EuroWindoor reply to European Commission proposals for EU Energy Labelling for windows from 9/9/2015

Additional comments to EuroWindoor position paper 1/7/2015: *"EU Energy Labelling for windows: Added value across Europe for consumers & business and better regulation?"*

EuroWindoor would like to thank the European Commission for the preparatory work done on windows (ENER Lot 32) and takes note of the Working Documents on a possible EU energy label for these products[1].

We welcome the acknowledgment that windows play a key role in the improvement of the energy efficiency of buildings and the strong support to the energy balance approach. Setting cost optimal differentiated energy balance requirements in national building legislation based on the specific cooling and heating context will reduce energy consumption in buildings and will trigger innovation within industry in an energy efficient and sustainable way. We agree with the European Commission stating that improvement of buildings energy efficiency is one of the *"urgent actions to reduce dependency on fossil fuels, reduce carbon emissions and improve security of supply of fuels"*[2]

However, EuroWindoor cannot find the documentation in the Commission's Explanatory Memorandum etc. for an EU energy labelling scheme for windows as such. An EU Energy label for windows is inappropriate from a consumer and environmental perspective because, s**uch a label would often not guide the consumers towards the most energy and cost optimal products across Europe and would very likely not deliver the benefits expected from its introduction.** It does not make sense for façade windows, and it does definitely not make sense for roof windows, given the highly efficient energy saving level reached and their limited market share, as highlighted by the Commission.

On the basis of the Explanatory Memorandum released by the European Commission on 9 September (corrected version) and in line with our previous position paper (1 July 2015, see Annex I), **EuroWindoor re-emphasises a number of key concerns that have still not been addressed and are shared by various stakeholders:**

- An EU Energy label for windows will not result in increased energy savings
- An EU Energy label for windows will not provide meaningful guidance to consumers, but misguide consumers to more expensive and material extensive solutions.
- An EU energy label for windows will not be in line with the Better Regulation principle

An EU Energy label for windows will not result in increased energy savings

The Explanatory Memorandum states that "the savings in 2050 are estimated to be some 35 to 68 TWh/yr for residential façade windows (126 to 244 PJ_prim/yr), some 4 to 10 TWh/yr for the non-residential façade windows (15 to 34 PJ_prim/yr) and some 1.8 to 2.4 TWh/yr (6.5 to 8.6 PJ_prim/yr) for roof windows (all according scenario A respectively scenario B, compared to business-as-usual, preparatory study TASK 7)" (p. 6). However:

- The Explanatory Memorandum does not evidence how the proposed EU energy label for windows will increase or trigger renovation, which is yet a key element to take into account. There is also no evidence from the European Commission on how the EU Energy label for windows will complement promotion of the market take-up of efficient products. The proposed EU Energy label would probably slow down renovation market because of very

[1] Corrected Working documents on a draft Delegated Regulation for Energy Labelling of Windows with Explanatory Memorandum [9/9 2015] and Transitory Method of Measurement and Calculation [2/9 2015]

[2] Page 1-2 in Explanatory Memorandum

expensive promoted "efficient" solutions and no significant energy savings expected with more affordable products.

- The preparatory study did furthermore not document a direct link between introduction of EU energy labelling and energy savings, but highlighted that requirements set at national level – e.g. to be based on energy balance - is key in obtaining energy savings. The preparatory study furthermore stated that *"the policy mix considered is the introduction of an EU label for windows. It should be understood that the results of the scenario analysis are at best an indication of possible outcome of policy measures"* (TASK 7, p. 103).
- Replacing an old window (be it single glazed or windows with no or early low-e coating) with a new modernised window will always provide energy savings to customers, since modern windows are substantially more energy efficient. In addition consumers will benefit from modernised windows with additional benefits such as updated design and possibility to choose features such as burglary resistance, noise reduction, safety, solar protection or alike. Furthermore, energy efficiency gains can be achieved by optimising the dynamic envelope of the building (combination of windows and - possibly automatized - shading systems) that takes full account of the benefits and risks of solar gain coming through the windows.
- EuroWindoor stresses that triggering the renovation rate in Europe is the key in obtaining large energy reductions of our buildings. Table 1 below shows that the energy savings in central climatic condition from replacing e.g. a single glazed window (U_W-value 5,8) or a window with no low-e coating or argon filling (U_W-value 2,8) to a standard highly energy-efficient product on the market today (U_W-value 1,3 and g-value 0,6) will result in an energy saving of 86 % and 66 %, respectively. The same trend can be seen if replaced by highly energy efficient solar control glazing. This is the effect when "standard replacement" takes place. The EU Energy labelling is expected to push consumers towards more energy efficient products. The additional energy saving is therefore the gain which is obtained when replacing the old window to a highly advanced window instead (e.g. triple glazing, U_W 0.80/g-value 0.6 or alike). The additional savings is in this case 9% point to 20 % points, respectively in replacement situation. The expected savings with the introduction of the EU Energy labelling is therefore not 70 % by 2050 as stated by some stakeholders, as the main part of the energy savings comes from the "standard replacement".

