



WINDOW REPLACEMENT

**AT THE CORE OF NATIONAL
RESILIENCE AND RECOVERY PLANS**

W I N D O W R E N O V A T I O N K E Y F O R E U R E C O V E R Y A N D C L I M A T E N E U T R A L I T Y

Windows replacement ticks all the boxes of the **European Green Deal**. It is essential to materialize the **Renovation Wave** and to enable a sustainable recovery of the building sector. By introducing measures in support of window replacement, national **Recovery and Resilience Plans** have the potential to deliver long-term energy savings and CO₂ emission reduction, towards climate neutrality. Increasing the rate and quality of window replacement will also deliver better indoor comfort for EU citizens and create thousands of local jobs in a strategic value-chain.

The window sector stands ready to engage in a dialogue with national authorities willing to design plans to boost window retrofiting. Several policy instruments, ranging from retrofiting in social housing to tax rebates, can be designed depending on national contexts and pre-existing schemes.

Beyond the market support, the window stakeholders are convinced that any supporting plan must be tied to **minimum energy-performance criteria** to ensure that installed products deliver energy and CO₂ savings contributing to the fight against climate change

TO GENERATE LONG-LASTING ENERGY SAVINGS AND MOVE TOWARDS CLIMATE NEUTRALITY

An effective plan to retrofit windows in ageing buildings is a climate-friendly measure that constitutes a key element of **a sustainable and green recovery plan**.

As demonstrated in several studies, increasing the windows' replacement rate can reduce the projected energy consumption and related CO₂ emissions from our buildings. Moreover, since windows stay on buildings for 40 to 50 years, **the CO₂ savings will be long-lasting and cumulative over-time**.

Setting a dedicated roadmap for replacing single glazed and early uncoated double-glazed windows with adequately specified high-performance solutions is an indispensable economic recovery measure. It is also a good way to bolster renovation of buildings and to achieve the energy and climate plans in line with EU's commitments. Decarbonizing EU buildings need firstly the reduction of the energy demand by improving the energy performance of the existing building envelope and secondly the deployment of renewables for the remaining energy needs. Prioritizing the renovation of the building envelope by **phasing out inefficient windows** is fully in line with the "Energy efficiency first" principle.

TO MAKE A DIFFERENCE IN PEOPLE'S QUALITY OF LIFE

In uncertain times, citizens are often looking for reassurance, additional comfort, and 'safe' investments, when they can afford to invest. Upgrading one's home and property by installing high-performance windows, or even windows combined with smart building functio-

nalities, will generate more property value, more safety, and a more comfortable, healthy, and healing indoor space: an enhanced comfort that responds to today's consumers' expectations.

Policy measures that will support window retrofitting are therefore likely to be well accepted and used by the population provided there are no barriers which hinder their use. These measures are understandable, concrete and can be made accessible to most while responding to citizens' desire for improved quality of life.

Low consumer-confidence needs to be overcome with the help of clear, supportive national and European policies. **With an adequate plan and subsequent financial support to window retrofitting**, investments barriers can be lifted, supporting the flat glass and window industries in this crisis.

TO SUPPORT RECOVERY IN A CRUCIAL SECTOR OF EU ECONOMY

The window value-chain, which is made of small and medium size enterprises as well as larger firms, is **strategic for the sustainable future of the construction industry**.

To ensure this industry to flourish and taking into account the difficulties due to the COVID 19 crisis, it is essential to support the window replacement market.

National recovery plans need to incorporate measures to stimulate consumers to upgrade their windows. It is expected that demand levels would remain low in the years to come if national recovery plans do not allocate the appropriate financial resources to building renovation and window replacement.

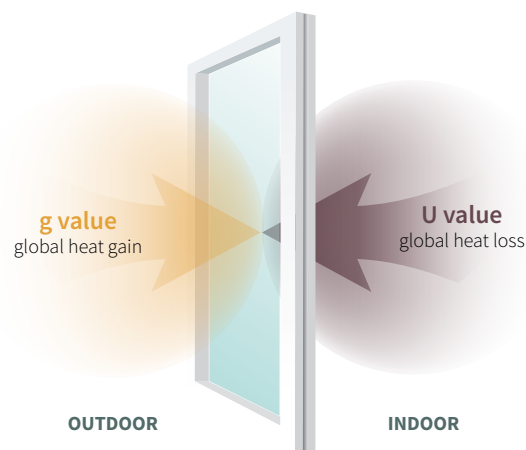
THE ENERGY BALANCE TO PRIORITIZE HIGH-PERFORMANCE WINDOWS

The main functions of windows and glazed facades are to let in daylight into buildings and to ensure a visual connection with the exterior environment. As elements of the building envelope, high-performance window products directly contribute to the energy efficiency of buildings. However, national requirements too often focus on insulation while other aspects are equally important. These include solar gains that provide passive heating in winter or natural ventilation that provides passive cooling in summer.

For this reason, **the assessment of the energy performance of windows cannot be solely based on the insulation property**, i.e. the thermal transmittance (U-value), as it disregards the substantial energy impact of solar heat gains. In order to ensure a proper assessment of the energy performance of windows, heat gains (g-value) have to be considered and balanced with heat losses (U-value and air infiltration), to both minimize heating demand and limit cooling needs.

With global warming, the energy demand is increasing and shifting from heating to more cooling needs. The energy balance approach considers solar gains from windows; it takes into account both free solar heat gains during the heating season, as well as overheating prevention technologies during the cooling season, be they dynamic solar shading, dynamic glazing, solar control glass, ventilative cooling or others.

ENERGY BALANCE



THE EUROPEAN WINDOW INDUSTRY

