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DRAFT - Work in progress

## EU GPP Criteria for WINDOWS AND EXTERNAL DOORS

Green Public Procurement (GPP) is a voluntary instrument. This document provides the EU GPP criteria developed for the product group "Windows and external doors". The accompanying Technical Background Report provides full details on the reasons for selecting these criteria and references for further information.

For each product/service group two sets of criteria are presented:

- The core criteria are those suitable for use by any contracting authority across the Member States and address the key environmental impacts. They are designed to be used with minimum additional verification effort or cost increases.
- The comprehensive criteria are for those who wish to purchase the best products available on the market. These may require additional verification effort or a slight increase in cost compared to other products with the same functionality.

### 1. Definition and Scope

This document covers procurement criteria for Windows and External Doors. For the purposes of these criteria, the product group of "Windows and External Doors" shall comprise Windows and External Doors that will replace others previously installed in existing buildings. Windows and External Doors to be installed in new buildings and major renovations, where the whole building performance is being considered as part of requirements under the Energy Performance of Buildings Directive (EPBD recast 2010)<sup>1</sup>, should be excluded from the scope of the GPP criteria.

Windows and External Doors are defined as:

- **Window:** Building component (glazing) for closing an opening in a wall or pitched roof that will admit light and may provide ventilation, including the frame of the window which is defined as the component forming the perimeter of a window, enabling it to be fixed to the structure.

- **Roof Window:** Window intended for installation in a roof or the like which is inclined. Roof windows have the same characteristics as windows installed in walls with regard to function, cleaning, maintenance and durability.

- **External Doors:** Doorset which separates the internal climate from the external climate of a construction for which the main intended use is the passage of pedestrians, including the frame of the door which is defined as the component forming the perimeter of a door, enabling it to be fixed to the structure.

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<sup>1</sup> EPBD recast 2010: Directive 2010/31/EU on the energy performance of buildings (recast) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32010L0031:EN:NOT>

This product sheet includes criteria and guidelines for the procurement of the most suitable window and/or external door. However, as the performance of a window or external door is affected by location specific conditions, thorough consideration of these conditions will need to be undertaken by the Purchasing Authorities. The criteria address thermal characteristics, frame materials, filler gases, the use of recycled content of the frame and glazing materials, the avoidance of hazardous substances, as well as other aspects influencing the environmental impacts that windows and external doors cause in the overall environmental impacts of buildings: the installer's experience or maintenance aspects.

## 2. Key Environmental Impacts

The key environmental impacts from Windows and External Doors are strongly associated with the consumption of energy in the building use phase, and therefore with the thermal characteristics of the windows and external doors. Further, significant environmental impacts are associated with:

- a) materials impacts associated with the materials used to construct the windows and external doors,
- b) the processing of these materials and possible hazardous materials that can be released during the use phase,
- c) the waste generated and its management during the end-of-life phase.

Key Environmental Areas in Windows and external doors and Key Environmental Impacts	GPP Approach
<p>Key environmental areas</p> <ul style="list-style-type: none"> <li>• Primary energy consumption in the use phase</li> <li>• CO<sub>2</sub> emissions in the use phase</li> <li>• Depletion of natural resources (materials)</li> <li>• Use of hazardous substances in materials and their processing</li> <li>• Waste generation</li> <li>• </li> </ul>	<ul style="list-style-type: none"> <li>• Purchase of windows and external doors meeting the most suitable thermal characteristics for the location to be installed.</li> <li>• Purchase of windows and external doors produced with materials meeting certain environmental criteria</li> <li>• Promote effective maintenance of windows and external doors to extend useful life</li> <li>• Promote environmentally friendly end-of-life management</li> </ul>

Note: The order of impacts does not necessarily reflect their importance.

Detailed information about the Windows and external doors product group, including the information about related legislation and other sources, can be found in the Technical Background Report.

