

Clarity.

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ArdaghGlassPackaging 

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Introducing Ardagh Glass Packaging – Africa

About Ardagh Group

Ardagh Group is a global supplier of sustainable, infinitely recyclable, glass and metal packaging for brand owners around the world. The consistent pursuit of market-leading innovation, quality and customer service, backed by investment in our people and processes, underpins everything we do. We remain focused on continuous improvement in all aspects of our business to deliver long-term, sustainable success for our stakeholders.

On 29 April 2022, Ardagh Glass Packaging – Africa (AGP – Africa) was established when Ardagh Group (Ardagh) successfully concluded its strategic acquisition of Consol Glass.

Since our formation nearly 80 years ago we have exemplified manufacturing excellence across Africa, producing world-class, sustainable packaging for a better world. These are the qualities that resonated with

Ardagh, a global supplier of sustainable, infinitely recyclable, glass and metal packaging for brand owners around the world.

Our addition to Ardagh's family of businesses offered an excellent opportunity to expand Ardagh's global footprint onto the African continent.

In turn, the transaction offered a significant opportunity for growth and development



and, by combining Ardagh's global reach with our know-how on the African continent, AGP – Africa is now well-positioned to meet the growing consumer demand for premium, sustainable glass packaging in Africa.

When it comes to quality products and outstanding customer service, Ardagh is regarded as the industry's leading provider. Ardagh produces glass packaging in all shapes and sizes for the world's leading brands. As well as offering a choice of 20 colours, the group has the resources and expertise to create distinctive and innovative glass packaging that can set a brand apart.

And while our name has changed, much of what has made us the continent's leading glass packaging manufacturer has stayed the same.

AGP – Africa still has the same goal: perfection. We remain focused on creating superior value for our customers, healthy packaging choices for consumers, and sustainable solutions for the planet.

The adoption of the new brand was a complementary combination driven by a shared vision: **to be the preferred packaging partner to brand owners around the world** through delivering innovative solutions for our customers.

As part of the transition, AGP – Africa's new home online is now <https://www.ardaghgroup.com/glass/africa/our-markets>

Ardagh's global glass and metal operations



Ardagh's global
production footprint
in numbers

65
glass and metal
production facilities

16
countries

20,000
employees

\$10bn
annualised sales

"Our proud past has earned us an exciting future with Ardagh Group. Through our commitment to collaboration, innovation and excellence we have become a part of something bigger, joining an international team who share our values, vision and purpose. What has made us great will be enhanced by what will make us even greater in the future."

Paul Curnow, Chief Executive Officer



Ardagh's Core Values

Ardagh's culture is grounded in its Core Values of Trust, Excellence and Teamwork, which are very close to those of Consol Glass. These values are the guiding principles that define how our employees work together, treat one another and collaboratively deliver on our strategic initiatives. These values demonstrate a tangible commitment by the company to conduct business with the highest standards of integrity, to raise the bar on performance every year, targeting continuous improvement, innovation and sustainability, and to forge relationships with our stakeholders based on mutual respect, integrity and transparency.

That same responsible behaviour is mirrored in the way the company manages its impact on the social and natural environments in which we operate and is reinforced in Ardagh's strong commitment to sustainability.



These values define who we are as a company - to each other, to our customers, to our suppliers and to our stakeholders.



Trust

Trust is earned by displaying personal attributes that show we are respectful, reliable, consistent and honest in our approach to others. It is built on mutual respect, personal integrity and transparency.



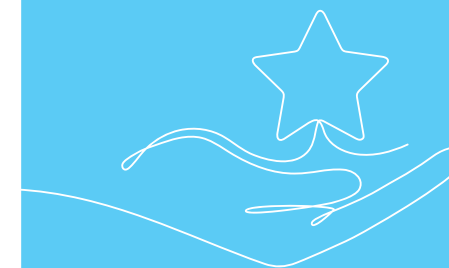
Teamwork

The need for individuals to interact with fellow employees, in a mutually beneficial way, is important to building a strong business. Individual teams need to recognise the impact of their decisions on various sub teams, and ultimately the business. Teamwork is built on collaboration, shared responsibility and open communication.



Excellence

Excellence is constantly striving to improve ourselves and the business. It focuses on continuous improvement, innovation and sustainability.