Table 1: Examples of energy savings in replacement situations

Energy savings in replacement situations - ***based on central climatic condition and combined performances***						
Replacement situation	Replacing an "old" window (single glazing or "old" double) with a new highly energy efficient **standard** product		Replacing an "old" window (single glazing or "old" double) with a new highly energy efficient **solar control glazing** product		Replacing an "old" window (single glazing or "old" double) with a new highly energy efficient **advanced** product (triple glazing)	
Change in (Uw; g-value)	Uw: 5.8; g-value: 0.85 ⇩ Uw: 1.3; g-value: 0.6	Uw: 2.8; g-value: 0.78 ⇩ Uw: 1.3; g-value: 0.6	Uw: 5.8; g-value: 0.85 ⇩ Uw: 1.3; g-value: 0.35	Uw: 2.8; g-value: 0.78 ⇩ Uw: 1.3; g-value: 0.35	Uw: 5.8; g-value: 0.85 ⇩ Uw: 0.8; g-value: 0.6	Uw: 2.8; g-value: 0.78 ⇩ Uw: 0.8; g-value: 0.6
Change in energy balance	From 333 kWh/m² to 44 kWh/m²	From 130 kWh/m² to 44 kWh/m²	From 333 kWh/m² to 58 kWh/m²	From 130 kWh/m² to 58 kWh/m²	From 333 kWh/m² to 18 kWh/m²	From 130 kWh/m² to 18 kWh/m²
Energy savings in %	**86%**	**66%**	**83%**	**56%**	**95%**	**86%**

Source: Table 9, p. 20, Explanatory Memorandum (energy balance results based on combined performances based on central climatic condition)

- Also, EuroWindoor finds that the Business as Usual (BaU) scenario described in the final reports of the preparatory study does not reflect the real market situation and the crucial impact of existing legislations (e.g. CPR, EPBD and national building codes) on market transformation, hence over-estimating the energy savings to expect from the introduction of an EU energy label for windows. If the Energy Performance of Buildings Directive (EPBD) is properly implemented, Member States are to set requirements also for replacement (in accordance with Art. 4.1[3]) that will reduce the energy savings potential identified in the

[3] *Member States shall take the necessary measures to ensure that minimum energy performance requirements are set for building elements that form part of the building envelope and that have a*

study. These requirements should be reviewed at least every 5 year. In addition, the minimum requirements for new buildings and major renovations to some extend "spill over" to market standards, also for the cases where there are no requirements for replacements.

- EuroWindoor therefore strongly disagree with the Exploratory Memorandum's underlying perception of the window market today, as the reality on the market is not reflected. Our experience is that the minimum market demand in many European countries are double glazing with low-e coating as standard. Argon filling to a large extent is the market standard in northern and central Europe. This means that standard products placed on the market vary between U_W-value 1.1 – 1.7 W/(m²K) depending on the frame.
- Figure 1 shows the development the window sector has undergone since the 1970's. The U-values have been continually decreased towards very energy efficient products. The development shown is based on the German market, but this market represented almost 16 % of the EU27 market in 2011 and in 2013 it raised to 18 % of the EU28 façade window market. The development in neighbouring countries and Scandinavia is similar. In Germany, more than 50 % of the window market in 2013 was triple glazing (source TASK 2 and updated by VFF in 2014). The Figure 1 also shows that the curves are flattening meaning that further reduction of U-value is getting more and more difficult and material extensive. The next phase is to trigger an energy balance development, where the innovation will focus on the balance of heat loss and solar gain, and not only on one parameter connected to the heat loss.

