers now serve as a backup and are only in operation when the district heating network cannot take off the heat.

“The surplus heat from cooling process water used to be dissipated above our two cooling towers. Since we began supplying the surplus heat to the district heating network, we have saved up to three million litres of water annually,” says Kristian B. Pedersen.



About Energy Cluster Denmark

Energy Cluster Denmark is the Denmark's cluster organisation for the entire energy sector. Their vision is based on a desire for Denmark to be a leading green nation for the development and demonstration of innovative global energy solutions. Energy Cluster Denmark therefore serves as a neutral, value-creating and member-driven innovation platform for establishing and facilitating innovation partnerships between small and large companies, knowledge institutions and public actors throughout the energy sector.



TASSO supplies heat to around

250 households on Funen





BIRN GROUP: COMPANY FOCUS AREAS

As mentioned earlier in this report BIRN Group is working with a number of focus areas based on four selected UN Global Goals. Using these as a starting point each company in the group has prepared its own focus areas. These will be described on the following pages.

BIRN A/S was founded in 1896 and has developed into one of Northern Europe's largest foundries, with 500 employees. BIRN develops and supplies customer-specific cast iron solutions and complete servicing to the automotive, pump and hydraulic industries. A number of these customers are located in Denmark with many also abroad. 90 per cent of what the company produces is exported.



BIRN in figures

-  Location: Holstebro
-  Number of employees: 500
-  Annual product volume: About 47,000 tonnes of cast iron
-  Total carbon emissions (scope 1 and 2): 18,926 tonnes of CO₂ equivalents

Certifications

- IATF 16949 – Quality management in the automotive industry
- ISO 14001 – Environmental management
- ISO 45001 – Occupational health and safety management
- ISO 50001 – Energy management
- BV Mode II

75%



In 2022, BIRN reduced its natural gas consumption to 75 per cent of what was consumed in 2021.

Christmas party and gifts for former employees

BIRN highly values its former employees, all of whom have put in an extraordinary effort for the foundry. BIRN therefore holds a Christmas party every year for employees who have retired after working at BIRN for ten years or more.

BIRN's current CEO also attends the Christmas party where many good memories and stories are shared between former employees who all receive a Christmas gift from BIRN to take home.

Employees			Managers		Types of positions			
								
Men	Women	Total	Men	Women	Salaried employees	Production	Apprentices	
421	79	500	40	6	123	377	24	
Women on the board					1	Number of lost-time accidents at work		30



Global Goal 7 – Affordable and clean energy

BIRN is working to transition to more climate-friendly energy sources. Initiatives include purchasing green energy certificates from Jysk Energi. Continual efforts are also being made to increase energy efficiency – for example through a partnership with Energy Cluster Denmark, described elsewhere in this report.

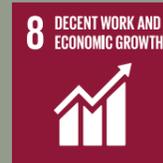
BIRN also aims to be completely free of natural gas use in the future. In 2022, the company reduced consumption by optimising ventilation in buildings and warehouses, with marked results. In 2022, BIRN reduced its natural gas consumption to 75 per cent of its consumption in 2021.

Changes are also planned to several of the company's extraction systems where improved filtration and heat recovery solutions will be installed during 2023.



Global Goal 12 – Responsible consumption and production

BIRN operates based on a circular mindset. 93 per cent of all material used in the company's cast iron is recycled. Continuous efforts are made to optimise resource use in casting production, such as recycling casting sand and a circular project in partnership with Grundfos to recycle material from worn-out pumps.



Global Goal 8 – Decent work and economic growth

A high level of safety and well-being at work is a strategic aim for BIRN. We work hard each day to prevent workplace accidents, through careful onboarding of new employees and established safety protocols and measures.

Last year BIRN conducted an employee satisfaction survey which showed positive results, as well as scope for improvement. Based on the survey 116 action plans were identified and are being regularly followed up on. A well-being group has been appointed which aims to increase well-being and pride in the workplace through various initiatives.