Sustainability

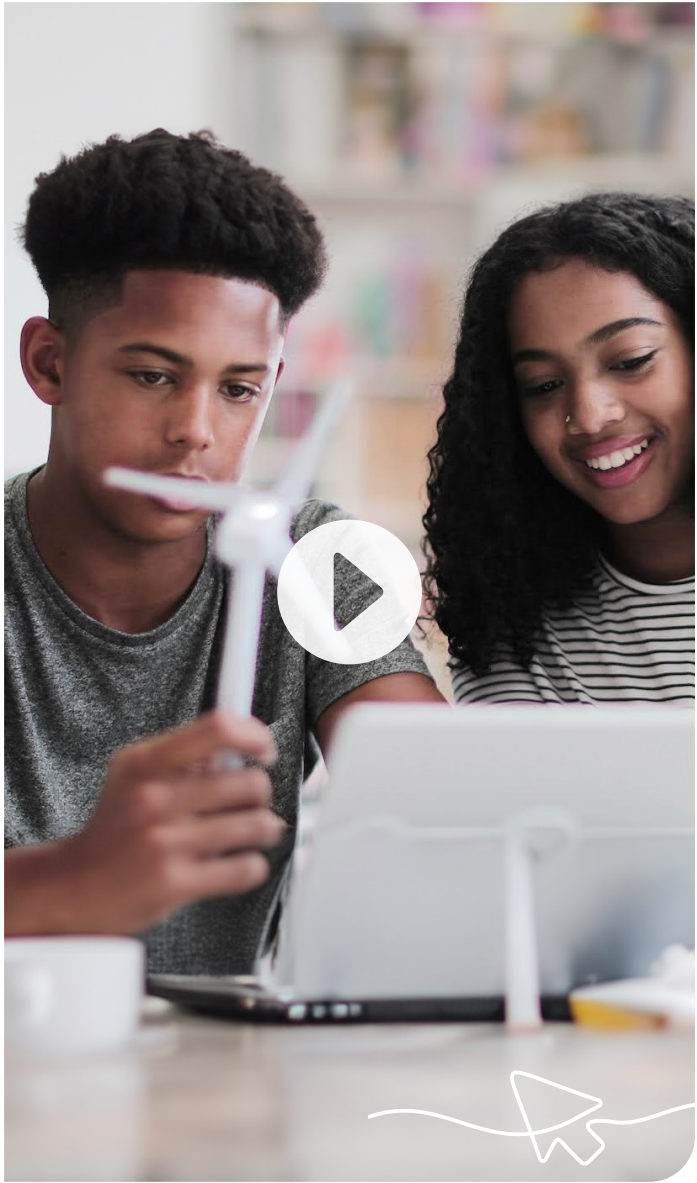
Ardagh's commitment to sustainability

Our sustainability strategy is based on taking a proactive approach to our three 'Pillars of Sustainability' – Ecology, Emissions and Social. We aim to minimise our greenhouse gas (GHG) emissions, reduce our ecological impact and support our people and our communities.

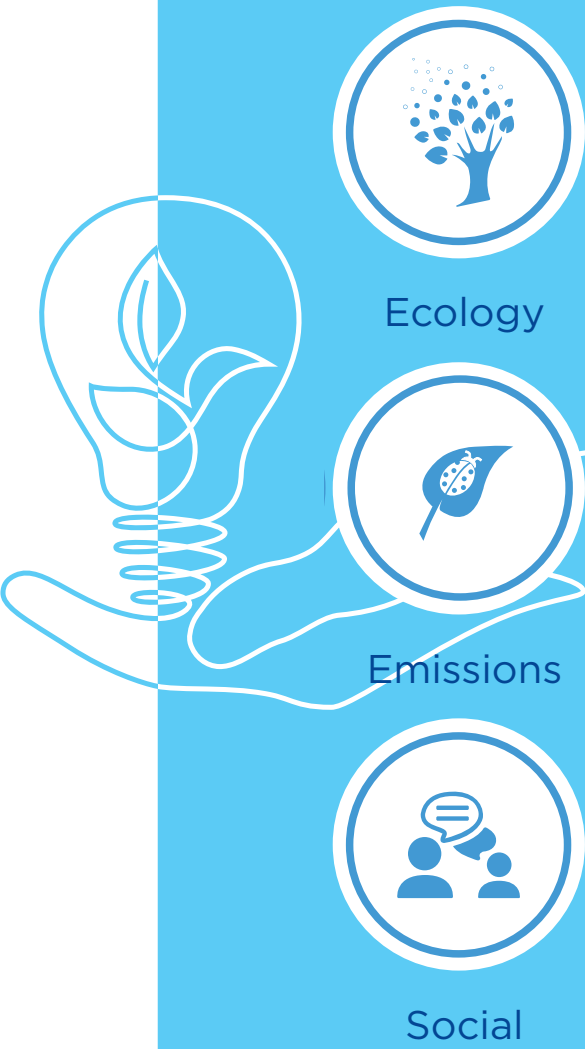
We recognise that emissions, ecology and social sustainability are closely linked and that the long-term economic performance of Ardagh has an impact on our employees, local communities, customers, suppliers, investors and other stakeholders. That's why we continually invest in systems and processes that improve the efficiency of our operations, reduce costs and increase competitiveness.

Glass and metal are both permanent materials. They form part of the 'circular economy' –

where materials can be infinitely recycled in a closed loop without any loss of quality. As a result, glass and metal are regarded as 'permanently available'. The materials are not lost as long as they are recycled into another glass or metal product. Ardagh initiatives that focus on recycling – both of our source materials and within our facilities themselves – showcase our commitment to energy efficiency. Effective environmental management systems are in place across all Ardagh sites.



Our sustainability pillars



The impact of what we do and how we behave is far-reaching. Production on a scale such as ours brings enormous environmental responsibilities, and we take these seriously, both globally and locally. That is why we identify, control and measure all our activities, and work hard to reduce their environmental impact. We aim to keep energy consumption and emissions to a minimum, maximise our recycling rates, optimise the use of secondary packaging materials and manage waste appropriately, by avoiding use of landfills and limiting water usage.