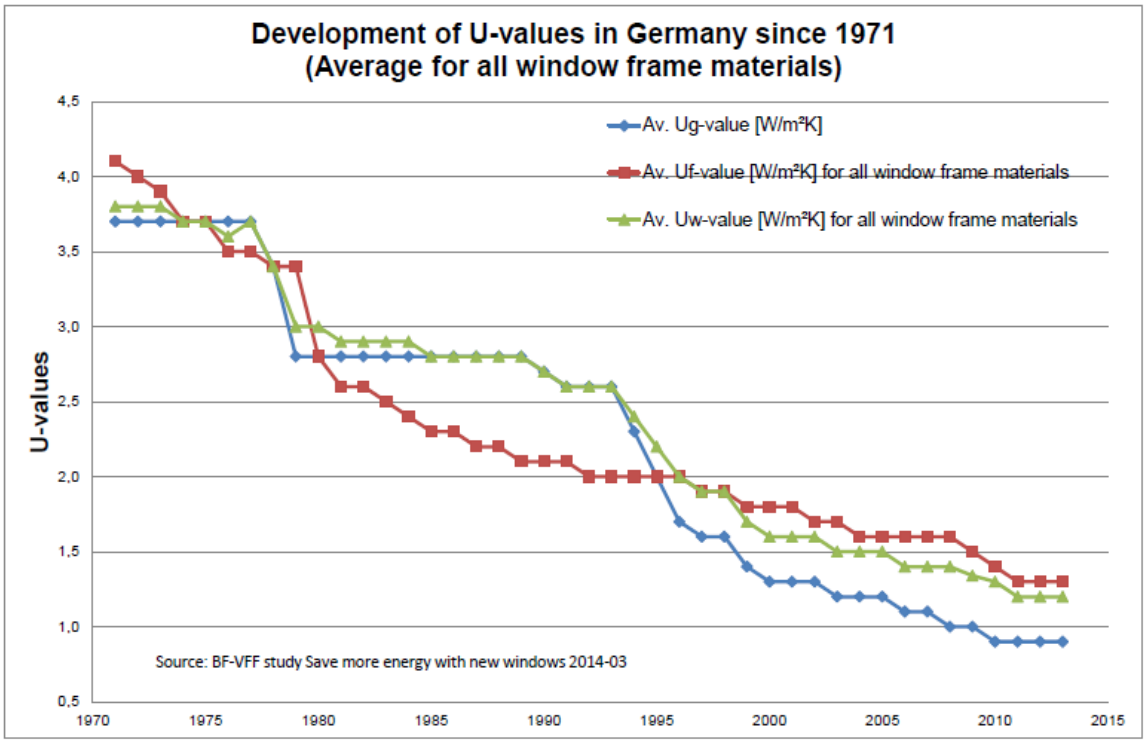

Figure 1: Development of U-values of windows in Germany – similar development has been seen in many northern and central European markets

- Triple glazing and high performance window frames are – especially for façade windows – market driven demand to a large extent in major European markets, e.g. Germany (U_W-value ≤ 1.0 W/(m²K)). This market driven demand is not reflected in BaU scenarios in TASK 7 or in the Exploratory Memorandum. The window market and legislative requirements in

significant impact on the energy performance of the building envelope when they are replaced or retrofitted, with a view to achieving cost-optimal levels.

many central and Northern European countries is furthermore similar to the requirements of the German market.