Global Goal 13 – Climate action

BIRN wishes to take responsibility for the outside world. Like the rest of BIRN Group the company has therefore entered into a partnership with the ReFlow eco-tech company which will help to map carbon emissions. Based on this mapping BIRN can decide on a clear strategy for reducing the carbon footprint of each product.

Inputs and outputs from production at BIRN

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	45,721 tonnes	46,526 tonnes
Energy consumption		
Total electricity consumption	103,710,010 kWh	104,762,030 kWh
Proportion of electricity purchased as renewable energy	25%	0%
Natural gas	1,717,380 m ³	2,280,579 m ³
Heating oil	0	0
Total district heating consumption	0	0
District heating sold	0	0
Transport		
Transport diesel	20,509 litres	14,327 litres
LPG forklift gas	150,943 litres	170,151 litres
Material consumption (Production)		
Raw materials	46,781 tonnes	46,693 tonnes
Heating and lubricating oil	30,573 litres	21,735 litres
Consumables	23,248 tonnes	23,681 tonnes
Waste		
Recycling and reuse	24,443 tonnes	24,483 tonnes
Incinerated	138 tonnes	124 tonnes
Landfill	359 tonnes	325 tonnes
Waste oil	17 tonnes	8 tonnes
Chemical waste	74 tonnes	62 tonnes
Discharge water		
Wastewater	15,612 m ³	4,622 m ³
Emissions to atmosphere		
Dust	5,772 kg	6,938 kg
Water vapour	63,363,000 kg	74,195,824 kg
Flue gases	6,212,047 kg	4,890,233 kg
VOC (Volatile Organic Components)	2,250 kg	2,258 kg



From the German city of Mülheim close to the Rhine river and the Ruhr, BIRN Germany GmbH services primarily German industry with market-leading transmission elements and other machined cast iron components. BIRN Germany also has a workshop for mechanical machining of customer-specific solutions and components produced using continuous casting methods.

BIRN Germany in figures

- Location: Mülheim an der Ruhr
- Number of employees: 34

Certifications

- ISO 9001 – Quality management (underway)

At the centre of Europe's industrial heart

Where the Ruhr and Rhine rivers meet, Europe's largest industrial area has grown – the Ruhr. The region is home to a wide range of industries but is particularly known for mining, automobile production, ironworks and mechanical engineering.

It was therefore no coincidence that BIRN Group decided in 1975 to establish a new German company in Mülheim an der Ruhr – in the centre of Europe's industrial heart. From here, BIRN Germany has close access to some of the company's largest customer segments and is a preferred supplier of transmission elements.



BIRN Germany's packaging is made entirely of recycled material.

Employees			Managers		Types of positions			
Men	Women	Total	Men	Women	Salaried employees	Production	Apprentices	
30	4	34	3	2	18	6	2	
Women on the board		0	Number of lost-time accidents at work					1



Global Goal 7
– Affordable and clean energy

To optimise energy consumption BIRN Germany has adjusted the temperature in the company's buildings and invested in energy-efficient LED lighting.

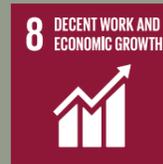
BIRN Germany is also exploring the possibility of installing a rooftop solar cell plant which could potentially supply more than 50 per cent of the company's total energy consumption. Changes are also planned to several of the company's extraction systems where improved filtration and heat recovery solutions will be installed during 2023.



Global Goal 12
– Responsible consumption and production

BIRN Germany is constantly seeking to optimise production. For example, all the company's packaging consists of recycled material.

To reduce impacts on the surrounding environment BIRN Germany has installed filters on all machines and painting plants to capture smoke and particles.



Global Goal 8
– Decent work and economic growth

BIRN Germany ensures a high level of safety in production through careful onboarding of new employees and established safety protocols and measures. An occupational health and safety group also works continually to prevent accidents at work.

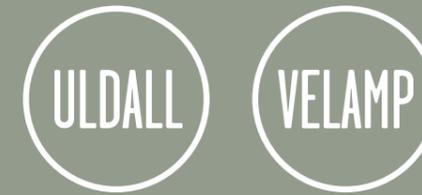


Global Goal 13
– Climate action

In order to reduce carbon emissions BIRN Germany and the rest of the BIRN Group have entered into a partnership with the ReFlow eco-tech company. They will help map the company's emissions and thereby enable BIRN Germany to set specific reduction targets.