Carbon Disclosure Project report card

	Climate change	A-
	Water management	A-
	Supplier management	A
	Social Investment	We promote and support community engagement across the organisation, with a particular focus on educational development in communities in which we operate.

For more on Ardagh's sustainability progress and to read our latest Sustainability Report, please visit ardaghgroup.com/sustainability

A word from Paul Coulson, Chairman and CEO of Ardagh Group

"We're delighted that Consol Glass has joined Ardagh Group. This is a fantastic company, and we feel very privileged that this team has become part of our Group."

One of the things that has struck us, both at the time we were doing due diligence, and in the various exchanges we've had, is what a good cultural fit there is between Consol Glass and Ardagh Group. Very often we've bought companies, and the culture hasn't been the same. People look at things through a different lens.

But here it's very similar: the approach to customers, to manufacturing, to colleagues, to governance and controls, is very similar to our own. All these things are very important, and this alignment is a great source of comfort.

Today there are two main aspects to Ardagh's business: glass and metal packaging.

What distinguishes us from our peers is our glass business. We make glass in North America, Europe, and now in Africa.

We have excellent relationships with our glass customers, which will benefit AGP - Africa as it grows.

For our customers, suppliers, employees and other stakeholders across Africa it remains very much business as usual. We aim to maintain the relationships that the Consol team has forged, while adding value through the advantages that result from being part of a larger organisation. Our teams are working hard to ensure an efficient and smooth integration.

"We see Africa as a really important location for us to expand and build a really significant packaging business. AGP - Africa is a fantastic foundation stone for that expansion, with terrific potential."

Paul Coulson,
Chairman and CEO of Ardagh Group



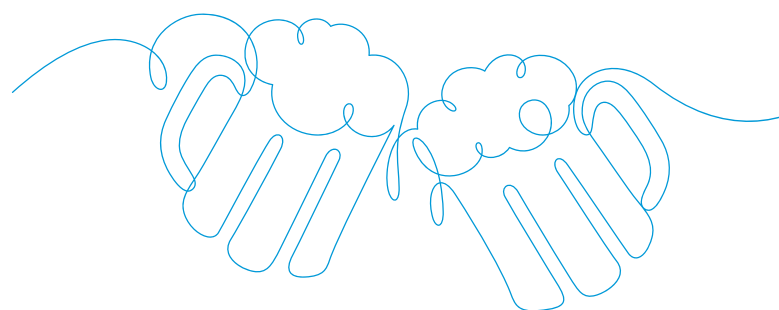
International Year of Glass 2022

Glass has been a touchpoint of celebration, commerce, culture and science for over two thousand years. An ancient material with a rich cultural heritage, glass is more important to modern life than ever before: versatile and easily innovated, it is a potential enabler of the UN Sustainable Development Goals.

That's why 2022 has been officially declared the UN International Year of Glass – to celebrate the extraordinary benefits of glass for businesses, consumers and our environment alike. This is the perfect opportunity to champion glass and highlight the central role it has played in our society for thousands of years.

Glass is part of our daily lives. It's an old material whose story has been told many times.

This year, with the International Year of Glass putting glass in the spotlight like never before, it's time to retell the story of this fascinating material and to share the many reasons why glass is the best packaging material – now, and for generations to come.



How consumers feel about glass

1. Glass is loved by consumers

Iconic, stylish, premium: the sound of a cork popping or two bottles “clinking” together transforms any moment into a celebration.

2. Glass is naturally safe and healthy

Enjoy your products as intended with the help of glass:

- No synthetic chemicals in the glass that could transfer to or interact with your food or drink.
- No external influences, as glass acts as a safe barrier to protect products.
- No restriction on shelf life.

Protect your health – #ChooseGlass!

3. Glass protects quality

Glass packaging holds the key to our hearts

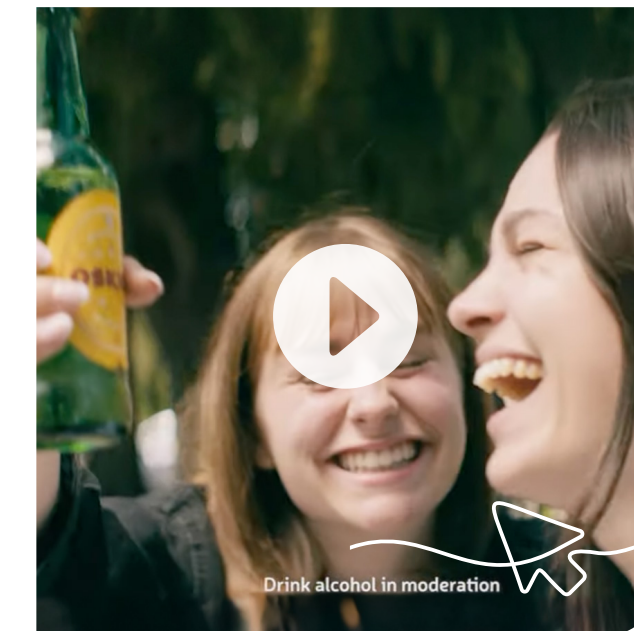
It shields and protects our food, beverages, perfume and medicine – reducing product waste and preserving quality.