- It can be further documented that the BaU of the preparatory study is under-estimating the effect of current national performance requirements for windows (see Annex III, TASK 7). **In Poland** for example, the minimum requirement for windows (new built and replacement for heated rooms) is today U_W 1.3 W/(m²K) for façade windows (and to be 1.1 W/(m²K) in 2017 and 0.9 W/(m²K) in 2021). However, the BaU scenario predicts market sales development to be moving from U_W 1.47 W/(m²K) in 2020 to U_W 1.37 in 2030 W/(m²K). Hence, the theoretical energy saving potential just in Poland also seems to be limited, and the BaU seriously under-estimated.
- In **UK the national requirements** for refurbishment is in 2015 U_W 1.6 W/(m²K), but the BaU scenario predicts sales development from U_W 2.42 in 2010 W/(m²K) to U_W 2.05 W/(m²K) in 2030 and 1.78 W/(m²K) in 2050, ending at a higher level than what is required today for existing buildings in case of refurbishment in UK.
- And finally, **in Italy**, with the just published "Decreto 26 06/2015" (July 2015) the maximum U_W-values for replacement windows in the 6 climatic zones in Italy until 2021 were exacerbated significantly, from 6% to 41% depending on the climatic zone. Moreover, the maximum total solar energy transmittance g_{gl+sh} for windows orientated towards East, South and West was set at 0.35. In addition, there is the possibility of tax depreciation of currently 65% of the investment costs for the renovation of buildings in Italy, which creates an incentive to increase the refurbishment rate.
- More examples could be given that allow to conclude, that the BaU scenarios are significantly under-estimating what is already happening at national level.

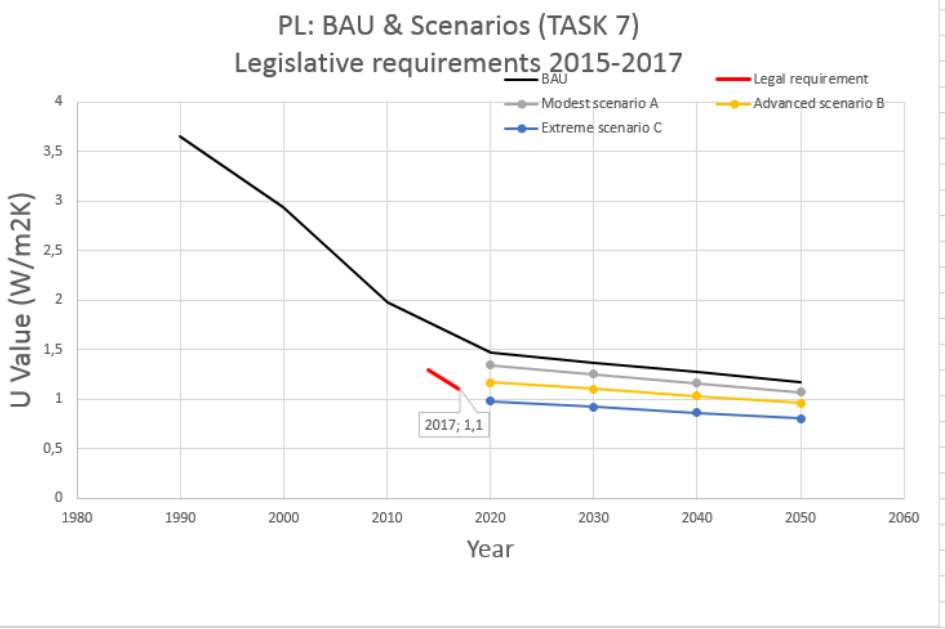

Figure 2: Examples of differences in BaU (black lines) and scenarios as described in TASK 7 (ANNEX III) and legislative requirements as of today (red line) for replacement in Poland