Inputs and outputs from production at BIRN Germany

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	N/A	N/A
Energy consumption		
Total electricity consumption	162,444 kWh	177,430 kWh
Proportion of electricity purchased as renewable energy	16.9%	16.9%
Natural gas	11,292 m ³	20,478 m ³
Heating oil	0	0
Total district heating consumption	0	0
District heating sold	0	0
Transport		
Transport diesel	412.9 litres	559.7 litres
LPG forklift gas	0	0
Material consumption (Production)		
Raw materials	0	0
Heating and lubricating oil	1,456 litres	832 litres
Consumables	0	0
Waste		
Recycling and reuse	26.5 tonnes	21.4 tonnes
Incinerated	0	0
Landfill	0	0
Waste oil	2 tonnes	1.4 tonnes
Chemical waste	0	0
Discharge water		
Wastewater	0	0
Emissions to atmosphere		
Dust	0	0
Water vapour	0	0
Flue gases	0	0
VOC (Volatile Organic Components)	0	0



ULDALL A/S was founded in 1944 in Vejen, Denmark. Today, it is a modern and flexible foundry developing customer-specific cast iron solutions for the food industry, manufacturing industry, agriculture and energy sector.

ULDALL and VELAMP in figures

-  Location: Vejen
-  Number of employees: 66
-  Annual product volume: About 1,700 tonnes of cast iron

Certifications

- ISO 9001 – Quality management
- BV Mode II
- Marine Mode 2 DNV
- Marine Mode 2 LR
- Marine Mode 2 ABS

ULDALL owns the company VELAMP A/S which develops and produces specially designed cast iron products such as lamps, benches and a number of other customer-specific solutions.

100 per cent Danish cast iron

VELAMP is the only manufacturer of classic cast iron lamps and benches that is 100 per cent Danish-owned and has its production in Denmark. The company exclusively uses Danish-produced cast iron for its classic design solutions which help preserve historic buildings and urban districts throughout Scandinavia – from Nyhavn in Copenhagen to Skanseparken in Bergen, Norway.

Employees			Managers		Types of positions		
							
Men	Women	Total	Men	Women	Salaried employees	Production	Apprentices
61	5	66	4	0	9	56	1
Women on the board			0		Number of lost-time accidents at work		
					2		



Global Goal 7
– Affordable and clean energy

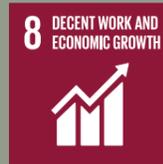
To optimise energy consumption ULDALL has invested in new more energy-efficient ventilation systems for its cooling area in 2022. The company has also acquired new energy-efficient compressors and two electric forklifts.

ULDALL is currently exploring the possibility of purchasing certificates for renewable energy – primarily wind energy with a Guarantee of Origin certificate.



Global Goal 12
– Responsible consumption and production

Like the rest of the BIRN Group, ULDALL operates based on a circular mindset. The company is working at all times to optimise its resource consumption, for example through the above investments in ventilation systems and by optimising the melting processes in its casting furnaces.



Global Goal 8
– Decent work and economic growth

At ULDALL we work hard every day to improve safety and well-being in the workplace. In 2022 the company hired a new quality manager who will be responsible for improving occupational health and safety (OHS).

All workplace accidents or near misses are registered and discussed in the company's safety committee and at OHS group meetings. Moreover, videos are recorded in production for the purpose of prevention.



Global Goal 13
– Climate action

Like other divisions of the BIRN Group ULDALL will map its carbon emissions in partnership with the ReFlow eco-tech company in 2023. ULDALL will then set ambitious and realistic reduction targets based on this mapping.