### 3. EU GPP Criteria for Windows and external doors

Based on data and information in the Technical Background Report the following sets of EU GPP criteria for the purchase of environmentally friendly (i.e. with low environmental impacts throughout the lifecycle) and energy efficient windows and external doors are proposed:

EU GPP criteria for windows and external doors	
Core criteria	Comprehensive criteria
SUBJECT MATTER	SUBJECT MATTER
<b>Purchase of high thermal efficient and environmentally sound windows and external doors</b>	
1. SELECTION CRITERIA	1. SELECTION CRITERIA
<p><b>1. Exclusion of certain contractors</b> Construction companies, which have repeatedly acted against environmental legislation and have been found guilty of grave professional misconduct as outlined in Articles 53 and 54 of Directive 2004/17/EC and Article 45 of Directive 2004/18/EC, will be excluded from the tendering procedure.</p>	<p><b>1. Exclusion of certain contractors</b> Construction companies, which have repeatedly acted against environmental legislation and have been found guilty of grave professional misconduct as outlined in Articles 53 and 54 of Directive 2004/17/EC and Article 45 of Directive 2004/18/EC, will be excluded from the tendering procedure.</p>
<p><b>2. Experience and competency of contractors</b> The bidder must provide [x] independent references for the installation of window and/or external doors to demonstrate their experience and competency.</p> <p><b>Verification:</b> Provision of [x] independent references to the Purchasing Authority.</p>	<p><b>2. Experience and competency of contractors</b> The bidder must provide [x] independent references for the installation of window and/or external doors to demonstrate their experience and competency.</p> <p><b>Verification:</b> Provision of [x] independent references to the Purchasing Authority.</p>

2. TECHNICAL SPECIFICATIONS	2. TECHNICAL SPECIFICATIONS
<p><b>3a Minimum energy performance requirements of windows and external doors based on EPBD Cost Optimal methodology:</b>  The energy performance of windows/external doors shall be [x]% better than the minimum energy performance requirements set for the relevant building element following consideration of the cost optimal level calculated in accordance with Directive 2010/31/EU and Regulation (EU) No 244/2012.</p> <p><b>Verification:</b> The bidder shall provide technical information on relevant parameters i.e. those used for calculating the cost optimal level, to demonstrate that the energy performance requirement of the GPP criterion for the building element has been met.</p>	<p><b>3a Minimum energy performance requirements of windows and external doors based on EPBD Cost Optimal methodology:</b>  The energy performance of windows/external doors shall be [x]% better than the minimum energy performance requirements set for the relevant building element following consideration of the cost optimal level calculated in accordance with Directive 2010/31/EU and Regulation (EU) No 244/2012.</p> <p><b>Verification:</b> The bidder shall provide technical information on relevant parameters i.e. those used for calculating the cost optimal level, to demonstrate that the energy performance requirement of the GPP criterion for the building element has been met.</p>
<p><b>3b Minimum energy performance requirements of windows and external doors based on national energy balance label or national legislative requirements</b></p> <p>The thermal efficiency/energy performance of replacement windows shall be amongst the best performing in [<i>Name of country or region or location</i>], in accordance with the following criteria:</p> <p>a) [<i>If the Member State where the window is to be purchased has developed an energy balance rating scheme i.e. A-G</i>] The window or external door shall meet the energy performance rating of class [X] based on the applicable calculation method.</p> <p>OR:</p> <p>b) [<i>If no energy balance rating scheme exists</i>] The window shall demonstrate [X]% improvement on the value defined in [<i>insert relevant national legislation or standards</i>]:</p> <ol style="list-style-type: none"> <li>i. U-value</li> <li>ii. g-value</li> </ol>	<p><b>3b Minimum energy performance requirements of windows and external doors based on national energy balance label or national legislative requirements</b></p> <p>The thermal efficiency/energy performance of replacement windows shall be amongst the best performing in [<i>Name of country or region or location</i>], in accordance with the following criteria:</p> <p>a) [<i>If the Member State where the window is to be purchased has developed an energy balance rating scheme i.e. A-G</i>] The window or external door shall meet the energy performance rating of class [X] based on the applicable calculation method.</p> <p>OR:</p> <p>b) [<i>If no energy balance rating scheme exists</i>] The window shall demonstrate [X]% improvement on the value defined in [<i>insert relevant national legislation or standards</i>]:</p> <ol style="list-style-type: none"> <li>i. U-value</li> <li>ii. g-value</li> </ol>

