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Public consultation on the New European Bauhaus

Flat glass is an **irreplaceable construction material which brings essential natural daylight and thermal comfort to buildings in both winter and summer**. It is an enabler of energy consumption reduction and even allows on-site renewable energy generation.

These characteristics mean that **flat glass plays a central role in meeting the New European Bauhaus's objectives**: supporting decarbonisation in the built environment, accelerating the move towards clean and cheaper energy, and promoting circular design and resilient models.

High performance glass and glazing solutions offer proven, scalable means to **improve building energy performance**, **enhance occupant well-being**, and **address the growing challenge of overheating** in a warming climate. Glass for Europe supports the NEB's ambition to mainstream sustainability and resilience principles at neighbourhood and building level and calls for the **recognition of flat glass as a key enabler of climate adaptation** within the initiative's next phase.

To ensure that the New European Bauhaus contributes to broader European objectives and supports the goals of the European Affordable Housing Plan, the Circular Economy Act and the Clean Industrial Deal, Glass for Europe makes the following recommendations:

Enhancing resilience by addressing overheating risks through high-performance glazing: The **European building stock is increasingly vulnerable to overheating** due to rising average temperatures, more frequent heatwaves, urban heat island effects, and insufficient adaptation of existing structures. Overheating undermines thermal comfort, affects public health, reduces productivity, and leads to surging energy consumption from mechanical cooling.

Cooling energy demand in the EU is projected to increase significantly by mid-century if buildings are not adequately designed or renovated to withstand higher temperatures. **Passive cooling strategies** such as the **management of solar gains through high performance glazing** offer an efficient and cost-effective means to mitigate these impacts.

Glazed surfaces **must be considered not as a vulnerability but as a strategic asset** as modern solar control and energy-efficient glazing can drastically reduce unwanted solar heat gains while maintaining daylight access and transparency.

To fully leverage the potential of flat glass and glazing technologies in enhancing building resilience, the following actions must be taken:

- Recognise solar control and high-performance glazing as key climate adaptation tools
- Integrate passive cooling strategies into the New European Bauhaus project selection and evaluation frameworks
- Embed training on envelope and glazing technologies into the New European Bauhaus Academy

Enhancing high performance and cost-effective renovations: According to the Call for Evidence, the New European Bauhaus intends to promote a "renovation first" principle to be aligned with other legislations. In the context of the upcoming Affordable Housing Plan, highly efficient renovations and

refurbishment are needed to increase the housing stock. Similarly, to match the ambitions of the Renovation Wave Strategy, this approach is welcome.

A renovation first principle must ensure that works are implemented in the correct sequence, beginning with envelope-first measures, to ensure overall energy consumption is reduced. This enables to properly size heating and cooling systems and for them to operate more efficiently.

Considering that inefficient windows are responsible for up to 30% of the energy loss in buildings, **high-performance glazing is essential in improving the situation of the building stock and delivering high-quality housing across Europe.** When renovating a building, selecting the right glazing configuration is a priority and one of the first choices to be made in the sequencing of energy efficiency works.

Enhancing circularity through closed-loop recycling systems: Glass for Europe is **calling for a closed-loop system** as it is the most beneficial end-of-life option for flat glass, an indefinitely recyclable material. Data indicates that around 1.5 million tonnes of post-consumers broken, and waste glass is generated annually in the EU. Yet, it is estimated that **today only 5% of end-of-life glass is effectively recycled** into new flat glass products[1]. This is mostly due to the **insufficient dismantling and sorting of old windows, façades and balustrades** which for most end up in landfills.

Closing the loop will **reduce the use of raw materials, energy and CO_2** in glass manufacturing, while supporting manufacturers to develop **products with a lower carbon footprint**. This will contribute to the EU's objective of achieving climate neutrality and the sustainable objective the New European Bauhaus.

Circularity is currently hampered by numerous hurdles, such as **low landfill prices**, **fragmented waste legislation** across the EU including significant **bureaucracy attached to cross-border shipments of by-products**. These regulatory bottlenecks must be addressed as part of the future Circular Economy Act while the New European Bauhaus should promote circular models and products as part of its projects to set trends and show best practices.

Glass for Europe's priorities on this topic are the following:

- Recognise the **status of 'by-product' for pre-consumer cullet** (waste or broken glass)
- Strengthen provisions for **mandatory pre-demolition audits**, including recommendations for sorting and recycling by type of glass
- Support a **progressive ban on landfilling of recyclable flat glass products**

Enhance the **move towards clean and cheaper energy through innovative solutions:** Through the use of advanced flat glass technologies, from solar-active façades to smart windows, the EU can unlock a new generation of electrified, energy-generating buildings. Supporting the uptake of these flat glass materials should be a key element in the EU's strategy to achieve a carbon-neutral, electrified built environment.

Buildings, like other sectors, will need to electrify to decarbonise. Today, however, there is not enough capacity on the grid. Efficient windows can cut demand in buildings and are essential parts of efficient building envelopes that are key to mitigate the electricity peak demand. Thus, energy efficiency in buildings not only helps buildings to decarbonise but also helps free up capacity on the grid for other

[1] Deloitte, 2016, Economic study on recycling of building glass in Europe

sectors. A sound electrification strategy needs to start with boosting **energy efficiency in buildings**, which will also help reduce energy bills.

From heating and cooling to on-site renewable energy generation, buildings are envisioned as increasingly becoming both energy consumers and producers within a smarter, greener grid. In this context, flat glass products, for example integrated into building envelopes, are playing an essential **enabling role in the electrification of the building stock**.

Today's **advanced glazing solutions can actively support electrification** through multiple pathways. For example, Building-Integrated Photovoltaics (BIPV) mean that flat glass can be transformed into energy-generating surfaces by embedding photovoltaic cells directly into façades, curtain walls, or windows. BIPV enables on-site renewable electricity generation without occupying additional land. This not only contributes to energy autonomy but reduces grid demand and supports decentralised electrification strategies. Other innovations, such as electrochromic and thermochromic glass regulate solar gain and interior temperature by changing tint in response to electric signals or heat. Advanced glazing solutions can dramatically lower heating demand in winter by improving insulation, while in summer they can mitigate overheating and reduce the reliance on air conditioning. These technologies reduce electricity demand for air conditioning and lighting.

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 Şişecam, and works in association with national partners gathering thousands of building glass processors and transformers all over Europe.