Inputs and outputs from production at ULDALL and VELAMP

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	1,684 tonnes	1,391 tonnes
Energy consumption		
Total electricity consumption	3,916,987 kWh	3,471,975 kWh
Proportion of electricity purchased as renewable energy	0%	0%
Natural gas	0	0
Heating oil	1,600 litres	1,600 litres
Total district heating consumption	955,555 kWh	1,131,111 kWh
District heating sold	0	0
Transport		
Transport diesel	0	0
LPG forklift gas	8,677 litres	10,529 litres
Material consumption (Production)		
Raw materials	1,840 tonnes	1,444 tonnes
Heating and lubricating oil	0	0
Consumables	0	0
Waste		
Recycling and reuse	0	0
Incinerated	37.5 tonnes	38 tonnes
Landfill	0	0
Waste oil	0	0
Chemical waste	0	0
Discharge water		
Wastewater	40,000 m ³	51,000 m ³
Emissions to atmosphere		
Dust	0	0
Water vapour	0	0
Flue gases	0	0
VOC (Volatile Organic Components)	0	0



TASSO A/S has more than 165 years of experience as a developer and manufacturer of cast iron bars in various dimensions. From its foundry in Odense, Denmark, TASSO provides services related to casting, heat treatment and processing of cast iron bars to customers all over the world, for applications such as hydraulics, energy and machine production. TASSO has been located at Frederiksgade 37, in the heart of Odense, since 1856. Parts of the buildings have been declared national industrial monuments by the Danish Agency for Culture and Palaces.

TASSO in figures

-  Location: Odense
-  Number of employees: 63
-  Annual product volume: About 19,000 tonnes of cast iron
-  Total carbon emissions (scope 1 and 2): 2,916 tonnes of CO₂ equivalents

Certifications

- ISO 9001 – Quality management
- ISO 14001 – Environmental management
- ISO 50001 – Energy management

Sustainability is part of TASSO's DNA

For more than a decade the foundry has had a structured focus on resource optimisation of its business. TASSO has taken part in several projects, such as 'Klimaklar SMV' ('Climate-ready SME' and 'Fra Filantropi til Forretning' ('From Philanthropy to Business)). In 2022, the company received the Erhvervsklub Fyn Award. TASSO has committed to the UN Global Compact. TASSO's CEO also sits on the Confederation of Danish Industry's Energy and Utilities committee.

500 tonnes

Every year, 500 tonnes of slag are recycled in applications such as road surfaces and construction.

Employees			Managers		Types of positions			
								
Men	Women	Total	Men	Women	Salaried employees	Production	Apprentices	
56	7	63	6	0	14	49	3	
Women on the board		1	Number of lost-time accidents at work					5



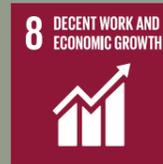
Global Goal 7
– Affordable and clean energy

TASSO has a clear aim of becoming more energy-efficient. Electricity makes up almost 83 per cent of the company's total energy consumption and is mainly used for melting and casting processes. In 2023 TASSO will therefore start purchasing certificates for renewable energy – primarily wind energy with a Guarantee of Origin certificate.



Global Goal 12
– Responsible consumption and production

TASSO is always seeking to recycle residual materials from its production. Since 2014 the company has shared surplus heat from its casting processes with the local area, while approx. 500 tonnes of slag are recycled each year for applications such as road surfaces and construction.



Global Goal 8
– Decent work and economic growth

TASSO works hard to constantly improve safety and well-being in the workplace. The OHS group has set aside time each week to focus on accident prevention. Investments are also continuously being made in new machinery to make work easier for the employees.



Global Goal 13
– Climate action

Sustainability is an integral part of TASSO. The company has had a structured focus on optimising its resource consumption and thereby minimising its climate impact for more than a decade.

TASSO has therefore also joined the UN Global Compact and prepares a Communication on Progress report each year, which documents the company's efforts to reduce its climate impact.