<p>iii. L50 value iv. Daylight transmittance</p> <p>The indicators are to be applied to the whole window, glazing and frame combined.</p> <p><b>Verification:</b></p> <p>a) Copy of the energy rating certificate for the window or external door from the appropriate scheme. b) Evidence of the relevant parameter value, calculated in accordance with the appropriate harmonised standard.</p>	<p>iii. L50 value iv. Daylight transmittance</p> <p>The indicators are to be applied to the whole window, glazing and frame combined.</p> <p><b>Verification:</b></p> <p>a) Copy of the energy rating certificate for the window or external door from the appropriate scheme. b) Evidence of the relevant parameter value, calculated in accordance with the appropriate harmonised standard.</p>
<p><b>4. Timber</b> Timber used shall come from legal sources.</p> <p><b>Verification:</b></p> <p>a) The legal origin of timber can be demonstrated with a chain-of-custody tracing system being in place such as FSC*, PEFC** or any other equivalent means of proof will also be accepted as proof of compliance. b) If timber stems from a country that has signed a Voluntary Partnership Agreement (VPA) with the EU, the FLEGT license may serve as proof of legality. c) Other means of proof that will be accepted includes a relevant and valid CITES certificate or other equivalent and verifiable means such as the application of a "due diligence" system. d) For the non-certified virgin material bidders shall indicate the types (species), quantities and origins of the timber, together with a declaration of their legality. As such the timber shall be able to be traced throughout the whole production chain from the forest to the product.</p> <p>* FSC (Forest Stewardship Council): <a href="http://www.fsc.org/en">http://www.fsc.org/en</a> ** PEFC <a href="http://www.pefc.org/internet/html">http://www.pefc.org/internet/html</a> *** FLEGT <a href="http://ec.europa.eu/environment/forests/flegt.htm">http://ec.europa.eu/environment/forests/flegt.htm</a></p> <p><b>After 3<sup>rd</sup> March 2013 it will be regulated through Regulation (EU) No 995/2010.</b></p>	<p><b>4. Timber</b> Timber used shall come from legal sources.</p> <p><b>Verification:</b></p> <p>a) The legal origin of timber can be demonstrated with a chain-of-custody tracing system being in place such as FSC*, PEFC** or any other equivalent means of proof will also be accepted as proof of compliance. b) If timber stems from a country that has signed a Voluntary Partnership Agreement (VPA) with the EU, the FLEGT license may serve as proof of legality. c) Other means of proof that will be accepted includes a relevant and valid CITES certificate or other equivalent and verifiable means such as the application of a "due diligence" system. d) For the non-certified virgin material bidders shall indicate the types (species), quantities and origins of the timber, together with a declaration of their legality. As such the timber shall be able to be traced throughout the whole production chain from the forest to the product.</p> <p>* FSC (Forest Stewardship Council): <a href="http://www.fsc.org/en">http://www.fsc.org/en</a> ** PEFC <a href="http://www.pefc.org/internet/html">http://www.pefc.org/internet/html</a> *** FLEGT <a href="http://ec.europa.eu/environment/forests/flegt.htm">http://ec.europa.eu/environment/forests/flegt.htm</a></p> <p><b>After 3<sup>rd</sup> March 2013 it will be regulated through Regulation (EU) No 995/2010.</b></p>

