

Ardagh Group

Sustainability Update

2020



In Europe the waste recycling rates of our Glass facilities is now above **82%** 

Since Jan 2015 we have reduced the Ardagh recordable accident rate⁽²⁾ by more than **30%** 

93% of our facilities are ISO14001 certified

7% reduction in Scope 1 and 2 emissions



Revenue:
\$7.0bn



 Ardagh recordable accident rate⁽²⁾:
1.52 per 100 employees



Production:
56
facilities globally



 CO₂ emissions⁽³⁾:
3.82mt CO₂



Employees:
16,000+
in 12 countries



 NOx emissions:
7,813t NOx

Our coloured glass furnace in Irvine, UK, operates with

90%+
cullet content⁽¹⁾

92% of our facilities have implemented a Community Involvement project (CIP)

92%

The data above is for 2019 unless otherwise stated. Previous Food & Specialty facilities are excluded due to the formation of Trivium Packaging. Ardagh holds a 42% interest in Trivium. Further information on Trivium Packaging can be found [here](#).

⁽¹⁾This includes both internal and external cullet (recycled glass) | ⁽²⁾Lost Time Accident (LTA) and Medically Treated Accidents (MTA) per 100 employees | ⁽³⁾Scope 1 and 2

Leadership message

Following the publication of our 2019 sustainability report, we continue to focus on reinforcing our commitment to sustainability. During the past number of months, we have made several progressive strides along our journey. We have created a Board Sustainability Committee, appointed a Chief Sustainability Officer and committed to the **United Nations Global Compact**, the world's largest corporate sustainability initiative, and we have developed a robust sustainability strategy.

Ardagh has committed to the Science-Based Targets initiative (SBTi) a project that aims to encourage corporate climate action for a low-carbon economy. By joining the initiative, Ardagh will set specific goals for reducing greenhouse gas (GHG) emissions in alignment with the Paris Agreement 2015, where international governments mutually pledged to limit the global temperature increase to 1.5 degrees Celsius. Following on from our commitment to SBTi we will be aligning our targets to 2030.

We are satisfied with our progress since 2016 on reducing the Scope 1 and 2 carbon emissions and in NOx emissions. However, we have further work to do in relation to Scope 3 CO₂ emissions, on water consumption and VOC emissions.

As a result of COVID-19, there has been an increased awareness of the importance of sustainability in our everyday lives. We therefore endeavour to be even sharper with our commitment and actions towards protecting our local communities and our environment.

During the pandemic, many of our team members volunteered in their local communities and actively supported very worthy charities.

Our people inspire our organisation to do better, and so Ardagh has established Community Give Back Programmes to support people in need in the communities in which we operate.

Ardagh's competitive advantage sits firmly with our people and their talents and passions. To deepen our commitment we are establishing an Inclusion and Diversity Council. We believe that diverse and inclusive teams will not only make our business stronger but also empower our teams enabling Ardagh to retain our talent but also attract new team members to join us.

As part of our vision to provide an active learning environment for our people, we have implemented a digital learning management system – myLearning, so that learning content will always be available to our teams, from any location. myLearning will provide a platform for keeping our employees engaged, develop technical and leadership skills and provide a pathway for personal and professional development.

“These initiatives reflect Ardagh's sustainability focus, the importance it holds to our business and our future,” said John Sadlier, Chief Sustainability Officer Ardagh Group. “Ardagh is committed to meeting our customers' need for innovative and recyclable packaging solutions. Tackling climate change and contributing positively to society is critical for current and future generations.”

Shaun Murphy

Chief Operating Officer

John Sadlier

Chief Sustainability Officer

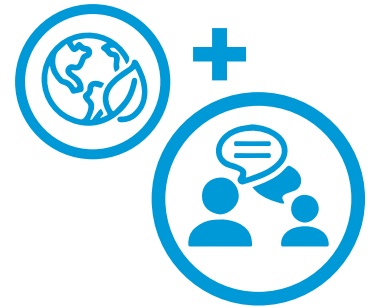
Our new sustainability strategy

Consumers around the world are accelerating their demand for more sustainable packaging which is driving the need from our customers for packaging materials with low environmental impacts.