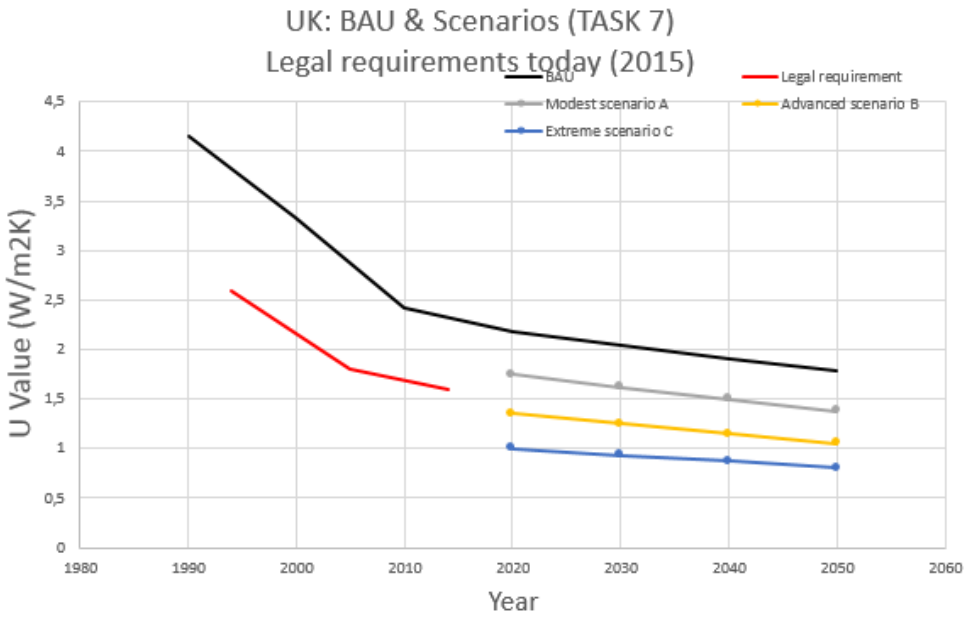

Figure 3: Examples of differences in BaU (black lines) and scenarios as described in TASK 7 (ANNEX III) and legislative requirements as of today (red line) for replacement in UK

Note: The figures above show legal requirements (red line) today and compared with BaU as stated in TASK 7 (black line). Clearly the BaU scenario is not aligned with what is today's regulation or trend is ahead. And the three scenarios of the impact of the introduction of EU Energy Labelling are not so different compared with what is actually the requirement for replacement in these markets.

- To conclude on the BaU, we can clearly see that the BaU is not in line with the realities in the market and the requirements Member States have introduced.
- In addition to the BaU, we also regret that that consumer testing has not been carried out to investigate the possible link between the introduction of an EU Energy label and the identified energy savings potential. It is indeed critical to assess how consumers would understand the label and how they would respond to specific designs as their behaviour may considerably impact the energy savings potential of an EU energy label. Furthermore, it is not documented or analysed how consumers actually act on the market today. We would like to get more information from European Commission on what is the source for the statement on consumers' unawareness on modern windows' performances.
- Finally, the European Commission states that façade window replacement market is approximately 68-72% of windows sold for residential market, and Commission states that it is not regulated as strict as for new build. We are missing systematic documentation on how replacement criteria and market demand actually already defines the European Market. We can see increasingly ambitious energy performance requirements to windows also for replacement in all Member States, so in this respect the EPBD is implemented and working, as highlighted before. Looking at the Commission data it is only 50% of the total window market that is for residential replacement, where there already – to a large extend - are national energy requirements in the national building codes or market driven requirements. If the Commission assess there is an issue with lack of enforcement of EPBD re. energy performance requirements to windows for replacement, then the solution is not to add a new layer of regulation with the associated administrative costs and burdens for the industry. This is not in line with the Better Regulation initiative and policy from other parts of the EU Commission.