Inputs and outputs from production at TASSO

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	14,214 tonnes	15,743 tonnes
Energy consumption		
Total electricity consumption	15,042,980 kWh	16,017,208 kWh
Proportion of electricity purchased as renewable energy	0%	0%
Natural gas	104,000 m ³	120,851 m ³
Heating oil	120,013 litres	115,996 litres
Total district heating consumption	594,000 kWh	459,000 kWh
District heating sold	4,340,000 kWh	4,625,000 kWh
Transport		
Transport diesel	2,642 litres	1,182 litres
LPG forklift gas	59,000 litres	59,014 litres
Material consumption (Production)		
Raw materials	15,052 tonnes	15,905 tonnes
Heating and lubricating oil	0	0
Consumables	0	0
Waste		
Recycling and reuse	2.8 tonnes	0
Incinerated	33.2 tonnes	34.1 tonnes
Landfill	465 tonnes	6.8 tonnes
Waste oil	1 tonne	1.1 tonnes
Chemical waste	0	0
Discharge water		
Wastewater	0	0
Emissions to atmosphere		
Dust	0	0
Water vapour	0	0
Flue gases	0	0
VOC (Volatile Organic Components)	0	0



TASSO BERNAREGGI S.r.l is based in Castano Primo near Milan, Italy, and is owned by Danish TASSO A/S. As a wholesaler and machining company TASSO BERNAREGGI has more than 40 years of experience supplying and machining cast iron bars and bronze bars of the highest quality. They service customers who are located in Italy as well as internationally based.

TASSO BERNAREGGI in figures

-  Location: Castano Primo, Milan
-  Number of employees: 28

Certifications

- ISO 9001 – Quality management

100 kW

TASSO BERNAREGGI renovated its 100 kilowatt solar cell plant in 2021.

Milan – Italy’s industrial capital

It is not surprising that one fifth of Italy’s total GDP comes from the Milan area. In addition to the Italian stock exchange, Borsa Italiana, the north Italian capital is also home to several large industrial sectors – such as textiles and fashion, automobile production and iron and mechanical engineering.

From its unique location in Castano Primo, just outside Milan, TASSO BERNAREGGI services several of Milan’s industrial companies as well as the rest of Italy and Southern Europe.

Employees			Managers		Types of positions		
							
Men	Women	Total	Men	Women	Salaried employees	Production	Apprentices
22	6	28	2	0	11	17	1
Women on the board					Number of lost-time accidents at work		
0					0		



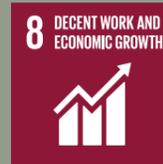
Global Goal 7
– Affordable and clean energy

Most of TASSO BERNAREGGI's energy consumption is electricity. In order to optimise consumption and switch to more climate-friendly energy sources the company last year invested in renovation of its 100 kW solar cell plant. TASSO BERNAREGGI also plans further expansions of the solar cell plant in the future.



Global Goal 12
– Responsible consumption and production

TASSO BERNAREGGI is always seeking to recycle residual materials from its production. For example, the foundry has significantly reduced plastic consumption in the canteen and elsewhere and will have an even more structured focus on minimising waste and recycling residual products from production in the future.



Global Goal 8
– Decent work and economic growth

TASSO BERNAREGGI is constantly striving to improve safety and well-being and fully complies with Italian legislation in this area (Testo Unico D.L. sg81\08).

New employees undergo thorough training in the company's safety protocols and existing employees receive ongoing training to promote workplace safety.



Global Goal 13
– Climate action

As part of TASSO A/S and thus the BIRN Group sustainability is an integral part of TASSO BERNAREGGI's business approach. The company has therefore also partnered with the ReFlow eco-tech company with the aim of mapping its carbon emissions and setting ambitious and realistic reduction targets in 2023.

Inputs and outputs from production at TASSO BERNAREGGI

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	N/A	N/A
Energy consumption		
Total electricity consumption	290,131 kWh	333,701 kWh
Proportion of electricity purchased as renewable energy	25%	20%
Natural gas	23,720 m ³	38,170 m ³
Heating oil	0	0
Total district heating consumption	0	0
District heating sold	0	0
Transport		
Transport diesel	45,932 litres	54,196 litres
LPG forklift gas	0	0
Material consumption (Production)		
Raw materials	0	0
Heating and lubricating oil	2,223 litres	2,508 litres
Consumables	0	0
Waste		
Recycling and reuse	0	0
Incinerated	0	0
Landfill	0	0
Waste oil	0	0
Chemical waste	0	0
Discharge water		
Wastewater	567 m ³	644 m ³
Emissions to atmosphere		
Dust	950 kg	950 kg
Water vapour	0	0
Flue gases	0	0
VOC (Volatile Organic Components)	0	0



KOCKUMS MASKIN AB was founded in 1849 and is one of the leading manufacturers of machined castings in Scandinavia today. From its factory in Kallinge, Sweden, KOCKUMS MASKIN provides casting solutions to customers primarily in the automotive industry, but also in several other sectors in Sweden and abroad. The company is a dedicated development partner which can take care of the entire production process – from design to delivery.