Our team has developed a strong, results-driven sustainability strategy to make measurable commitments to producing in a more sustainable manner. A key aspect of our strategy is our commitment to the Science-Based Targets initiative which will strengthen our environmental targets and help us on our journey to continuously reduce carbon emissions.

Our goal is to decarbonise production processes by implementing new technologies such as the **hybrid furnace**, converting to renewable energy sources, increasing the use of recycled materials, light-weighting, heat recovery projects and a focus on transport.

In addition to our efforts in environmental management, we have increased our focus on the social pillar of our sustainability programme with renewed attention to talent development, retention, diversity and inclusion. We remain continually focussed on health and safety and community relations.



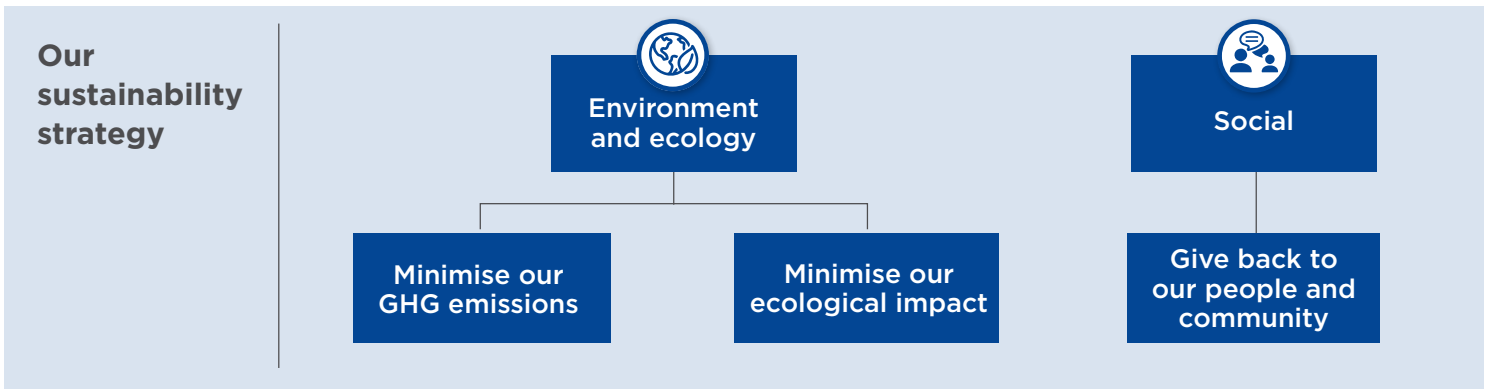
Our strategy at a glance

Our sustainability mission

Provide a packaging solution to our customers that has the least impact on our environment. Work together with our communities to drive common benefit.

Our sustainability filter

Sustainability is only sustainable if it is economically viable in the long and short-term



Our sustainability levers

Initiatives



- Reach 100% renewable electricity
- Hybrid furnace
- Recycled content increase
- Product design
- Energy efficiency projects
- Low carbon transport
- Sustainable sourcing.
- Maintain excellence on water management
- Support increased recycling and use of recycled content
- Promote circularity narratives on use of infinitely recyclable materials.
- Maintain excellence on health and safety
- Enhance the attractiveness of our Employee Value Proposition
- Increase our retention, promotion and inclusion of diverse profiles
- Engage proactively with our local communities through grassroots “Giving Back” initiatives.