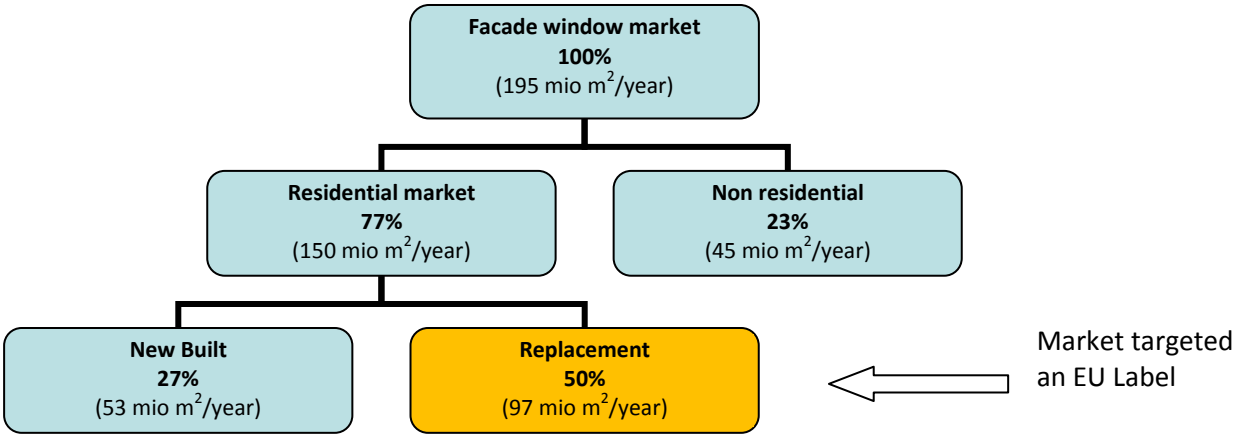

Figure 4: The market target for an EU Energy label

Source: Task 7 (p.107-109, p. 151) and Commission assessing that 68%-72 % of the residential windows market is for replacement

An EU Energy label for windows will not provide meaningful guidance to consumers

EuroWindoor wants to ensure that the consumers receive correct and relevant information when purchasing windows but we doubt that the proposed simple A-G rating will be giving consumers and professionals meaningful guidance. Choosing the right product varies on many factors.

- Windows are energy-related products and their actual energy performance is dependent on their interaction with their environment in the building and on a range of factors such as climatic conditions, time of day, time of year, orientation of the window, position in the façade, etc. Therefore the classification of sample windows in e.g. showrooms, marketing material and alike will not always be transferable to the effective sold windows, which will address specific requirements of the customer's project.
- What triggers renovation and replacement is hardly ever limited to energy considerations only, but to other triggers like ensuring healthy, comfortable, better and modernized buildings. We know from our daily interaction with consumers and from several representative surveys, that key drivers for Europeans are issues like getting more daylight, avoiding overheating, comfort, design modernisation, safety and burglar resistance, noise reduction and of course – last but not least - cost considerations.
- As acknowledged in the Explanatory Memorandum, consumers weigh all these aspects carefully when making their choice. A simple "one size fits all" EU Energy label is therefore not able to integrate all the complex parameters on the basis of which consumers' choice is made. In addition, an EU Energy label may misguide consumers and drive consumers to choose more expensive and material extensive products that will not save them money in the long run, in a replacement situation. And this can bring the risk, that the consumer is postponing the replacement intention.
- A missing element, which is not taken into account by the 'A-G' ranking, is the use of transoms and mullions, which are widely used, especially in the Nordic countries. An omission can 'obscure' the 'A-G' ranking for the windows in question and can potentially mislead the end consumer.
- EuroWindoor regrets that the Explanatory Memorandum fails to include the importance of cost optimality and least life cycle costs. But clearly, cost considerations and expectations are key issue for consumers and what is driving energy efficient choices. In the preparatory study life cycle cost (LCC) calculations were prepared in TASK 6. Comparing the energy balance results with the LCC results (see Figure 5 below) it is clear that the most energy efficient product is not the most cost optimal product, in replacement situations. An A-label

will therefore very likely mislead the consumers, as the expected costs savings will not occur. This is the case both for roof windows and façade windows.

