

# Sustainability at Ardagh Group

Group Sustainability Overview



# Our Focus is to be the Leading Supplier of Inherently Sustainable Packaging

Ardagh is a global leader in metal and glass packaging solutions, producing packaging for most of the world's leading food, beverage and consumer brands. It operates 108 facilities in 22 countries, employing approximately 23,300 people and has global sales of approximately \$8.6bn.

As a leading packaging manufacturer, we at Ardagh Group recognise that it is our responsibility to contribute in a responsible way. Therefore, our sustainability strategy is built around the three sustainability pillars 'Environmental, Social & Ethical and Economic', with ambitious long-term targets set for each.

## Our Sustainability Pillars

### Environmental



- Ardagh GoGreen Index
- Metal and glass targets
- Environmental management systems
- LCA projects
- Environmental control standards
- Standard operating systems
- Environment policy
- Permit compliance management

### Economic



- Reducing material use
- Minimising transportation costs
- Shared value for all stakeholders
- Investment in local community projects
- Investing in energy efficiency technologies

### Social & Ethical





- Community projects
- Code of Conduct and CSR policy
- Sedex participation
- EcoVadis participation
- BSafe! implementation
- Supply chain risk assessment
- Ethics hotline
- Talent development
- Customer satisfaction surveys



For further information visit [www.ardaghgroup.com/sustainability](http://www.ardaghgroup.com/sustainability)

# Long-Term Targets 2025

Our strategy is to implement Group sustainability policies and mechanisms across our business and jointly working on achieving our new 2025 long-term targets.

	Social & Ethical 	Environmental Glass	Environmental Metal 
ARDAGH GROUP	- Maintain top level ratings with EcoVadis and Carbon Disclosure Project (CDP) supply chain disclosure		
	- All plants to identify and assess their individual stakeholder interests  - Community involvement projects at every plant in response to stakeholder interests  - Health & Safety management and behavioural safety systems implemented at every plant	- tNOx/a -17%	- tVOC/a -4%
		- Waste recycling rate +10%  - m <sup>3</sup> Process water consumption -9%  - tCO <sub>2</sub> /a } -17% CO <sub>2</sub>	
VALUE CHAIN	- All suppliers to verify adherence to Ardagh's Responsible Procurement Policy	- tCO <sub>2</sub> /a } annual indirect CO <sub>2</sub> emissions	

NOx (nitrogen oxide) is one of the recognised greenhouse gas emissions and arises primarily in the glass production process. VOC (volatile organic compounds) arise as part of the metal production process due to the use of e.g. solvents, paints, inks.

Baseline: 2016

## Sustainability Platforms

Ardagh Group is active on different social, ethical and environmental platforms which we use to communicate on our progress and achievements with our customers. One of our long-term targets is to maintain our top level ratings with EcoVadis and Carbon Disclosure Project (CDP) supply chain disclosure. Therefore, we are particularly proud to be awarded Gold by EcoVadis for the third consecutive year in a row.