Our direct link with UN’s sustainable development goals

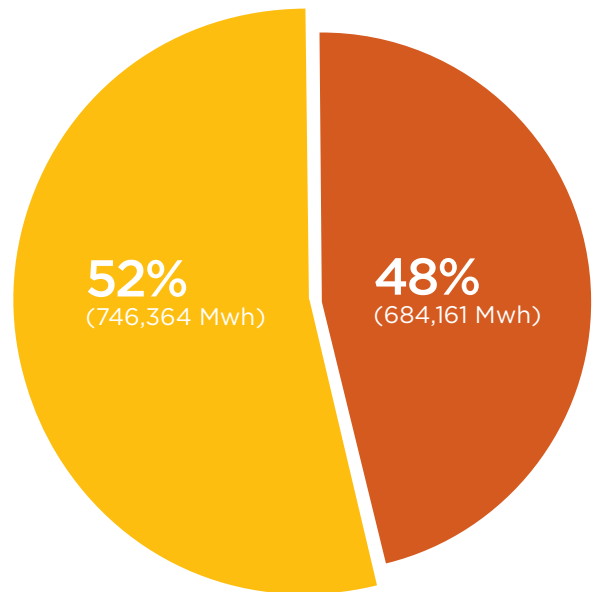
2019 Environmental performance

Metal

Energy consumption by primary energy source

-  Electricity
-  Fossil fuel

Metal	Total energy consumption (Mwh)
2019	1,430,525

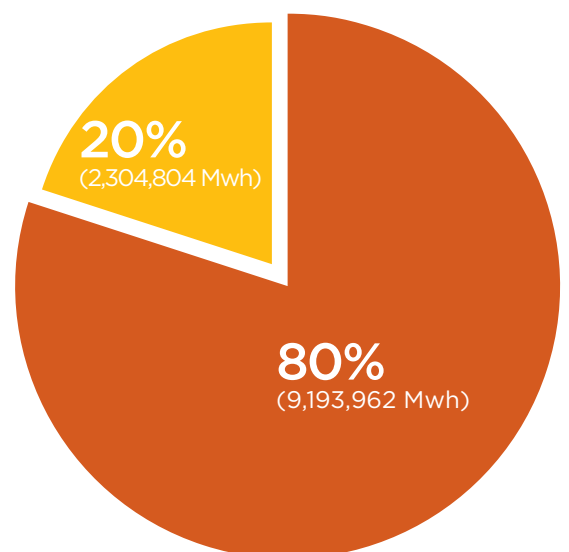


Glass

Energy consumption by primary energy source

-  Electricity
-  Fossil fuel

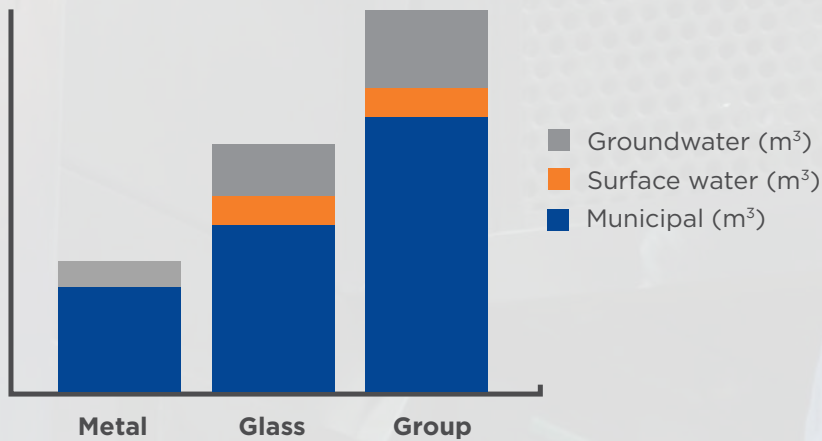
Glass	Total energy consumption (Mwh)
2019	11,498,766



Materials used by weight

Material input (t)	2019
Tonnes melted	6,479,660
Aluminium	579,320
Steel	61,329

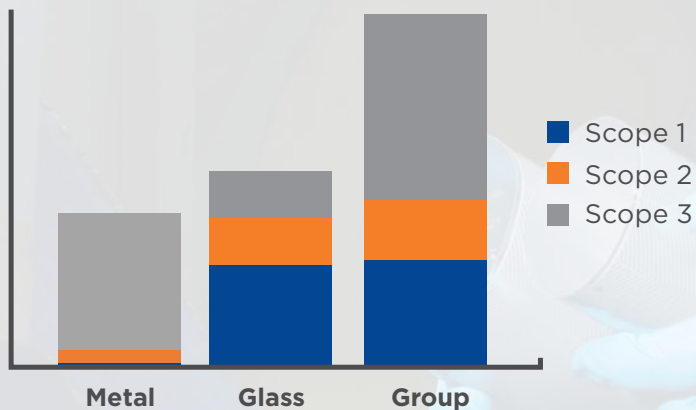
Water consumption



Total water consumption (m ³)	2019
Metal	3,069,341
Glass	5,776,518
Total group	8,845,859