<p><b>5. Responsible sourcing of wood and wood-based materials</b> At least [X]% of the final product made of wood and wood-based materials shall be responsibly sourced.</p> <p><b>Verification:</b> Certification schemes such as FSC, PEFC, or any equivalent means of proof (accepted by the respective competent body).</p>	<p><b>5. Responsible sourcing of wood and wood-based materials</b> At least [X]% of the final product made of wood and wood-based materials shall be responsibly sourced.</p> <p><b>Verification:</b> Certification schemes such as FSC, PEFC, or any equivalent means of proof (accepted by the respective competent body).</p>
<p><b>6. Global warming potential of filler gases</b> Filler gases that contribute to the greenhouse effect, with a Global Warming Potential (GWP) &gt; 5 over a period of 100 years, may not be used in the insulating units.</p> <p><b>Verification:</b> Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p><b>6. Global warming potential of filler gases</b> Filler gases that contribute to the greenhouse effect, with a Global Warming Potential (GWP) &gt; 5 over a period of 100 years, may not be used in the insulating units.</p> <p><b>Verification:</b> Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
<p><b>7. PVC Production</b> The bidder shall demonstrate that the production of PVC complies with best practice in accordance with VinylPlus or equivalent.</p> <p><b>Verification:</b> Participation with VinylPlus will be acceptable, otherwise the bidder must provide written evidence that the VinylPlus* recommendations, or equivalent, are complied with. *VinylPlus: <a href="http://www.vinylplus.eu/">http://www.vinylplus.eu/</a></p>	<p><b>7. PVC Production</b> The bidder shall demonstrate that the production of PVC complies with best practice in accordance with VinylPlus or equivalent.</p> <p><b>Verification:</b> Participation with VinylPlus will be acceptable, otherwise the bidder must provide written evidence that the VinylPlus* recommendations, or equivalent, are complied with. *VinylPlus: <a href="http://www.vinylplus.eu/">http://www.vinylplus.eu/</a></p>
<p><b>8. Hazardous Substances</b> The final window or external door product will not <u>release</u> any substances or preparations under normal conditions that are classified according to Directive 1999/45/EC and 67/548/CEE with the R-phrases specified below:</p> <ul style="list-style-type: none"> <li>• Dangerous for the environment; R50, R50/53, R51/53</li> <li>• Carcinogenic; R45, R49, R40</li> </ul>	<p><b>8. Hazardous Substances</b> The final window or external door product will not <u>release</u> any substances or preparations under normal conditions that are classified according to Directive 1999/45/EC and 67/548/CEE with the R-phrases specified below:</p> <ul style="list-style-type: none"> <li>• Dangerous for the environment; R50, R50/53, R51/53</li> <li>• Carcinogenic; R45, R49, R40</li> </ul>

- Mutagenic; R46, R68
- Toxic for reproduction; R60, R61, R62, R63
- Very toxic; R26, R27, R28, R29
- Toxic; R23, R24, R35, R39, R48
- Harmful; R22, R48, R68

The final window or external door products will not release any substance or preparations under normal conditions that are classified, in accordance with Regulation (EC) No 1272/2008 as the H-phrases listed below:

- Dangerous for the environment; Ecotoxicity Acute Category 1 H400, Ecotoxicity Chronic Category 1 H410, Ecotoxicity Chronic Category 2 H411
- Carcinogenic; Carcinogenicity Category 1A H350, Carcinogenicity Category 1B H350, Carcinogenicity Category 2 H351
- Mutagenic; Germ Cell Mutagenicity Category 1A H340, Germ Cell Mutagenicity Category 1B H340, Germ cell Mutagenicity Category 2 H341
- Toxic for reproduction; Reproductive Toxicity Category 1A H360, Reproductive Toxicity Category 1B H360, Reproductive Toxicity Category 1A H361
- Very toxic; Acute Toxicity Category 1 H330, Acute Toxicity Category 2 H330, Acute Toxicity Category 1 H310, Acute Toxicity Category 2 H310, Acute Toxicity Category 1 H300, Acute Toxicity Category 2 H300, Specific Target Organ Toxicity after Repeated Exposure Category 1 H370
- Toxic; Acute Toxicity Category 3 H331, Acute Toxicity Category 3 H311, Acute Toxicity Category 3 H301, Specific Target Organ Toxicity after Repeated Exposure Category 1 H371, Specific Target Organ Toxicity after Repeated Exposure Category 1 H372
- Harmful; Acute Toxicity Category 4 H302, Specific Target Organ Toxicity after Repeated Exposure Category 2 H373, Specific Target Organ Toxicity after Repeated Exposure Category 3 H335