KOCKUMS MASKIN i tal

 Location: Kallinge

 Number of employees: 71

Certificeringer

- ISO 14001 – Environmental management
- ISO 9001 – Quality management
- IATF 16949 – Quality management in the automotive industry

12%

KOCKUMS MASKIN managed to reduce its energy consumption by 12 per cent in Q4 2022.

Ensuring the well-being of employees

At KOCKUMS MASKIN, an external nurse comes in once a week. This means employees can have their blood pressure checked, receive advice on heavy lifting or the like, or drop in for a chat about their health and healthy living. The highly specialised employees are the company's greatest resource. KOCKUMS MASKIN therefore takes pride in taking care of their health.

Employees



Men	Women	Total
64	7	71

Managers



Men	Women
8	1

Types of positions



Salaried employees	Production	Apprentices
19	52	3

Women on the board 0

Number of lost-time accidents at work 5



Global Goal 7
– Affordable and clean energy

KOCKUMS MASKIN aims to reduce its energy consumption by 10 per cent in 2023 compared to the previous year. To this end the factory has begun to switch to more energy-efficient lighting and has developed new energy-efficient processes for the entire company. These include lowering the temperature of certain processing machines.

The work to reduce energy consumption began back in November 2022, leading to a 12 per cent reduction compared to the same period the previous year. This has been achieved in part by dimming or turning off lighting that is not needed for production or safety.



Global Goal 12
– Responsible consumption and production

KOCKUMS MASKIN has developed an internal system in collaboration with STENA Recycling, with the aim of recycling as many materials as possible, for example cutting fluid from the factory's CNC and other milling machines. This is collected after use, processed and subsequently recycled in industry.

KOCKUMS MASKIN also continuously monitors the level of iron residues from production, in order to optimise processes and minimise waste.



Global Goal 8
– Decent work and economic growth

At KOCKUMS MASKIN there is an OHS representative on every work shift. The representative reports all near miss workplace accidents in the company's internal systems and these reports are followed up on each week, in order to prevent future accidents.

KOCKUMS MASKIN has also appointed an OHS group and has delegated various OHS-related tasks to specific departments.



Global Goal 13
– Climate action

KOCKUMS MASKIN has a goal of reducing its energy consumption by a further 10 per cent in 2023 and is continuously striving to limit its carbon emissions.

To this end and like others in the BIRN Group, KOCKUMS MASKIN has partnered with the ReFlow eco-tech company with the aim of mapping the company's emissions and setting ambitious and realistic reduction targets.

Inputs and outputs from production at KOCKUMS MASKIN

TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	3,154 tonnes	4,493 tonnes
Energy consumption		
Total electricity consumption	1,985,762 kWh	2,082,000 kWh
Proportion of electricity purchased as renewable energy	100%	100%
Natural gas	0	0
Heating oil	54,537 litres	82,457 litres
Total district heating consumption	0	0
District heating sold	0	0
Transport		
Transport diesel	1,500 litres	1,500 litres
LPG forklift gas	0	0
Material consumption (Production)		
Raw materials	3,154 litres	4,493 litres
Heating and lubricating oil	3,071 litres	3,106 litres
Consumables	0	0
Waste		
Recycling and reuse	567 tonnes	641 tonnes
Incinerated	10.7 tonnes	12 tonnes
Landfill	0	0
Waste oil	2 tonnes	2 tonnes
Chemical waste	36.5 tonnes	30.2 tonnes
Discharge water		
Wastewater	1,245 m ³	1,245 m ³
Emissions to atmosphere		
Dust	0	0
Water vapour	0	0
Flue gases	0	0
VOC (Volatile Organic Components)	0	0