*0.8% reduction against a 2025 target of 9.0%

Emissions data 2019 Scope 1-3 (by business unit and total)



*7.2% reduction against a 2025 target of 17% for Scope 1 and 2 emissions

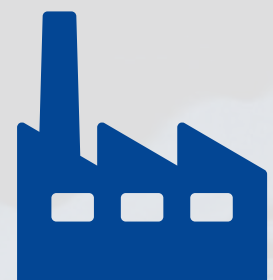
Other emissions

Metal (t)	2019
VOC	2,769

Glass (t)	2019
NOx	7,813

*VOC: 11.6% increase against a 2025 target of 4.0% reduction

*NOx: 12.7% reduction against a 2025 target reduction of 17%

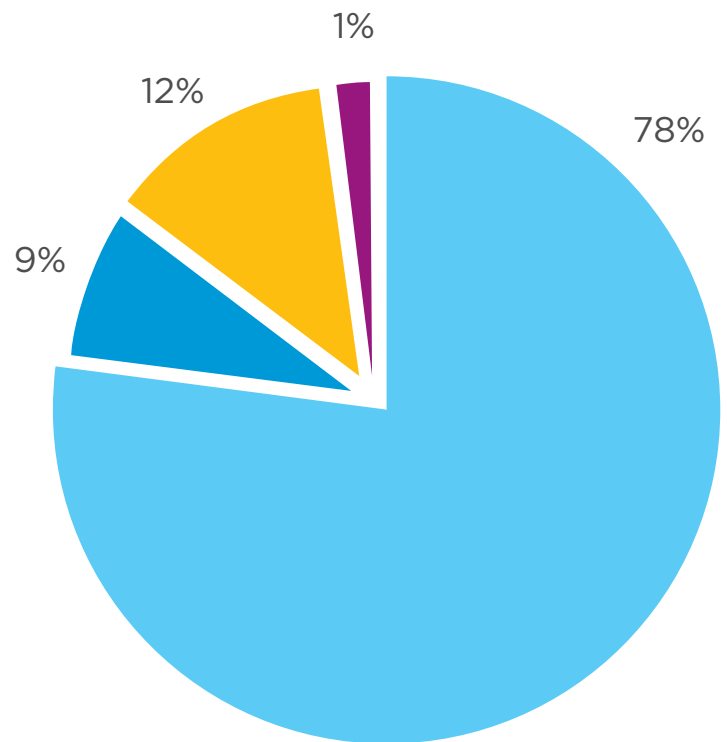




Scope 1 - 3 CO₂ emissions

2019	Scope 1 (t CO ₂)	Scope 2 (t CO ₂)	Scope 3 (t CO ₂)	Total (t CO ₂) ⁽¹⁾
Metal	139,321	232,719	3,228,123	3,600,163
Glass	2,312,070	1,137,875	1,042,617	4,492,562
Total Group	2,451,391	1,370,594	4,270,740	8,092,725