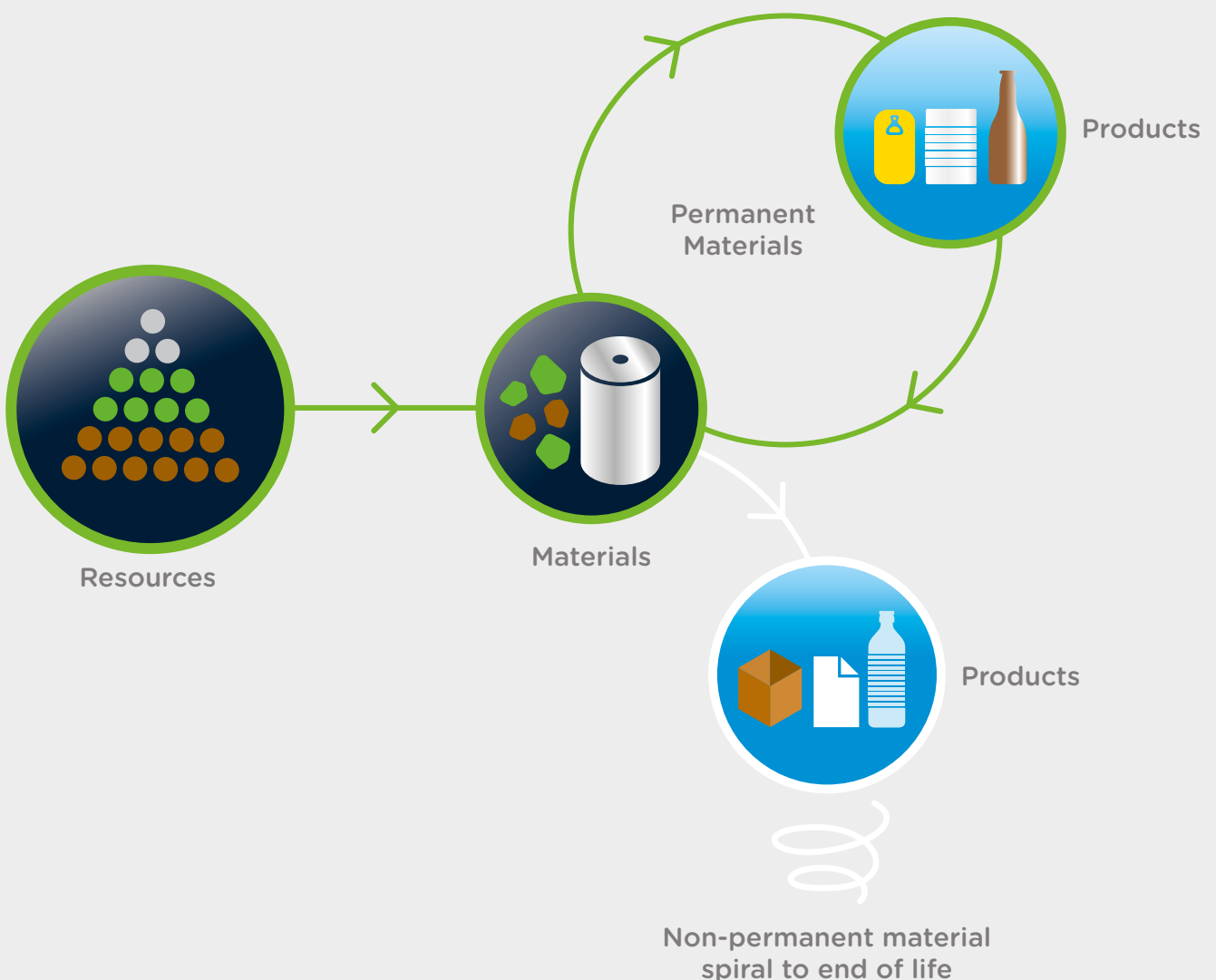


# The Permanent Materials Concept

Materials, in general, can be classified as renewable or non-renewable; as permanent or non-permanent.

- Renewable materials such as wood, paper or bio plastics are made from natural resources that can be rebuilt by biological processes. In comparison to renewable materials, **metal and glass do not need to be renewed, but recycled.**
- Permanent materials are classified as materials that, once produced, can be **infinitely recycled or reused without any loss in quality**, which is also called closed-loop material recycling.

The starting point for our journey is the fact that the materials we use are inherently sustainable because they are 100% and infinitely recyclable without loss of quality, regardless of how often the material is recycled. Glass and metal are therefore excellent examples of permanent materials.



Permanent materials now have a greater focus because of increased consumption and growing populations. This brings the need for materials that are **infinitely recyclable** in order to serve these demands and this concept is known as a **'Circular Economy'**.

# The Concept of a 'Circular Economy'

Our natural resources on earth are limited, yet our demands are increasing. This means we need to look at resource efficiency, and the concept of a '**Circular Economy**' has been highlighted as the way forward by the EU.



“The European Commission is supporting the EU’s transition to a Circular Economy with a broad set of measures to maintain the value of products, materials and resources for as long as possible, while minimising the generation of waste.”

EU Commission, Circular Economy Factsheet, December 2015

At Ardagh, we support the new EU Resource Efficiency Roadmap and provide products made from Permanent Materials for a true '**Circular Economy**', which is recognised as a key driver in the elimination of waste.



# Why 'Recycling Rate' is relevant for Metal and Glass and why 'Recycled Content' is not.

The demand for glass and metal recyclates has always been higher than the availability.