- That's why 91% of wine drinkers agree that glass is the best packaging to preserve the taste, according to Newton Market Research.

4. Glass can be reused, repurposed and recycled

As we become more aware of our impact on the planet, choosing glass helps us make more sustainable choices.

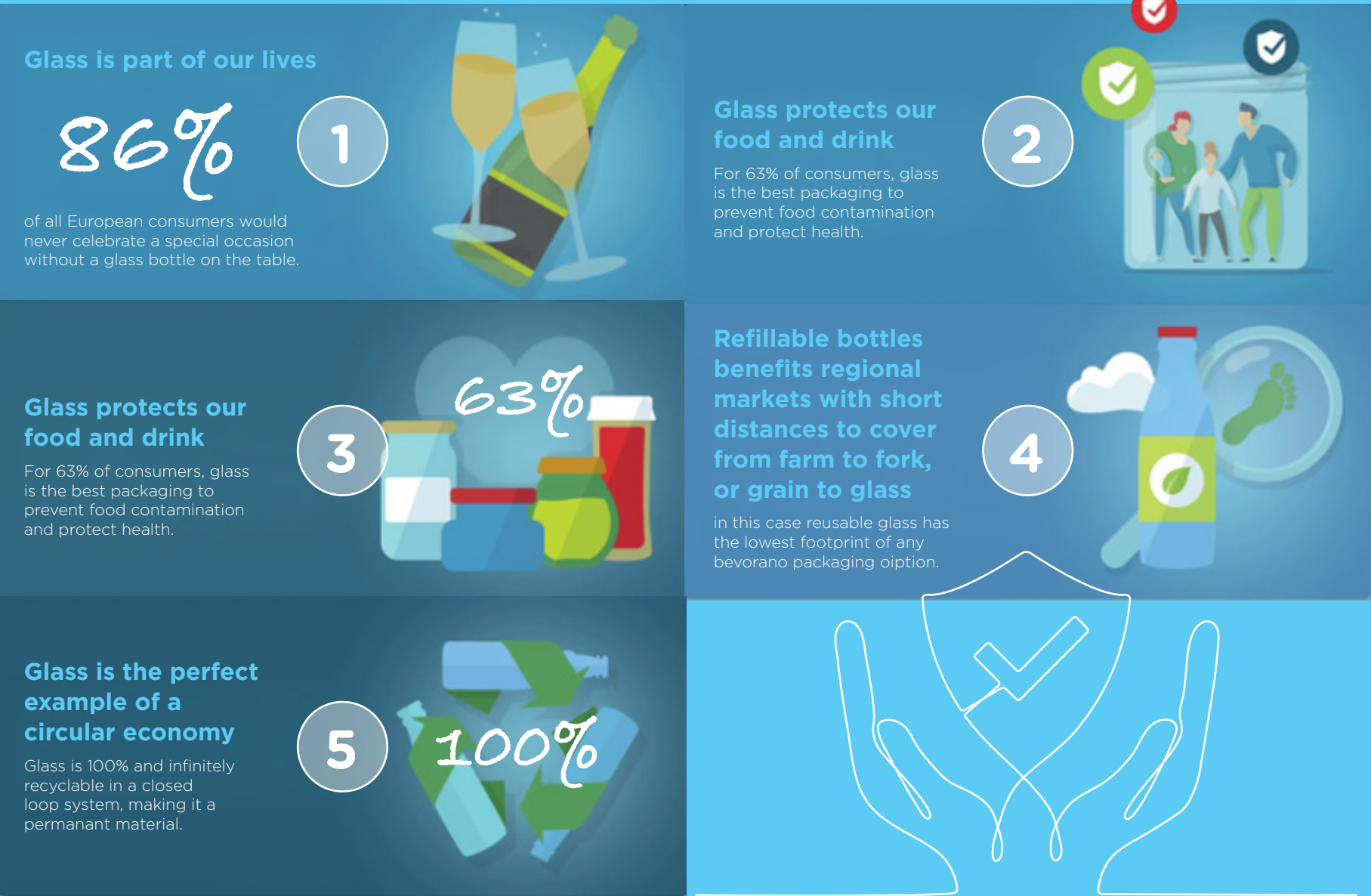
Did you know? It takes as little as a month for a recycled glass bottle to be back on the shelves.



