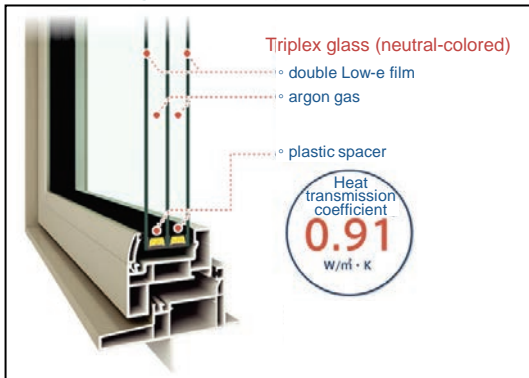
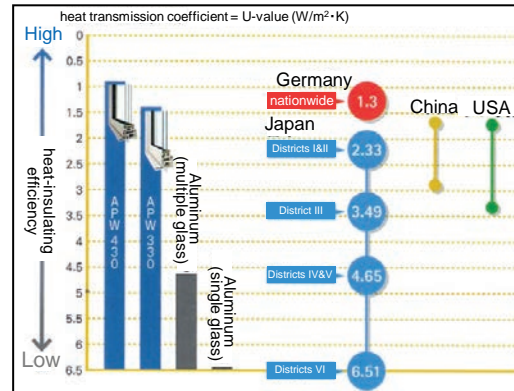


Companies' approach	
<p><b>Background and purpose of accounting</b></p>	<ul style="list-style-type: none"> <li>Understanding and reducing our CO2 emissions across the entire supply chain is important in reducing the environmental load, and we now know that Scope 3 accounting allows us to implement effective and efficient measures.</li> <li>We expect we will be able to meet our clients' demands for information disclosure, and also to have our stakeholders better understand the company's environmental load reduction efforts.</li> </ul>
<p><b>Utilization of accounting results</b></p>	<ul style="list-style-type: none"> <li>To become involved in reducing the environmental load by taking advantage of reduction opportunities in larger categories.</li> <li>To respond to our customers' demands for information disclosure.</li> <li>To improve the transparency of our emissions by establishing internal calculation methods and calculation mechanisms.</li> <li>As a manufacturer and provider of certain products so close to people's daily lives, which are "windows," we can make customers know about environmental advantages achieved by the use of high-performance windows in terms of heat insulation, like ours.</li> </ul>
<p><b>Benefits of accounting</b></p>	<ul style="list-style-type: none"> <li>The emissions from the entire supply chain can be clarified and then effective measures can be taken.</li> <li>The transparency of our emissions will be improved, so that we will be able to respond to our customers' demands for information disclosure.</li> </ul>
<p><b>Internal system for accounting</b></p>	<ul style="list-style-type: none"> <li>Data is collected from the Procurement, Logistics and Accounting departments, and then calculated by the Environmental department.</li> </ul>

**Plastic window having the world's top level, Japan's best heat-insulating efficiency: APW430**



**Heat insulation performance standards for windows around the world (Reference values for heat transmission coefficient through the opening)**



[Heat transmission coefficient]  
 A numerical value that represents the degree of heat transfer, and a lower value means a higher performance of heat insulation.

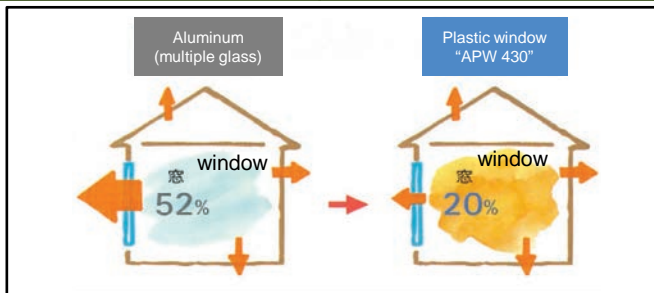
Heat insulation performance standards vary even within a country because such requirements are different, depending on regional climate characteristics, in the same country.

2011年度国土省エネルギー調査、地域別区分

I地域	北海道
II地域	青森県、岩手県、秋田県
III地域	宮城県、山形県、福島県、栃木県、新潟県、長野県
IV地域	茨城県、群馬県、埼玉県、東京都、神奈川県
V地域	富山県、石川県、福井県、山梨県、岐阜県、静岡県、愛知県、三重県、滋賀県、京都府、大阪府、兵庫県、奈良県、和歌山県、鳥取県、島根県、岡山県、広島県、山口県
VI地域	徳島県、香川県、愛媛県、高知県、福岡県、佐賀県、長崎県
VII地域	熊本県、大分県
VIII地域	宮崎県、鹿児島県
IX地域	沖縄県