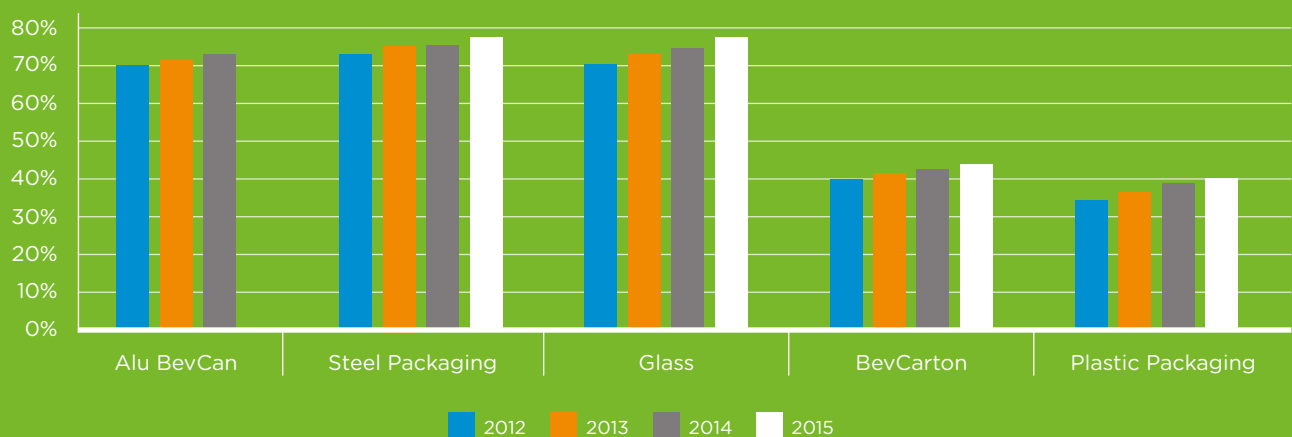
Hence, the increase of recycling needs to be fostered (=recycling rate), not the uptake of recycled material (=recycled content).

	Recycling Rate (RR)	Recycled Content (RC)
DEFINITION	RR refers to the amount of recycled packaging.	RC refers to the amount of recycled material within packaging.
APPROACH	RR aims to increase the recycling amount of materials after its disposal. This will increase the availability of recyclates.	RC aims at stimulating the uptake of recyclates into new products.

## Why is the difference so important to note?

- Both approaches are used in lifecycle assessments. It is important to choose the right approach for respective materials to allocate environmental benefits correctly.
- A wrong choice would lead to an overestimation or underestimation of the material with regards to its environmental impacts.

## Recycling Rates in Europe



Sources: Relevant industry associations and Eurostat

## Recycling Rate as Key Indicator

100%

Glass and metal can be 100% recycled without loss of quality. Therefore, recycled material can be used for the production of any new product.

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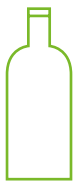
As the demand for glass and metal recyclates has always been higher than the availability, increasing the recycled content in one product simply displaces it from another and might even lead to huge transport routes.

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Can manufacturers have no influence on possible recycled content because all metals (virgin & recycled) are melted together.

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The mix of cullet (crushed glass) and virgin materials is prepared by the glass manufacturers as glass is melted on site. More cullet would be used if it were available.

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## For a Better Future: Supporting Recycling Initiatives

We are focused on maximising material recycling through initiatives such as long-term engagement with cullet treatment plants. For example, we have renewed our contract with a local recycling company in the UK for the supply of up to 250,000 tonnes of glass, which is the equivalent of approximately 13% of the UK's waste glass. This helps us to achieve high recycling rates, and in turn, lower the CO<sub>2</sub> emissions from our glass production.

'Every Can Counts' is one example of a partnership between beverage can manufacturers and the recycling industry in Europe, aimed at increasing the recycling rate of aluminium and steel beverage cans. We are a major supporter of this initiative, as it promotes metal's impressive recycling credentials, increases recycling rates and helps us to reduce emissions and energy consumption in the supply chain.

# Glass and Metal We Are Part of the Solution!

## Raw Materials

- No scarce resources (e.g. oil)
- Sustainable material stewardship (100% and endlessly recyclable)
- Closed loop cooling water systems in most plants save scarce water resources

## Efficient Supply Chain

- Avoid waste / recycle instead
- No cooling required
- Short delivery routes for raw materials

## Permanent Materials

- Material is 'used' rather than 'consumed' and so remains available for future society
- 100% infinitely recyclable
- No loss of quality
- Highest material recycling rates in the world

## Healthy Products & Long Shelf Life

- Preservation and retained nutritional value tackles the increasing demand for food and water by the growing world population

## Low Carbon

- No delayed carbon emissions

## Circular Economy

- Permanent materials closing the loop with returnable and infinitely recyclable one way packaging systems



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