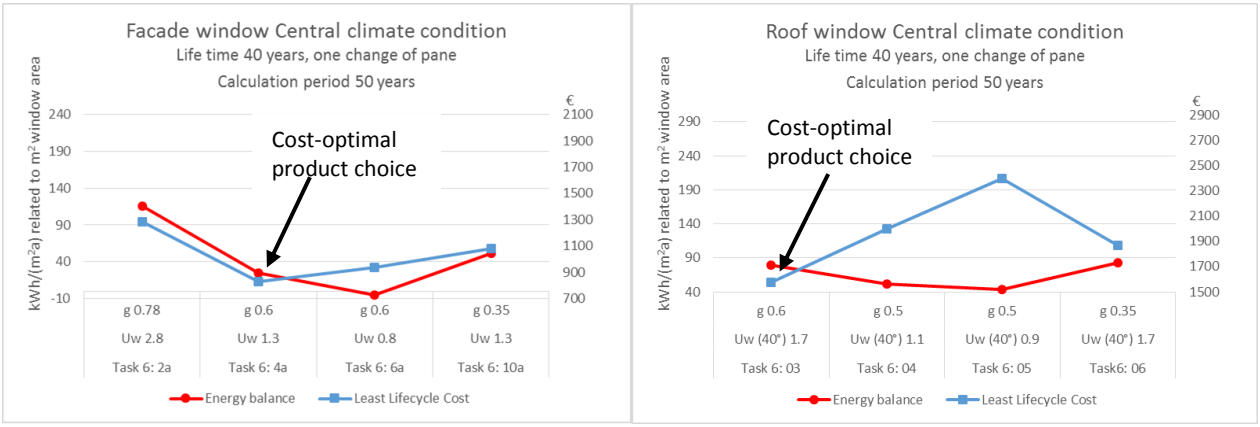

Figure 5: Total Lifecycle Cost (LLC) and energy performance, Central climatic condition, TASK 6

Note to the graphs: The result from TASK 6 has been used without any changes. As we understand it, the energy balance calculations (annual) in TASK 6 are based on a mix of single room and family house model when looking at façade windows and single room model only when looking at roof windows. This means that the absolute energy balance numbers cannot be compared. The results from TASK 6 table 8, table 9, table 10 and table 21 has just been "copy-pasted" in to the graphs above. The "inclined values" for U_W are showed, as they are used in TASK 6 and 7 reports. The product numbers are from TASK 6, and without shutters.

- Figure 5 above shows that in replacement situations in "Central climatic condition", the most energy efficient window is triple glazing (product 6a for façade and products 04 and 05 for roof windows). However, he choice of window 6a (triple glazed façade window) instead of 4a (double glazed façade window) is not the cost-optimal product during its lifetime, and the energy savings are not substantial higher as already highlighted in Table 1 above. For roof windows this tendency is observed as even stronger. Introducing an EU energy label will therefore drive consumers towards the best energy performing products but at the expense of cost efficiency, and more material use. And they will be misguided as they expect to save money in the long run when buying the best ranked product.
- The Explanatory Memorandum gives overall a very negative picture of how the market works today. Energy performance characteristic of windows is an important message in the marketing material from manufacturers given to customers, and is an important part of the selling process. It is furthermore stated in the Explanatory Memorandum that *"there is indication that window suppliers (dealers, installers) are often also not capable of explaining the added value of a window performance based on an energy balance"*. The key role of professionals in helping consumer to choose the products that most correspond to their specific needs (including energy performance) is under estimated by the Commission. We as manufacturers are in close contact with professionals (e.g. installers and architects) and consumers, and are doing a lot to inform and educate on how to choose the right window. Furthermore, the industry is e.g. developing different apps to give guidance to consumers and professionals. Also, the Figure 1 above shows how the suppliers during the last 45 years have been reducing the average U_W-value a lot of the sold windows.
- Finally, the share of Do-it-Yourself shares is very little. The assessment from European Aluminium association indicates that 90% of windows purchases in Europe are conducted with the support of professionals. EuroWindoor is of the same opinion.

An EU energy label for windows will not be in line with the Better Regulation principle

EuroWindoor shares the European Commission's commitment to **Better Regulation**, by focusing on measures that are evidence-based, well designed and cost-effective, and deliver tangible benefits for citizens and business and take into account the impacts of those measures on the competitiveness of the industry. As emphasised by a number of stakeholders, **the**

proposed Regulation is not in line with these principles. Furthermore, in line with the recommendations of the Impact Assessment Board to the draft proposed revision of the EU energy Labelling framework, we believe it is important to fully justify the need for this new regulating measure[4]. How cost-effective is energy labelling measures compared to other initiatives contributing to reaching energy efficiency targets of buildings?