**Verification:** Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.

- Mutagenic; R46, R68
- Toxic for reproduction; R60, R61, R62, R63
- Very toxic; R26, R27, R28, R29
- Toxic; R23, R24, R35, R39, R48
- Harmful; R22, R48, R68

The final window or external door products will not release any substance or preparations under normal conditions that are classified, in accordance with Regulation (EC) No 1272/2008 as the H-phrases listed below:

- Dangerous for the environment; Ecotoxicity Acute Category 1 H400, Ecotoxicity Chronic Category 1 H410, Ecotoxicity Chronic Category 2 H411
- Carcinogenic; Carcinogenicity Category 1A H350, Carcinogenicity Category 1B H350, Carcinogenicity Category 2 H351
- Mutagenic; Germ Cell Mutagenicity Category 1A H340, Germ Cell Mutagenicity Category 1B H340, Germ cell Mutagenicity Category 2 H341
- Toxic for reproduction; Reproductive Toxicity Category 1A H360, Reproductive Toxicity Category 1B H360, Reproductive Toxicity Category 1A H361
- Very toxic; Acute Toxicity Category 1 H330, Acute Toxicity Category 2 H330, Acute Toxicity Category 1 H310, Acute Toxicity Category 2 H310, Acute Toxicity Category 1 H300, Acute Toxicity Category 2 H300, Specific Target Organ Toxicity after Repeated Exposure Category 1 H370
- Toxic; Acute Toxicity Category 3 H331, Acute Toxicity Category 3 H311, Acute Toxicity Category 3 H301, Specific Target Organ Toxicity after Repeated Exposure Category 1 H371, Specific Target Organ Toxicity after Repeated Exposure Category 1 H372
- Harmful; Acute Toxicity Category 4 H302, Specific Target Organ Toxicity after Repeated Exposure Category 2 H373, Specific Target Organ Toxicity after Repeated Exposure Category 3 H335

**Verification:** Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.



<p>Lead (R23, R25 and H301, H331) and its compounds must not intentionally be added to the plastics and coatings used in windows and external doors.</p> <p><b>Verification:</b> Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p>Lead (R23, R25 and H301, H331) and its compounds must not intentionally be added to the plastics and coatings used in windows and external doors.</p> <p><b>Verification:</b> Products holding a relevant Type I label or Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
<p><b>3. AWARD CRITERIA</b></p>	
	<p><b>9. Recycled Content</b></p> <p><b>9a. Frame Materials:</b> Additional points will be awarded in proportion to the recycled content of materials used for the window or external door (excluding glazing). This excludes process waste.</p> <p><b>9b. Glazing:</b> Additional points will be awarded in proportion to the recycled content of glazing used for the window or external door</p> <p><b>Verification:</b> Products holding a relevant Type I label or a Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>
<p><b>4. CONTRACT PERFORMANCE CLAUSES</b></p>	
<p><b>10. Maintenance Information</b></p> <p>The bidder must ensure maintenance recommendations are provided with the product.</p> <p><b>Verification:</b> Products holding a relevant Type I label or a Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>	<p><b>10. Maintenance Information</b></p> <p>The bidder must ensure maintenance recommendations are provided with the product.</p> <p><b>Verification:</b> Products holding a relevant Type I label or a Type III EPD (in accordance with EN 15804) fulfilling the listed criteria will be deemed to comply. Other appropriate means of proof will also be accepted.</p>