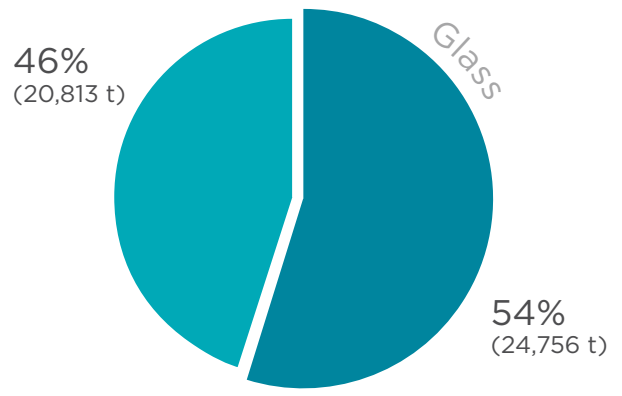
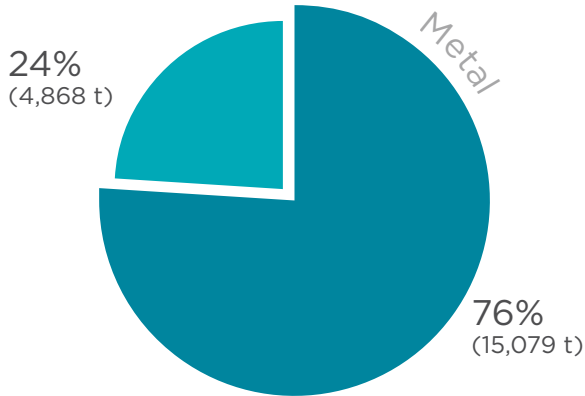
Scope 3 CO₂ emissions sources



- Waste disposal⁽²⁾
- Upstream logistics
- Upstream fuel and energy related emissions
- Purchased raw materials

⁽¹⁾2019 scope 1-3 total emissions | ⁽²⁾We include waste disposal as a new category and have updated our calculation methodology in order to present a more accurate picture of our Scope 3 data.

Waste recycling



■ Non-recycled waste ■ Recycled waste

■ Non-recycled waste ■ Recycled waste

Metal	Total waste	Total waste (t)
2019	30%	19,947

Glass	Total waste	Total waste (t)
2019	70%	45,569

*3.6% increase in waste recycling rate compared to a 2025 target of a 10% reduction

Health and safety

Developments

The severity rate of accidents has dropped by 6% from 2018 to 2019. For production facilities that have high or increasing KPI's, we initiative BSafe! reviews to counteract the development.

66% of our facilities had no LTAs (Lost Time Accidents) in Glass in 2019, and similarly, 79% of our Beverage Can facilities had no LTAs.



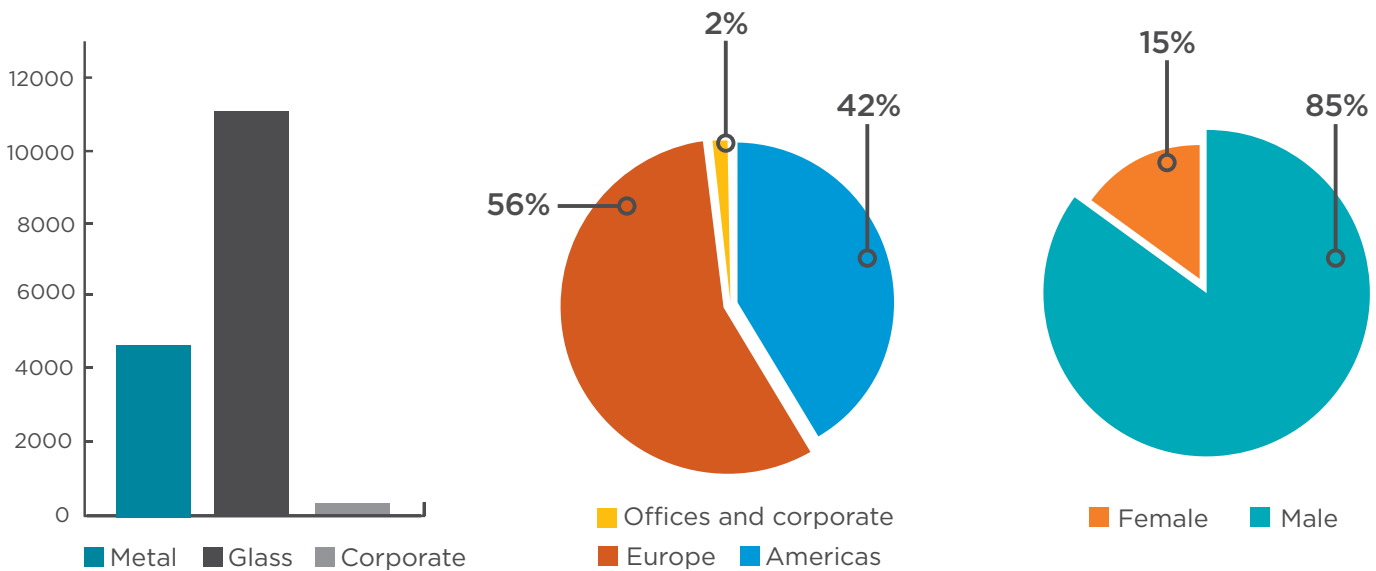
Health and safety KPIs	2017	2018	2019
Ardagh Group lost time accidents per 100 full time employees per year	0.39	0.46	0.43
Ardagh Group recordable accident rate (lost time and medical treated accidents per 100 full time employees per year)	1.71	1.65	1.52