BIRN AS A SOCIALLY RESPONSIBLE GROUP

As one of Northern Europe's largest foundry groups, BIRN Group must run its business in a socially responsible manner. To ensure a steady supply of labour we are always working hard to create a pipeline of new talents and following our campaigning the foundry technician programme is now being offered again in Denmark. Since 1 August 2021, Uddannelses Center Holstebro (UCH) has offered the foundry technician programme (as the only school in Denmark). Before then the programme was offered in Jönköping, Sweden, which made it difficult for both young and older employees in Denmark to attend. This is a course which the Danish foundry industry badly needed. In close cooperation with Færchfonden, Birn Fonden has financed the relocation of the programme from Sweden and made a substantial donation covering technical equipment, room furnishings and teaching staff.

The two subsidiaries – BIRN in Holstebro and ULDALL – also work closely with the local job centre to increase the supply of labour within

the sector and attract new, skilled employees. BIRN in Holstebro has also partnered with High:five – an organisation that cares for young ex-offenders by creating jobs and/or training places for them.

Sponsorships and donations

BIRN Group also seeks to contribute positively to local society. We therefore participate in a number of initiatives, including sponsorships for local sports clubs and cultural events.

Located next to an area of considerable natural beauty, BIRN in Holstebro has previously donated part of its land to serve as a recreational area which is now used by Holstebro Golf Club. Through initiatives like these we seek to contribute, where possible, to creating a vibrant cultural life in the local areas around the companies.



TASSO takes social responsibility through partnership with Odense Værkstederne

For almost a decade TASSO has given priority to social responsibility through a partnership with Odense Værkstederne – a municipal organisation dedicated to providing job opportunities to citizens with physical and mental challenges.

In recent years the TASSO iron foundry in Odense has placed orders with Odense Værkstederne where they regularly have their casting ladles cleaned and made. Odense Værkstederne is a valuable and visionary municipal initiative that employs citizens with mental and physical challenges who cannot find regular employment on the Danish labour market. Altogether the workshops employ around 480 people.

Citizens suffering from concentration problems, pain, fatigue, balance problems and the like work at Odense Værkstederne where they help TASSO repair the foundry's equipment for removing slag from molten

iron. Kristian B. Pedersen, CEO of TASSO is enthusiastic about Odense Værkstederne's vision of helping job seekers with functional impairments and he is pleased with the long-standing partnership:

"Partnering with Odense Værkstederne is a great opportunity to take on social responsibility as a company. They can employ employees that we unfortunately cannot employ in our factory due to the layout of our facilities or limited flexibility. It is therefore gratifying to have Odense Værkstederne as one of our regular suppliers. We can practise social responsibility through the orders we place with them and support this meaningful enterprise," says Kristian B. Pedersen.



University students help lay the foundation for TASSO's future

TASSO works closely with the University of Southern Denmark whose students contribute to the future development of the Odense iron foundry through analysis activities.

TASSO has worked closely with the University of Southern Denmark (SDU) for many years. The company offers internships and often takes part in interdisciplinary projects with the students. Collaboration with Denmark's third largest university is something TASSO values highly, as it provides the company with new perspectives which are actively incorporated into the future development of the company.

"Our student assistant, Stephan Kron, who is studying to become a production engineer at SDU is a prime example. As part of his study programme he will complete an internship with us where he has been tasked with implementing the 5S LEAN system across all departments and areas here in the company. The goal of the project is for the departments to operate and further develop the system – with help from Stephan who will be employed as a student assistant after his internship allowing him to carry on his work with the project," says Kristian B. Pedersen, CEO of TASSO.





SAFETY, SECURITY AND WELL-BEING

Well-being is given high priority at the BIRN Group, as we believe the well-being of our employees is key to being a healthy and competitive workplace.