	<p><b>11. Post Consumer Waste Management:</b> The bidder must demonstrate that the contractor for retro-fitting or refurbishing window installations has in place effective policies and procedures to ensure that post-consumer waste (i.e. the removed windows) is properly dealt with in a sustainable manner, such as recycling or diverting from landfill where possible.</p> <p><b>Verification:</b> Possible means of proof include EMAS and ISO 14001 certificates or equivalent certificates issued by bodies conforming to Community law or the relevant European or international standards concerning certification based on environmental management standards. Other appropriate means of proof will also be accepted.</p>
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**Explanatory Notes for the selection criteria:**

**1. Experience of the installers**

The number of references required is at the discretion of the Purchasing Authority, and may be influenced by factors such as contract value and timescales. Typically the number of references required could be 2 to 5 depending on requirements.

**Explanatory Notes for the technical specifications:**

**3a. Energy performance criterion**

The minimum energy performance requirement chosen should be for the reference building type that most accurately reflects the building in which windows/external doors will be replaced. For example, the correct type of residential or non-residential building.

The percentage improvement stipulated for:

- *the core criterion* should be sufficient to ensure that energy performance required by the criterion **meets the cost optimal level**. This should be **a maximum of 15%**. Where the minimum energy performance requirements already go beyond the cost optimal level this should be used for the core criteria. The percentage of improvement will depend on the ambition of the minimum energy performance requirements set following the outcome of the cost optimal methodology calculations.

- *the comprehensive criterion* should be sufficient to ensure that energy performance required by the criterion **goes beyond the cost optimal level**. Where the minimum energy performance requirements are already beyond the cost optimal requirements the Purchasing Authority should consider an appropriate percentage improvement based on the performance of the relevant building element available on the market.

**3b. Energy performance criterion: To be used instead of criterion 3a when Member States have not completed their cost optimal calculations in accordance with Directive 2010/31/EU and Regulation (EU) No 244/2012) or the calculations do not include the relevant product e.g. external doors.** If the Member State where the window is to be purchased has no relevant national regulations or standards available, the procurement professional should look to national regulations from other, appropriate, countries in Europe.

The energy balance rating scheme performance for

- the *core criteria* should specify one of the highest classes
- the *comprehensive criteria* should specify the highest class available

or:

The percentage improvement on national requirements *to insert in the criterion (ambition level) will depend on the ambition level defined in national legislation or standards. It is recommended that the percentage improvement inserted is based on the consideration of the national requirements in relation to the market availability. The level of improvement should be defined according to local requirements and take into account the key considerations identified below.*

**Key Considerations / checklist of the most important issues to be regarded:**

There are a number of key considerations that should be taken into account when choosing a replacement window/external door, which will be specific to the building and its location. These are summarised below for reference:

a) The **importance of the climate** i.e. heating and cooling seasons should be considered. This will affect the ideal configuration of the window. In heating dominated climates (i.e. colder climates), *a better U-value is important to minimise the energy losses through the window.* In cooling dominated climates (i.e. hotter climates) *a better g value is important to minimise the energy gains through the window,* and therefore increase the cooling energy demands. In reality the ideal window/door configuration will be a balance between the two, highlighting the advantage of an energy balance or whole building approach.

b) The level of **solar gain will also be affected by the orientation of the window/door to be replaced**, for example north or south facing. Any shading devices (solar shading) installed in the building should also be taken into consideration, as these will also affect the potential level of solar gain and therefore the window specification required.

c) The **overall energy performance of the building should be considered where possible**, to ensure that the window/door installed will offer optimised performance. This may be *affected by the type, age, use and heating/cooling regime of the building.* For example installing windows with a high energy performance may not result in maximum potential savings if other elements of the building are poor in relation to overall energy performance.

d) The *energy performance of the window may differ depending on its size*. It is therefore important to ensure the U and g values considered are in relation to the size of the window required as part of the refurbishment.

e) In windows with *a gas fill* e.g. double or triple glazed windows the cost of different fill gases should be considered in relation to the level of improvement provided for the building in which it will be installed.

f) The *light transmittance* of the window should be considered, to ensure this is not reduced beyond acceptable levels, and the window can still fulfil one of its primary functions, of allowing day light into the building.

g) In addition, there are *often other practical issues that need to be considered when purchasing a window*, which the Purchasing Authority will need to balance alongside the GPP criteria requirements. This includes for example, acoustics, fire protection, burglar resistance, accessibility and the architectural design of the building.

