

Making Circular Economy a reality: Recognition of flat glass off-cuts as by-products

Glass for Europe supports a **full recognition of flat glass off-cuts as by-product** as they fulfil the definition and the four criteria set in the Waste framework Directive: [Directive 2018/851](#). This directive currently under implementation at Member States' level, clarifies that objects fulfilling these requirements shall be considered as by-products and not as waste.

With regards to by-products, directive 2018/851 now makes it clear that products meeting the criteria *shall* be considered as by-products. It stems from this new wording that Member States shall not oppose to such status being used for flat glass off-cuts.

What are flat glass off-cuts?

Flat glass off-cuts are obtained during the transformation process done by flat glass manufacturers or transformers, as they seek to create final products such as insulating glass units or automotive glazing. For instance, large-size pieces of glass coming from the flat glass production, are treated for enhancing their energy-efficiency or safety characteristics and cut to the required dimension. In these processing processes, flat glass off-cuts are generated. These high-quality glass objects are not polluted and adequate for direct recycling in the flat glass manufacturing furnaces.

Flat glass off-cuts are in line with the by-product definition

The Directive 2018/851 Article 5 mentions:

“Member States shall take appropriate measures to facilitate the recognition as a by-product of substance or an object resulting from a production process the primary aim of which is not the production of that substance or object if the harmonised conditions established at Union level are respected. The substance or object meeting the conditions will not be considered to be waste but to be a by-product”.

Subsequently, the four conditions are met in the case of flat glass off-cuts:

- ▶ **further use of the object is certain:** flat glass manufacturers are eager to access high quality recycled glass because it powerfully reduces the energy consumption and the CO₂ emissions from the flat glass melting process
- ▶ **the object can be used directly without any further processing other than normal industrial practice:** the normal process, for preparing flat glass-off cuts for recycling, includes cutting and crushing at a specific grain size requested by the glass factory. Normally, no additional processing such as a chemical processing is needed. If a specific flow requires such process, it cannot be considered as by-products;

- ▶ **the substance or object is produced as an integral part of a production process:** flat glass-off cuts occurred during the transformation of glass sheets into final products (e.g. windows).
- ▶ **further use is lawful:** flat glass-off cuts are obtained during the mechanical transformations of glass sheets that have not yet been used, the quality and the non-contamination are close to the level of a flat glass product leaving the factory, which respect environmental and chemical laws.

Why is it important to recognize flat glass off-cuts as by-products?

In Europe, it is estimated that between 750.000 and 1 million tonnes of flat glass off-cuts are generated every year in the EU¹. **These off-cuts are a valuable resource for the glass industry for input as raw material** in the batch in order to reduce energy consumption and CO₂ emissions. In fact, they are the most sought-after source of recycled glass due to their purity and because this glass was not contaminated by any chemical or other waste, unlike most end-of-life products. This high-quality actually generates a competition between glass industries to access this source of recycled glass.

Transport and recycling of flat glass off-cuts are made uselessly more difficult and costlier when considered as waste. For example, special licences and equipment are needed for transportation, meaning that when a truck delivers new virgin flat glass sheets to a transformation site, the truck cannot take back off-cuts and thus returns empty to the plant. At glass manufacturing site level, different permits and requirements are imposed if the site is considered as burning waste. **Thanks to a thorough implementation of the by-product status, these inefficiencies would be lifted for the benefit of enhanced recycling and reduced CO₂ emissions.**

Glass for Europe is the trade association for Europe's flat glass sector. Flat glass is the material that goes into a variety of end products, primarily in windows and facades for buildings, windscreens and windows for automotive and transport as well as solar energy equipment, furniture and appliances. Glass for Europe brings together multinational firms and thousands of SMEs across Europe, to represent the entire building glass value-chain. It is composed of flat glass manufacturers, AGC Glass Europe, Guardian, NSG-Group, Saint-Gobain Glass Industry and Sisecam, and works in association with national partners gathering thousands of building glass processors and transformers all over Europe.

¹ Estimates by Glass for Europe based on a ratio of 10/15% loss during the transformation and processing of flat glass. These losses are mostly generated by the cutting of large flat glass sheets to the required dimensions.