5. Glass supports the Sustainable Development Goals

Bring the #SustainableDevelopmentGoals to life with glass:

- environmentally friendly
- reduces food waste
- enables local employment
- aims for climate neutrality



How South African consumers responded to the survey

A survey* done with South African consumers just a few months ago by Ardagh Glass Packaging – Africa strongly echoed the international sentiments:



A few other reasons that South Africans listed for why they prefer and love glass:

- Glass **preserves** the environment: **78%**
- Glass is a **trusted packaging** type with good reputation: **81%**
- Glass is **versatile**, can be used for any occasion: **81%**
- Glass is seen as **premium** and sophisticated: **82%**
- Glass is the best at being **reusable**: **82%**

If you would like more information on why glass or the International Year of Glass, please reach out to Marlene Scott at Ardagh Glass Packaging – Africa on marlene.scott@ardaghgroup.com

*Vibrand Brand Health Study 2022

The Glass Hallmark

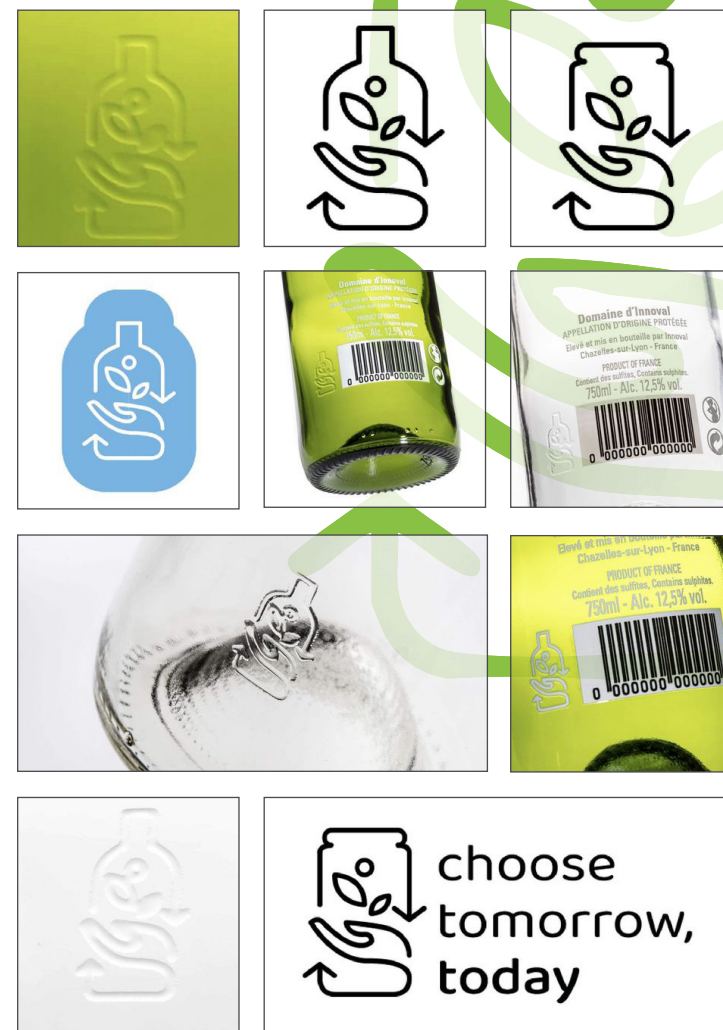
The Glass Hallmark is a trademarked communication tool designed by the European Glass industry, incorporating the unique features of glass that make it a high-quality and sustainable packaging material.

Consumers are increasingly conscious of sustainability and the impact of their own purchasing choices. The Hallmark reminds consumers that glass packaging is sustainable, inert, 100% and infinitely recyclable, reusable, refillable and safe to store food and drinks.

The Hallmark conveys a consistent and positive message that glass packaging can be infinitely recycled. It symbolises the unique characteristics of glass packaging that support a sustainable future: its infinite recyclability without any loss in purity or quality, and its inert nature, vital for preserving the quality of the product inside.

It generates interest and gives consumers an informed choice, helping them to understand their role in choosing to buy, then recycle their glass packaging. It allows brands to communicate their packaging sustainability commitments and to boost the environmental, social and economic sustainability value of the overall product.

In short, the Hallmark is a symbol of a more sustainable world which we look forward to bringing to the African market.



South Africa's state-of-the-art new glass facility

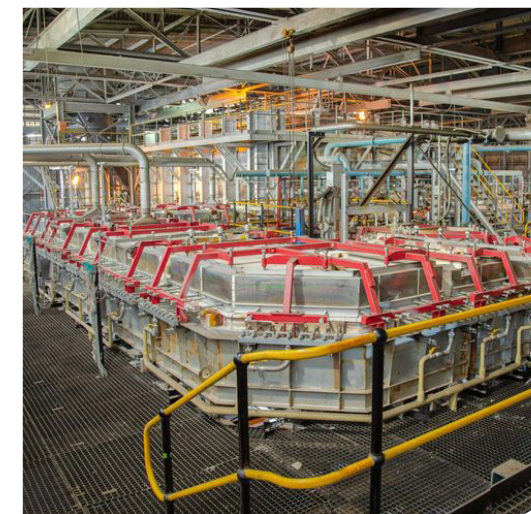
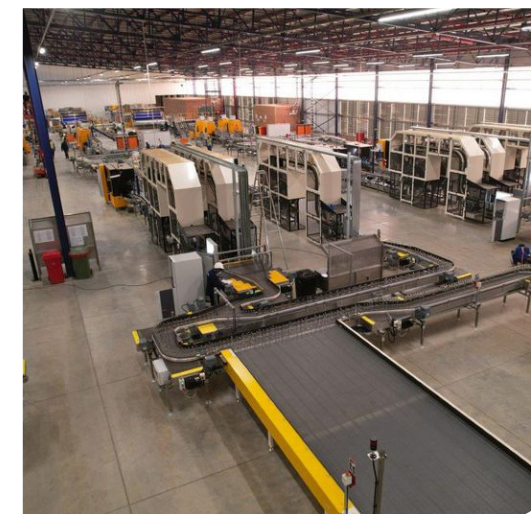
The R1.5 billion extension of Ardagh Glass Packaging – South Africa's (AGP – South Africa's) Nigel operations in Gauteng has been completed and is producing glass containers. The investment more than doubles the facility's capacity to provide sustainable glass packaging to support our customers' current and projected demand growth and incorporates a new furnace and production lines. It also provides significant energy, water efficiency and environmental benefits towards decarbonising the glass production process and reducing emissions.