#### **4. Timber**

The FLEGT (Forest Law Enforcement Governance and Trade) action plan was adopted by the EU in 2003. The Action Plan outlines a series of measures to address illegal logging in developing countries. The Plan defines a timber licensing system to guarantee the legality of imported wood products. In order to obtain the license, Voluntary Partnership Agreements (VPAs) have to be signed between timber-producing countries and the EU. Timber products, which have been legally produced in VPA partner countries, will be licensed for the legality of production; more information at: <http://ec.europa.eu/environment/forests/flegt.htm>

#### **5. Responsible sourcing of wood and wood-based materials**

The percentage of wood and wood-based materials that should be certified depends on the market conditions of the Member State where the window is to be installed. The percentage of wood and wood-based materials to be certified is usually in the range of:

- *core criteria*: A minimum requirement of 60-70% in weight of the wood and wood-based certified materials can be used
- *comprehensive criteria*: A minimum requirement of 70-80% in weight of the wood and wood-based certified materials can be used

#### **8. Hazardous Substances**

Regulation (EC) No 1272/2008 amending and repealing Directive 67/548/EEC and 1999/45/EEC, and amending Regulation (EC) No 1907/2006 provides guidelines on the translation between the H- and R- phrases.

Legislative requirements restricting the use of substances and/or preparations within window and external doors must continue to be met e.g. REACH, CLP and the Construction Product Regulation (CPR)<sup>2</sup>

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<sup>2</sup> See Section 8 for a summary of relevant legislation.

### **Explanatory Notes for the award criteria:**

#### **9. Recycled Content**

**9a. - Frame Materials:** The use of recycled material should not adversely affect the quality, durability, performance and safety of the product.

**9b. - Glazing:** The recycled content of the glazing component of the window or external door should not be more than 20% to ensure quality, durability; performance and safety are not adversely affected.

For the purposes of these GPP criteria, process waste is material reclaimed within the process it was generated. For example, arising from the production processes of the different materials used in the manufacturing of windows and doors.

### **Explanatory Notes for the Contract performance clauses:**

#### **11. Maintenance Information**

Depending on the window type and frame material, maintenance information may include details on how often the finish should be checked and re-applied, and which surface treatment is recommended. For materials that do not require finishes to be applied other information may be of use, for example the type of cleaner used e.g. non-abrasive, the removal of grit/dirt, tightening of screws/fixings and lubrication of moving parts as appropriate.

#### **Cost Considerations**

##### **Life cycle costing**

The contracting authority may wish to carry out a life cycle cost assessment, or require the bidder to carry out such an assessment. The costs of bids may then be compared on this basis and marks awarded under the 'Most Economically Advantageous Tender' (MEAT) award criterion. Such an assessment should include all life cycle costs, including; purchase price and all associated costs (for example, delivery, installation, commissioning), operating costs (including energy and water consumption, spare/replacement parts, maintenance and other services) and end of life costs (for example, removal and disposal). This will allow the authority to take into account environmental aspects in both the quality assessment (through environmental technical specifications and/or award criteria) and the price/investment (through inclusion of the life cycle cost).

It is important to note that LCC should be assessed as a global figure (i.e. all lifetime costs added together) and not as separately weighted award criteria. Applying different percentage weightings to different cost categories can distort the overall assessment and give incorrect results.

A number of tools and software programs are available to assist with life-cycle costing for windows and external doors. Further information about LCC is available from the EU GPP website: <http://ec.europa.eu/environment/gpp/lcc.htm>.