## Companies' approach

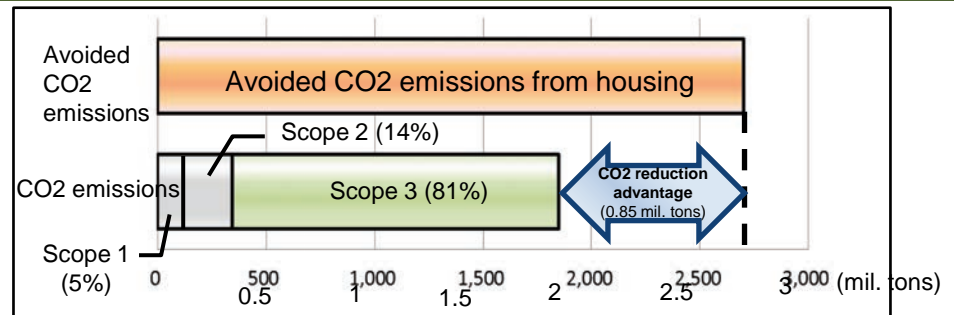
<p><b>□ Efforts to reduce supply chain emissions</b></p>	<ul style="list-style-type: none"> <li>• Because our emissions from raw materials account for about 70 percent of our overall CO2 emissions across the entire supply chain, we are aggressively promoting a transition to raw materials with lower CO2 emissions.</li> <li>• With respect to logistics, we dispatching vehicles in a more efficient way, improving loading rates and attempting a modal shift.</li> <li>• We are starting "green" procurement and the reduction of emissions resulting from waste.</li> </ul>
<p><b>□ Issues in supply chain emissions accounting</b></p>	<ul style="list-style-type: none"> <li>• How a possible change in emission factors might affect the effects of our reduction measures needs to be evaluated.</li> <li>• Improved accuracy for emission factor and activity data are necessary.</li> <li>• Activity data and emission factors for overseas facilities need to be developed and improved.</li> </ul>
<p><b>□ Other remarks</b></p>	<ul style="list-style-type: none"> <li>• Many window products now available for sale are highly energy-saving, green products. As a typical product, using a highly energy-efficient window like our APW430 can contribute to a reduction in whole-house energy usage (as shown in Figure 1 below), leading to a possible reduction of CO2 emissions. By making a comparison between YKK AP's domestic supply chain CO2 emissions (including Scope 1&amp;2) and the CO2 emissions reduction effects of our housing windows sold (also known as "avoided CO2 emissions") in FY2013, we have found that our avoided CO2 emissions exceeded our supply chain emissions (as shown in Figure 2 below).</li> </ul>



**Fig. 1: Comparison of loss (%) of heat escaping through windows**

[Calculation assumptions]

Residential insulation specs: compliant with the Energy-Saving Standard of 1999 ●House model: two-storied, total floor area of 120.08m<sup>2</sup>, and ratio of opening of 26.8% (for 4 to 8 regions), compliant with the calculation model in the "Description of methods for calculating energy consumption as a basis for decisions by owners of housing" ●Areas applied: Revised Energy-Saving Standard (of 2013), for 6 regions



**Fig. 2: Supply chain CO2 emissions and avoided CO2 emissions from the use of our housing windows**

[Calculation assumptions]

The effects of our well-insulating housing windows on residential air-conditioning energy usage (i.e. CO2 reduction advantage) have been calculated as the "avoided CO2 emissions."