The 2022 extension has:

- **More than doubled** the capacity of the existing Nigel plant.
- Added around **10%** to AGP – South Africa's overall production capacity.
- Created more than **150 direct jobs**.
- Increased the Nigel facility's production area by **24,400m²**, and warehousing area by **24,000m²**.
- Added **four new production lines** to the current four lines at Nigel.

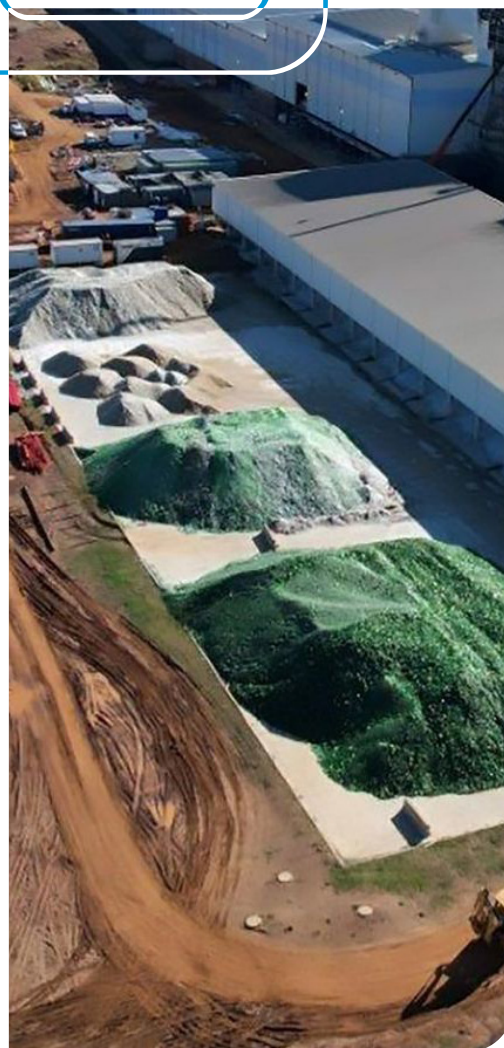
Sustainability

- The investment includes an **electrostatic precipitator (ESP)**, which substantially reduces particulate emissions. AGP – South Africa has a similar ESP in its Bellville facility in Cape Town. The new furnace was designed to be as energy efficient as possible. A low-pressure air-compression system (used to form glass containers from molten glass) **improves energy efficiency by as much as 20%**.



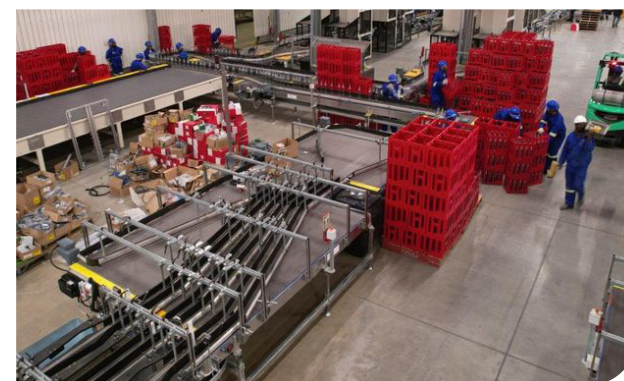
Recycling

- **Glass is 100% recyclable**, and the use of cullet (recycled glass) in the glass-manufacturing process is key to reducing waste and energy usage.
- Nigel's furnaces can run on up to **90% cullet**, depending on the colour run in the furnace and the availability of cullet which is collected from the market, and used as the primary melted raw material.
- Furnace recycling rates will vary depending on the colour produced in the furnace at any one time and the availability of post-consumer or post-industrial cullet.
- These furnaces can produce flint (clear), amber and green glass.
- The newly built furnace will likely run on lower recycling rates as it will primarily produce flint glass, which is less available for collection in the South African market.



Technology

- Sophisticated **model-predictive controls** allow finer control and better response to changes in the glass-making process.
- The new furnace uses natural gas as its primary energy source. It can draw on a secondary **electric boost**, which allows for the production of better-quality glass.
- The expansion will include an off-line additional applied-ceramic-label decoration line with two screen-printing machines.