BSafe!

Update: social data

Employees

The reduction in employee numbers reflects the divestment of facilities to Trivium Packaging BV in Q4 2019.



Social initiatives

myLearning

We have recently introduced a new learning platform called myLearning which will revolutionise the way we deliver learning, training and development. The aim of myLearning is to create one single source of learning and development programmes, content and tools to ensure that all our teams have direct access to the learning content they need to develop within their job roles and careers when they need it. Employees will be able to access myLearning via computer, tablet or smartphone or through one of our dedicated training rooms. This will serve to provide high-quality eLearning, video learning, Virtual Reality or Augmented Reality.

Whether it's environmental health and safety training, technical, operational, professional skills, management development or personal development training, myLearning will be one stop shop employees can obtain the learning

that is relevant to them. myLearning will enable our employees to take charge of their own learning and will provide us with the ability to share learning content globally at the touch of a button, to empower and enable our teams. myLearning will also help to ensure the quality of our learning content and ensure it is continuously improved.

Community response

Throughout the pandemic (COVID-19), many of our employees were volunteering in their communities and donating time, supplies and funds to local charities. Inspired by our people, Ardagh created a \$2 million fund to support those most affected by COVID-19 in the communities in which we operate. The fund was allocated to charities, nominated by Ardagh's local teams.





Metal Beverage North America: Diversity and Inclusion (D&I) Council

Nurturing unique differences at Ardagh

In 2019, Ardagh Metal – Beverage North America formed its Diversity and Inclusion (D&I) Council, made up of six volunteers and two co-chairs. The D&I Council’s mission is to uphold a work environment that attracts the best talent, values diversity of life experiences and perspectives, and encourages innovation in our pursuit of our vision, “to become the preferred packaging partner to the world’s leading brands.”

We strive to embody Our Core Values of Trust, Teamwork and Excellence in all we say and do. Our

D&I Council is a natural progression of bringing these values to life.

The Council shares D&I best practices throughout the organisation; creates new initiatives to promote diversity and inclusion such as through training/speaker events and a curated resource center of books, articles and in-house videos detailing the D&I journey for Metal – Beverage North America; fosters colleague connections through social and charity events; and takes, reviews and implements teammate suggestions on how to nurture and grow diversity, equity and inclusion. They identify and address emerging issues that can impact our diversity culture.

We began our D&I journey at our Chicago and Ardagh Technical Center offices and plan to expand to the manufacturing facilities in our next phase.

We want to untap our full team potential. The D&I Council knows each of our employees possess unique experiences, perspectives and viewpoints that add value to our customers, company, communities and shareowners. Their goal is to understand and nurture these unique differences, ensuring a workplace where all feel comfortable and respected.



Metal Beverage Brazil:

Giving back

Supporting local families and communities

At Ardagh, we believe in the importance of giving back to the communities in which we operate. Our teams in Alagoinhas, Jacarei, and Manaus, Brazil work in collaboration with The Internal Commission of Accident Prevention (CIPA) to support local families in these communities. During 2019, our team in Brazil created a programme of activities to support Work Accident Prevention Week.

Our team in Manaus donated nearly one tonne of food to Children’s House, a charity dedicated to giving access to early childhood education and daycare to children from low-income families.