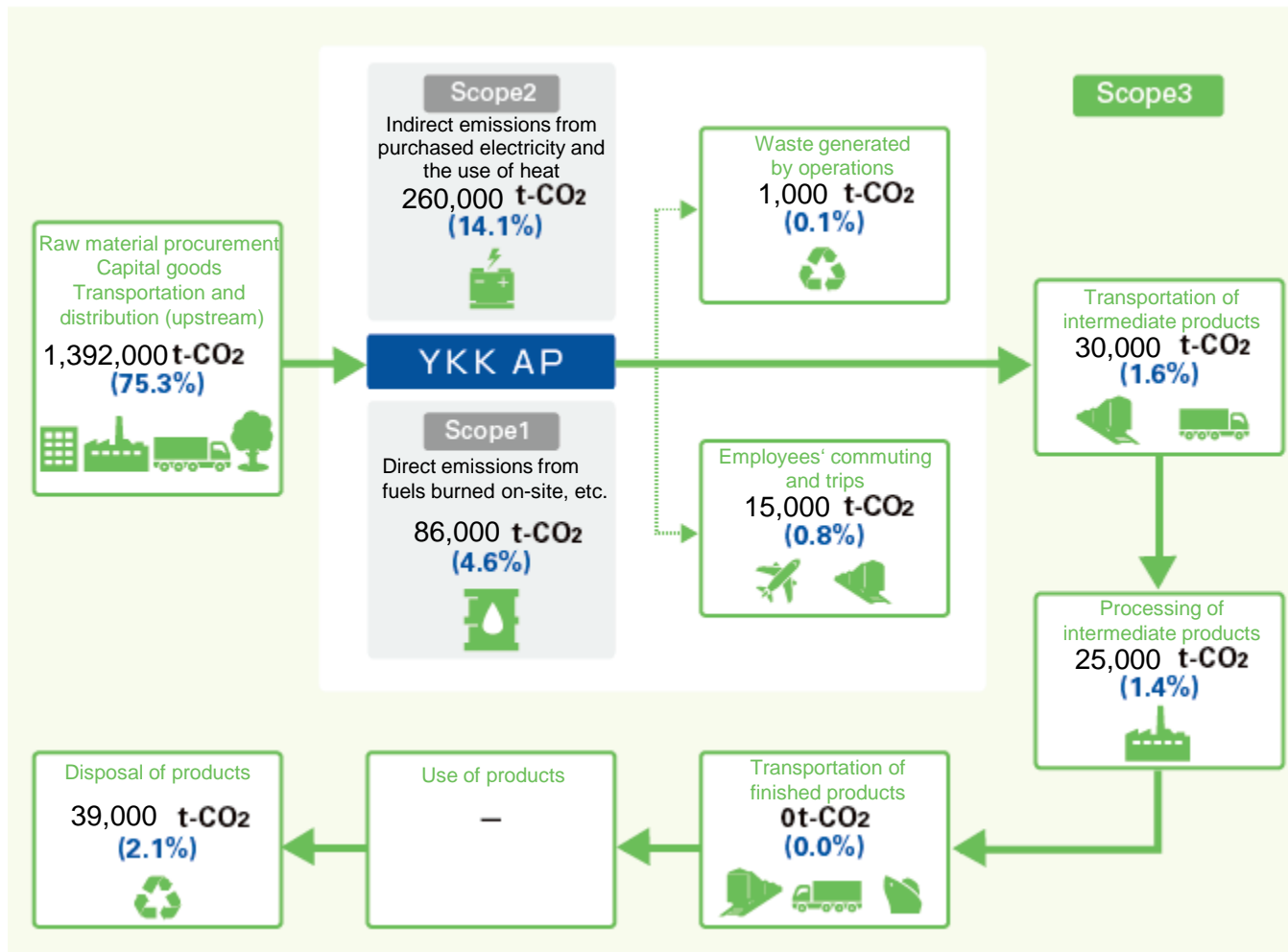
●Target for comparison: our recent windows (plastic) against those of 1990 (aluminum) ●Duration of use: 30 yrs (lifetime) ●Method: avoided emissions per unit of window x number of units shipped in FY2013

Category	Accounting methods	
	Activity data	Emission factor
Category 1: Purchased goods and services	<ul style="list-style-type: none"> <li>Weight of procured raw materials and other materials</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*1, *2)</li> </ul>
Category 2: Capital goods	<ul style="list-style-type: none"> <li>Value of procured capital goods</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*2)</li> </ul>
Category 3: Fuel and energy related activities not included in Scope 1 or 2	<ul style="list-style-type: none"> <li>Electricity and fuel energy usage</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*1)</li> </ul>
Category 4: Transportation and delivery (upstream)	<ul style="list-style-type: none"> <li>Calculated based on accounting methods for specified cargo owners in accounting, reporting and public disclosure systems</li> </ul>	
Category 5: Waste generated in operations	<ul style="list-style-type: none"> <li>Volume of waste disposed of, by type</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*2)</li> </ul>
Category 6: Business travel	<ul style="list-style-type: none"> <li>Transportation expenses paid, by mode of transportation</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*2)</li> </ul>
Category 7: Employee commuting	<ul style="list-style-type: none"> <li>Transportation expenses paid, by mode of transportation</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*2)</li> </ul>
Category 8: Leased assets (upstream)	<ul style="list-style-type: none"> <li>Depends on the scenario settings</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor by mode of transportation, using the ton-kilometer method</li> </ul>
Category 10: Processing of sold products	<ul style="list-style-type: none"> <li>Depends on the scenario settings</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor per weight of products fabricated by our company</li> </ul>
Category 12: End-of-life treatment of sold products	<ul style="list-style-type: none"> <li>Volume of products sold and distributed by us as the cargo owner</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor database (*2)</li> </ul>

\*1 "Carbon Footprint Communications Program Basic Database, Ver. 1.01 (Domestic Data)"

\*2 "Emission Factor Database on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain, Ver. 2.0"

## Accounting results



\* CO<sub>2</sub> emission calculations: Domestic emissions for YKK AP in FY2013