A well-being committee of over 20 employees has therefore been appointed by BIRN in Holstebro, which regularly launches initiatives and plans social events to build team spirit. The well-being group was set up following last year's employee satisfaction survey. The employee satisfaction survey will be rolled out again in 2023 – this time for all companies in the BIRN Group. We will look to identify and act on any issues that might affect the working environment and/or the well-being of individual employees. We also have a whistleblower system that allows current and former employees to anonymously report irregularities and any other unacceptable conditions that could have a detrimental impact on job satisfaction.

Language courses advance productivity and culture

“Since our group employs 17 different nationalities we run a number of initiatives to promote the integration of new employees with a non-Danish background. Our ULDALL subsidiary offers an 80-hour language course which aims to improve the productivity and performance of foreign employees and their confidence when communicating with colleagues, suppliers and customers. We also see these language courses as a great tool for building a culture characterised by a sense of equality and community spirit among our employees,” says Morten Madsen, Group HR Manager.

Safety

BIRN in Holstebro has a strong focus on the employees' physical and psychosocial working conditions. We want every employee to feel safe while they are at work. As part of the onboarding process a team of internal safety representatives therefore go through all safety procedures with new employees. If an accident occurs all employees at the foundry in Holstebro are covered by PFA Health Insurance. This allows any injured employee to be quickly examined and receive any necessary treatment.

Continuous training and upskilling

“As with our language courses, employees in all group companies are regularly offered relevant training courses. We take the view that in addition to making us more competitive in the market, further training and upskilling helps increase job satisfaction among employees. We're therefore happy to invest time and resources in developing our employees, as this contributes to creating a sustainable working environment where professional engagement is high,” says Morten Madsen, Group HR Manager.



REQUIREMENTS FOR OUR SUPPLIERS

BIRN Group is aware of its responsibility, and therefore has a focus on running socially responsible companies that respect the environment and human and labour rights. We do not tolerate any human rights violations, circumvention of the law, child labour or corruption and we expect the same from our suppliers.

To ensure suppliers meet our social responsibility requirements the BIRN Group has adopted a Code of Conduct, containing guidelines and describing what we expect of our external suppliers.

Potential suppliers are shown this Code of Conduct and asked to commit to it before any collaboration can commence. We have a clear expectation that our suppliers offer their employees decent working conditions, observe the law and demonstrate social responsibility towards local society.



INPUTS AND OUTPUTS FROM PRODUCTION

There are differences in what is produced across the BIRN Group of companies and how it is manufactured. This is reflected in the consumption figures for the various companies.

The following section therefore presents the companies' total inputs and outputs from production, including energy consumption, transport, recycled raw materials, material consumption for production, waste and wastewater discharge.



TOTAL INPUT & OUTPUT	2022	2021
Total tonnes of production	61,619 tonnes	63,660 tonnes
Energy consumption		
Total electricity consumption	125,108,314 kWh	126,844,344 kWh
Proportion of electricity purchased as renewable energy	29%	2%
Natural gas	1,856,392 m ³	2,460,078 m ³
Heating oil	176,150 litres	200,053 litres
Total district heating consumption	1,549,555 kWh	1,590,111 kWh
District heating sold	4,340,000 kWh	4,625,000 kWh
Transport		
Transport diesel	70,995 litres	71,765.1 litres
LPG forklift gas	218,620 litres	239,694 litres
Material consumption (Production)		
Raw materials	66,827 tonnes	68,535 tonnes
Heating and lubricating oil	37,323 litres	28,181 litres
Consumables	23,248 tonnes	23,681 tonnes
Waste		
Recycling and reuse	24,772.3 tonnes	25,145.4 tonnes
Incinerated	219.4 tonnes	208.1 tonnes
Landfill	824 tonnes	331.8 tonnes
Waste oil	22 tonnes	12.5 tonnes
Chemical waste	110.5 tonnes	92.2 tonnes
Discharge water		
Wastewater	57,424 m ³	57,511 m ³
Emissions to atmosphere		
Dust	6,722 kg	7,888 kg
Water vapour	63,363,000 kg	74,195,824 kg
Flue gases	6,212,047 kg	4,890,233 kg
VOC (Volatile Organic Components)	2,250 kg	2,258 kg



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