In late 2022 a **third furnace investment** in the Nigel facility was announced for commissioning in 2023. This expansion will be a replica of the expansion completed in 2022 and will similarly incorporate a new furnace and additional production lines. It will also provide significant energy, water efficiency and environmental benefits, representing another important step in AGP – Africa's journey to decarbonise the glass production process and reduce emissions.

Leveraging Ardagh Group's technical capabilities and global sourcing, the expansion is expected to be commissioned well ahead of current standard lead times. The investment, which is backed by long-term customer contracts, is in line with Ardagh's commitment at the time of acquisition to invest in the growth of the South African glass industry.

Following completion, the Nigel production facility will be the largest glass container production facility in the AGP – Africa network, and on the African continent.

Committed teams drive Ethiopia's return to production

Shutting down a working glass furnace and factory is not a decision to be taken lightly. Glass manufacture is a continuous process producing a constant stream of molten glass, and furnace investments require ongoing production and sale of glass products over a 10-to-12-year life cycle.

Shutdowns are rare occurrences and require delicate operational management to avoid severe damage to the integrity of the furnace and the useful life of the asset.

A furnace shutdown might occasionally become necessary due to exceptional conditions. This could be due to a technical issue, an interruption in the supply of raw materials, or, as was the case in Ethiopia in 2021, a civil war.

Ardagh's Ethiopian facility was commissioned in August 2019 with the capacity to produce 60 000 tons of glass annually for

the local and export markets. In November 2020, what became known as the Tigray War erupted in northern Ethiopia. As the conflict spread over the next year, Ardagh management carefully monitored the situation to keep people and plant safe.

By November 2021 the conflict area had encroached within 100 km of our glass factory and the decision was made to suspend operations and evacuate our most important assets, our people. This had to be done quickly, safely, and ideally in a way that would

cause the least possible damage to plant and equipment.

Our technical partners, alongside Ardagh experts in South Africa and a small team on the ground, were given the difficult task of managing the cooling down process and leaving the molten glass inside the furnace to slowly freeze.

In ideal circumstances, the cooling and extraction of molten glass would take place under the physical care of a specialist team. The molten glass would be carefully drained – at 1 300 °C, it's effectively a controlled volcano – and the empty furnace would be cooled as gently as possible.

However, our technical partners were unable to physically travel to Ethiopia, and the project had to be coordinated remotely. The decision was taken to let the glass cool inside the furnace



and remove it later. To make the eventual task of removing this glass easier, a frothing process was introduced to the molten glass. Bubbles were trapped inside the glass as it cooled, effectively making it softer for easier eventual extraction.

Since the glass and furnace materials cool and contract at differing rates, it was a delicate and technically difficult procedure which took several weeks to complete. Eventually, however, the cooldown was complete, and production was safely paused. Although most of the local team had been evacuated, committed employees stayed on to make sure our site was kept secure and our physical assets were not tampered with, destroyed or misappropriated.

By early 2022 the conflict had been contained to the north of the

country. The process of removing the cooled glass and assessing the condition of the furnace could begin. Using first jackhammers and then hand chisels, Ardagh employees carefully removed the glass from inside the furnace and discovered that the furnace remained in good shape. The team's careful cooldown had been a success. In a surprisingly short time it was ready to be reheated and accept raw materials again, and production resumed in March 2022.

It's difficult to overstate the ingenuity, fortitude and camaraderie that the Ardagh teams showed throughout this process. It took experience, expertise, commitment and a strong sense of collaboration to perform this consequential operation amid exceptionally difficult circumstances.

On 1 August 2022 we celebrated three years of commercial production in Ethiopia. It has been a tough but rewarding journey. Kudos to everyone in our Ethiopian team and Ardagh Glass Packaging – Africa for the support and commitment to ensuring the success of our Ethiopian operations.



Innovation

Ardagh is driving innovation in glass packaging design

Glass is one of the most enduringly natural and attractive materials.



Ardagh combines these qualities with the skill and experience of our designers to create award winning bottles and jars for many leading food and beverage brands.

We work alongside our customers from the earliest stages of a design and

development project. Working to a common design platform and using advanced product design software, best practice procedures ensure that new glass design projects reach the market not only with exceptional packaging, but also on time and to budget.

We have a passion for innovation and creativity; qualities which have positioned us as a world leading packaging business.

We are constantly embracing new technologies and developing new product ideas to offer exciting new techniques, while driving forward our own continuous improvement agenda.



Ardagh Glass Packaging reveals 'Absolut Voices'

The Product Design team at Ardagh Glass Packaging – Europe, worked closely with Absolut and design agency Brand Union to create the brand’s latest limited-edition bottle: ‘Absolut Voices’, which celebrates the wavemakers and trailblazers of the world and is reflected in the bottle’s ‘sound waves’ design.

The sapphire blue-coloured premium bottle contains an impressive 80% recycled glass, the highest percentage yet for Absolut, which is largely thanks to the high recycling rate in Sweden, meaning more recycled glass cullet is available to Ardagh for use in the furnace.

Maria Persson, NPD Project Manager, Ardagh Glass Packaging – Europe, describes the process of creating the bottle’s distinctive

sound wave design: “We worked with Brand Union to ensure the design met the creative brief to convey the effect of expanding sound waves rather than ripples of water”.

