

COMMITTED TO NET-ZERO CARBON EMISSIONS BY 2050

Glass Forever: our circular economy approach to sustainability



**GLASS
FOREVER**

POST-CONSUMER FLAT GLASS RECOVERY AND RECYCLING

On 23 September 2019, during the United Nations Summit on Climate Change, we pledged that the entirety of the Saint-Gobain global group would undertake a transition towards achieving net-zero carbon emissions by the year 2050.

A commitment to a circular economy for flat glass

Saint-Gobain Glass is an industry leader in the responsible reclamation and remanufacture of post-consumer glass cullet. Crucially, our proactive Glass Forever cullet return programme also includes the recovery of 'post-consumer' glass from old windows, which had been typically disposed of in landfills.

In the face of the climate emergency, it is imperative to challenge existing business models to secure a more sustainable future for all inhabitants of our planet.

Through Glass Forever, our teams closely collaborate with our customers to ensure that, whenever possible, both pre and post-consumer glass undergo recycling processes, contributing to the production of high-performance glass without impacting the quality of our new glass. This is possible because glass can be infinitely recycled without deterioration of quality.

**SAINT-GOBAIN WILL MANUFACTURE ALL
FLAT GLASS USING 50% CULLET BY 2030.**

LEADING THE INDUSTRY IN GLASS SUSTAINABILITY

Better glass quality
with the production
of optimised batches.

**Limit CO₂ and sulphur oxide
emissions released during the
production process.**

Using one tonne of cullet in place
of one tonne of raw materials can
reduce scope 1, 2 and 3 CO₂
emissions by

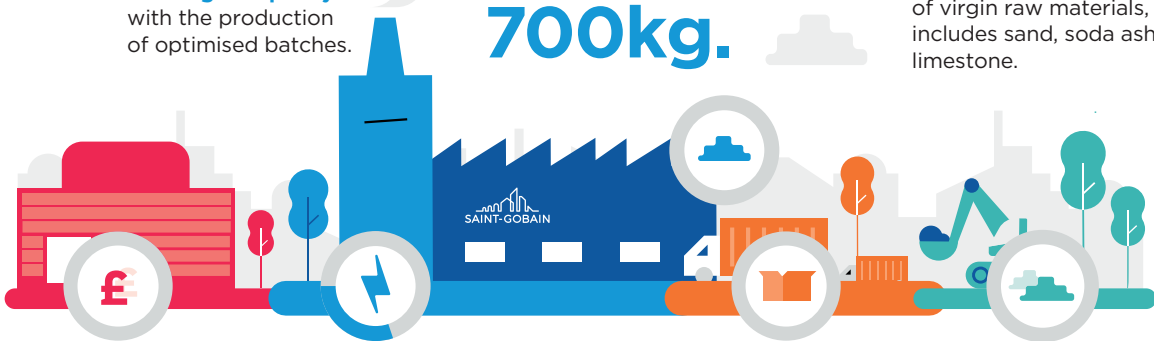
700kg.

**Preserve natural resources
and biodiversity.**

For every one tonne of cullet
used, we can save up to

1200kg

of virgin raw materials, this
includes sand, soda ash and
limestone.



**Increased
competitiveness**
by meeting the market
demand for recycled
products.

30% **less energy is required**
in the furnace when melting
cullet than raw materials.

**Less requirement for
raw materials.**
Due to the demand and
scarcity of raw materials,
the price of these raw
materials is likely to rise.

WE ARE SET TO ACHIEVE 50% CULLET USAGE IN SAINT-GOBAIN GLASS PRODUCTION BY 2030.

Cullet types

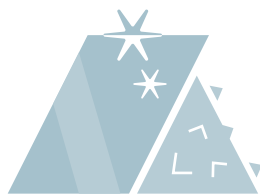
There are 3 types of cullet depending on its origin, as defined by the ISO 14021 standard:

Internal cullet



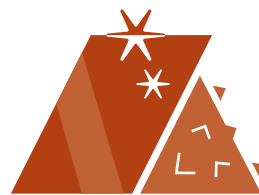
Cullet originating directly from glass production. This particular type of cullet remains within the flat glass manufacturing facility and is immediately recycled within the production lines.

Pre-consumer cullet



Glass waste originating from glass sheet processing and from products that are still in transit to the end customer. This form of cullet can be encountered at glass processing sites.

Post-consumer cullet



Post-consumer cullet refers to end of life glass that has already been used by consumers and is collected for remanufacturing. This can include glass from commercial facades, home renovations and upgrades and even interior glass used across various commercial buildings such as shopping centres and offices etc. Post-consumer cullet is glass that has reached the end of its lifespan, either due to upgrades in buildings or maintenance work that makes legacy windows inefficient and therefore, ineffective for consumers.



SUSTAINABILITY: WHY IT'S IMPORTANT



First established in 2001, our sustainability initiatives have grown significantly and are known today as Glass Forever, over the years we've been learning and adapting our methodology to maximise opportunities with cullet. For example, as with monolithic glass, we can remanufacture laminated glass, a process which was previously highly difficult. The laminated glass is processed and introduced into the furnace without impacting the quality of the new glass or increasing emissions.

We've also innovated a series of patented glass-crushing machines, allowing us to scale up our glass-processing operations safely and practically whilst averting potential cullet contamination. A prime illustration of our innovation is our mobile crushing machine, ingeniously housed within a recycled shipping container. This setup empowers Saint-Gobain Glass to readily deploy our technology to significant deconstruction sites throughout the UK.

JOIN OUR CULLET RETURN PROGRAMME



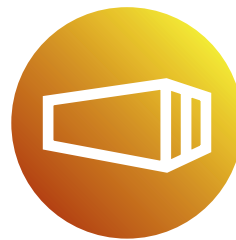
Cullet collection bags

Safely dispose of sharp glass pieces with Saint-Gobain Glass cullet collection bags. Easily secured in a frame or hopper, these bags can be conveniently returned to our Eggborough plant using our in-loader.



Skip collections

Our partnership-driven skip collections simplify end-of-life glass disposal, especially on deconstruction sites. Prompt removal directly from the site ensures a hassle-free experience, prioritising safety, and efficiency for our clients.



Cullet crushing machine

Explore our cullet crushing machines designed to separate glass from glazed units. Crush glass on-site, and we'll collect it for recycling into new high-performance glass. Simple to install and use, these machines offer a scalable solution for glass recycling.



Large volume cullet collection

For high-volume glass processors, opt for our standing trailer cullet collection. Fill the trailer with waste glass, and we'll replace it as needed based on a pre-established schedule, providing a seamless and efficient solution.



Stillage collection

Streamline waste glass removal by allowing us to collect standard stillage frames directly from project sites. This approach not only enhances efficiency but also minimizes safety concerns associated with glass recovery, ensuring a secure and smooth waste disposal experience.



**Contact
Saint-Gobain Glass
for more information
on our cullet recycling
machines or to find a
partner near you.**



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FOREVER**

SAINT-GOBAIN GLASS

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