- The Explanatory Memorandum only provides arguments supporting the introduction of an EU Energy label for windows and this measure is not critically assessed against existing legislation. Better implementation or improvement of existing European legislations such as the Energy Performance of Buildings Directive (EPBD) is a much more suitable mean to drive energy efficiency in buildings in Europe than a new legislation that would duplicate requirements that are already in place and will not increase compliance with EU requirements. EPBD has already proven its impact on driving energy efficiency in buildings.
- We regret that a number of statements in the European Commission's Explanatory Memorandum are not evidenced and that the costs for the industry have not been assessed, e.g. the costs of extra information requirements for the industry (possibly new tests), information campaign from the industry in order to explain the label, setting up IT systems (shops, websites, databases for e.g. dealers etc.).
- The Explanatory Memorandum fails to document the size of the problem of non-compliance to existing regulation (e.g. CPR). EuroWindoor does absolutely not share the presented negative situation among window providers, which is represented as a typical problem. We are lacking documentation on how large the non-compliance problem is, and lack documentation on how the EU Energy label will meet these shortcomings. CE marking is mandatory for all manufacturers and importers on the EU market, and Member States are in charge of ensuring that compliance with the CPR is overseen. The problems of market surveillance are existing though as there are possibly a group of manufacturers not complying, but this will certainly not be solved by the introduction of an EU energy label for windows.
- EuroWindoor fears double regulation, as already stated in our position paper of 1/7 2015. Windows already have to comply with CE marking. The EU Energy labelling for windows will most likely require the same information on U-value, solar gain etc. on the label and in the product fiche. This could conflict with CPR article 8 (3). These values are already declared according to a harmonized standard covering windows. The CE marking shall be the only marking which attests conformity with the declared performance.
- We agree with the European Commission on that Member States should set more meaningful minimum requirements than using thermal transmittance values only but this shortcoming should be addressed during the upcoming review of the EPBD and not by adopting a new legislation. Recognizing the importance of continuously increasing the energy efficiency of our buildings, EuroWindoor suggests including the concept of a differentiated energy balance approach (U_W, g_W, air permeability and the effect of shutters) to be defined in the specific heating, cooling and climatic context of the Member State when revising the Energy Performance of Buildings Directive (EPBD), not in a new legislation.
- EuroWindoor finally regrets that, as raised by many stakeholders during the preparatory study process, possible future EU legislation might be based on a "black box" that only few actors have access to and can check and verify, as calculations and simulations in the preparatory study were mostly performed with a non-publicly available simulation tool; and as the study lead used proprietary weather data and not publicly available data. This makes it very difficult to verify and validate the energy balance findings leaving key stakeholders – manufacturers – with lacking transparency of this key issue for our business.

[4] See European Commission Assessment Board, "Opinion: DG ENER- Impact Assessment on a Review of the Energy Labelling and Ecodesign Directives" (draft version of 8 May 2015)*

- Summing up – and as stated in the EuroWindoor position paper 1/7 2015 our position is in line with the conclusions of the Exploratory Study process for another energy-related product group: thermal insulation products. It has been concluded that it was impossible to define specific energy performance targets for insulation products due to the high number of climate characteristics, different buildings and different weather conditions in the EU. In addition, the study found that action is possible at building envelope level, which is already covered by the Energy Performance of Buildings Directive (EPBD). Furthermore, CE marking already exists for insulation material and enforces information requirements. Based on the conclusions of the preparatory study for windows we find that all of this can also be said for windows. When on top of this the potential energy savings for windows have not only been downgraded during this process but is linked with huge uncertainty EuroWindoor is convinced that moving forward with implementing an EU energy label for windows will not be neither proportionate nor appropriate.

***

About EuroWindoor AISBL – EuroWindoor AISBL was recently founded as an international non-profit Association, in order to represent the interests of the European window, door and facade (curtain walling) sector. Our 12 national associations speak for European window, door and facade manufacturers that are in direct contact with consumers, and thereby having large insights on consumers' demands and expectations. We are at the fore front interacting with dealers, installers and consumers buying windows and doors, and the companies behind the associations cover selling all over Europe.

EuroWindoor AISBL
Schuman Business Center, 40, Rue Breydel, 1040 Bruxelles / Belgium
or
Walter-Kolb-Str. 1-7, 60594 Frankfurt am Main / Germany
Internet: www.EuroWindoor.eu

EU Transparency Register ID Number: 29749561729-18