The effect of the 360-degree design feature was achieved by creating irregular circles with shallow embossing to give life to the waves. Our Product Design Team created the desired effect using their in-house sculptured embossing technology and expertise to give it a lifelike quality and standout impact. It was exciting to see the first bottles come off the production line in the deep sapphire blue, with light bouncing around the bottle from the edges of the sound wave design.”

The limited-edition bottle is available worldwide in 700ml, 750ml and 1 litre.



Ardagh Glass Packaging manufactures highly decorated wine bottle for Constellation Brands, Inc.

For more than 125 years, Ardagh has been producing innovative, 100 % and endlessly recyclable glass bottles in the US, and offers a wide selection of premium wine bottles in a variety of colors, sizes, styles and finishes.

Ardagh Glass Packaging – North America (AGP – North America) recently collaborated with Constellation Brands, Inc., to design and manufacture a highly decorated wine bottle for its Crafters Union brand.

The 360-degree decorated 750ml Claret wine bottle delivers great shelf appeal in a premium, sustainable glass bottle. The incorporation of ‘Crafters Union’

debossed directly into the glass bottle increases brand awareness.

The impressive tattoo-style illustrations for the bottle, designed by One Design, Auckland, New Zealand, were replicated into the glass bottle design using Ardagh’s sculptured embossing software.

Unlike two-dimensional debossing, this sculpturing technique creates intricate, life-like detail, depth and dimension for premium glass bottles.

The Crafters Union project employed Ardagh’s Development Machine, a highly flexible glass forming system, for both the sampling process and the initial small-batch run, to provide speed to market for the custom bottle design.



Ardagh Glass Packaging customers win four Clear Choice Awards

Since 1989, the Clear Choice Awards has honoured consumer product goods (CPG) manufacturers who find unique ways to use glass packaging to tell the story of brands, create glass packaging designs that stand out on the shelf and demonstrate novel glass packaging looks. The Clear Choice Awards are sponsored by the Glass Packaging Institute, the trade association representing the North American glass container manufacturers.

During the past 32 years, AGP – North America has produced the glass bottles and jars for nearly 100 products that have won Clear Choice Awards.

In the last round of judging, four AGP – North America customers were awarded Clear Choice Awards by the Glass Packaging Institute (GPI).



Beer, Cider & Flavored Alcoholic Beverages category: Anheuser-Busch InBev for its Budweiser Dream

The unique glass beer bottle AGP – NA manufactured for Anheuser-Busch InBev for its Budweiser Dream won GPI’s Clear Choice Award in the Beer, Cider & Flavored Alcoholic Beverages.

The glass bottle celebrates the Budweiser brand’s heritage and delivers key brand attributes of premium, high-quality appeal.



Award in the Food category: Ball® Flute Jar

The classic, refined design of the Ball® Flute Jar that AGP – NA manufactured for Newell Brands won GPI’s Clear Choice Award in the Food category.

The weighted base of the Ball® Flute Jar provides an aesthetic to mimic the classic stemless champagne flute glass and has the functional benefit for easier cleaning post-food use.

Ardagh Glass Packaging – Africa wins two Golds at the 2022 Gold Pack Awards

Cosmetics, Fragrances & Pharmaceutical category:
Heritage Distilling Co. for its Hand Sanitizer

The conventional glass bottle AGP – NA manufactured for Heritage Distilling Co. for its Hand Sanitizer won GPI's Clear Choice Award in the Cosmetics, Fragrances & Pharmaceutical category.

Shortly after COVID-19 was declared a pandemic, Heritage Distilling Co. switched from producing and bottling spirits to producing and bottling FDA- and WHO-compliant hand sanitizer.

Heritage Distilling Co.'s Hand Sanitizer stands out because of the simplicity of the bottle design and the clarity of the glass bottle.



Wine category: King Estate Winery for its King Estate Vineyard Designate

The elegant glass wine bottle AGP – NA manufactured for King Estate Winery for its King Estate Vineyard Designate won GPI's Clear Choice Award in the Wine category.

This special Claret wine bottle was part of the complete redesign of the King Estate Tower Club wine series – the most valuable collectible wines that King Estate offers.

Signifying luxury, the “KE” embossed cartouche on the bottle indicates it is a King Estate wine and the crown on top of the “KE” is a special emblem only used for these rare Tower Club wines.



The Institute of Packaging South Africa's (IPSA) annual Gold Pack Awards were held on 9 November 2022. The annual event showcases the very best of the packaging industry in Africa. It was established in 1973 and has become an important and prestigious occasion for all in the industry.



Ardagh Glass Packaging – Africa (AGP – Africa), together with our customer AB InBev, entered our new lighter BN1944 Castle Lite 330 ml bottle into the awards.

We are thrilled to announce that we scooped two golds for the Best in Glass and Alcoholic Beverages categories.

The bottle's unique selling point is that it is three grammes lighter than its predecessor. This means that it requires less raw materials and energy, which results in lower costs throughout the value chain and a reduced carbon footprint.





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please email agp-a.marketing@ardaghgroup.com

ArdaghGlassPackaging 