The Manaus team also donated infant formula and essential baby case items to Nacer Shelter, which protects children who suffer from abuse and neglect.

Meanwhile the team in Jacarei organized a toy collection for Meia Lua Nursery, Lar São José das Irmãs

Carmelitas and Guri na Roça who support more than 400 children between the ages of 1 to 15 to ensure they receive a good start in life.

Our team in Alagoinhas donated essential school supply kits to more than 100 children in need from Dom Avelar School.





Glass Europe: Furnace of the Future

Cutting CO₂ emissions by 50%

Today, the use of electricity as the main energy source in the container glass industry is limited to small-scale furnaces for flint glass without the use of recycled glass. By replacing 80% of the natural gas with green electricity, the technology reduces the furnace emissions by 60% or 50% of the total CO₂ emissions of a container glass factory.

For the first time, the 'Furnace of the Future' project will bring together the best engineers from 20 glass container manufacturers to demonstrate that this can be done. The technology will allow the industry to use high rates of recycled glass which is

currently not possible with electric furnaces. For each additional 10% of recycled glass in the furnace, there is an additional reduction of CO₂ emissions by 5% and energy consumption by 3%.

The 'Furnace of the Future' is a fundamental milestone in the industry's decarbonisation journey towards climate-neutral glass packaging. It will be the first large-scale hybrid oxy-fuel furnace to run on 80% renewable electricity in the world. It will replace current fossil-fuel energy sources and cut CO₂ emissions by 50%. Ardagh has committed to building the furnace in Germany in 2022, with an assessment of the first results planned for 2023. The new furnace will be built in Obernkirchen, combining 220 years of glass

production and experience with new, breakthrough technology.

In the future, a 100% fossil-free melting seems to be possible based on this project.

See more on ardaghgroup.com and feve.org.





Metal Beverage Europe: Sustainability in action at Enzesfeld

Planting trees at Enzesfeld

Protecting the environment and the responsible use of its resources for the next generation is of the utmost importance to Ardagh. The sustainability performance of our production facilities is continuously measured and actively improved upon. We carefully manage and monitor energy consumption, CO₂ emissions, water usage, waste, recycling rate and VOC emissions.

At our Enzesfeld facility, zero waste to landfill is a particularly important mission for the team. In fact, the Enzesfeld team continuously seeking new ways to improve their sustainability initiatives. They recently switched their lighting

to energy-saving LED technology as well as taking part in the annual spring clean of their local community.

The team have actively pursued renewable energy and their latest initiative involves collaboration with the municipality of Enzesfeld-Lindabrunn to install a solar panel system onsite. To take this initiative a step further, they are now planting trees in their local community. For every tree symbolically saved by their new solar power system, they are donating a real tree to be planted. Silver linden trees have recently been planted in Lindabrunn and they aim to plant many trees over the course of the next five years.





Glass North America: ENERGY STAR® certifications

Superior energy performance

Our glass team in North America was awarded three ENERGY STAR® plant certifications for superior energy performance from the U.S. Environmental Protection Agency (EPA) in early 2020. Ardagh is the only U.S. glass container manufacturer to earn this recognition.

Our three glass manufacturing facilities, located in Bridgeton, New Jersey; Dunkirk, Indiana and Madera, California demonstrated best-in-class energy performance and perform within the top 25 percent of similar facilities across North America for energy efficiency and meet strict energy efficiency performance levels set by the EPA.

This is the sixth consecutive year for Bridgeton, the seventh consecutive year for Madera, and the eighth consecutive year for Dunkirk to be awarded ENERGY STAR plant certifications, reflecting a legacy of continued energy savings.

We are committed to being the North American glass packaging market leader in sustainability by optimising our manufacturing operations, maximising the use of recycled materials and lowering energy consumption. Our recognised facilities have improved energy performance by upgrading and optimising furnaces, utilising recycled glass, reclaiming waste heat and installing energy-efficient lighting fixtures, among many other energy-saving initiatives.

In addition to the ENERGY STAR certifications, all 13 of our glass manufacturing facilities in North America are ISO 14001 certified, making Ardagh an environmental leader in the packaging industry.



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