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YKK AP Inc.

Companies' approach

□ Background and purpose of accounting

- Understanding our CO₂ emissions across the entire supply chain is important in reducing the environmental load, and it allows us to implement effective measures.
- 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.

□ Utilization of accounting results

- To become involved in reducing the environmental load by taking advantage of reduction opportunities in larger categories.
- The accounting results will be disclosed through our Social & Environmental Report, to respond to our customers' demands for information disclosure.
- Appealing to our customers, the environmental load reduction effect (amount of contributions of reducing CO₂ emissions) due to using windows with high heat insulation capabilities.

□ Benefits of accounting

- The emissions from the entire supply chain can be clarified and then effective measures can be taken.
- The transparency of our emissions will be improved, so that we will be able to respond to our customers' demands for information disclosure.

□ Internal system for accounting

- Data is collected from the Procurement, Logistics and Accounting departments, and then calculated by the Environmental department.
- The amount of energy consumption and waste disposal is calculated by using are our internal database.

□ Efforts to reduce supply chain emissions

- 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.
- With respect to logistics, we dispatching vehicles in a more efficient way, improving loading rates and attempting a modal shift.
- We are starting "green" procurement and the reduction of emissions resulting from waste.

□ Issues in supply chain emissions accounting

- Improved accuracy for emission factor and activity data.
- Activity data and emission factors for overseas facilities need to be developed and improved.

Companies' approach

Other

- Our leading window products itself consumes less energy during usage, but the loss of heat that goes out through the window is huge (as shown in Figure 1 below). By providing plastic windows with high heat insulation capabilities, it can contribute to a reduction in whole-house air conditioning energy usage, leading to a possible reduction of CO₂ emissions.
- The CO₂ emissions reductions of our sold housing windows (avoided CO₂ emissions) exceeded our domestic CO₂ emissions throughout the supply chain (including Scope 1&2). (as shown in Figure 2 below)
- We will enhance our energy saving capabilities for zero net energy in houses and offices, aim to create a healthy and relaxing living atmosphere, by developing products which are conscious to the entire lifecycle.

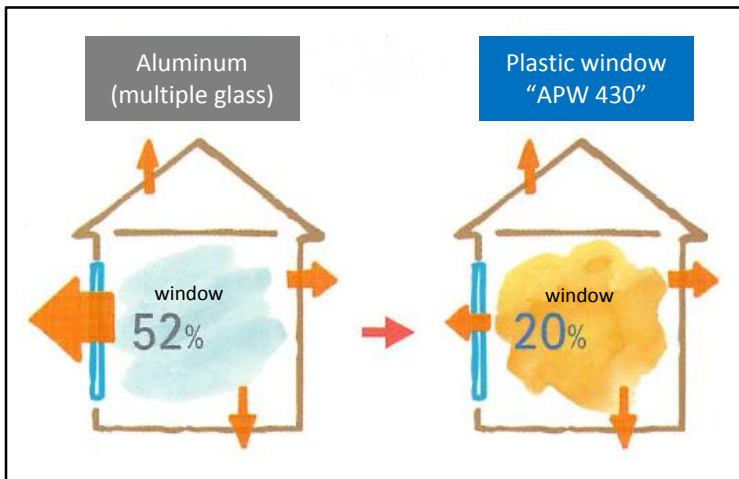


Fig. 1: Comparison of loss ratio of heat escaping through windows (winter)

[Calculation assumptions]

- Residential insulation specs: compliant with the Energy-Saving Standard of 1999
- House model: two-storied, total floor area of 120.08m², 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

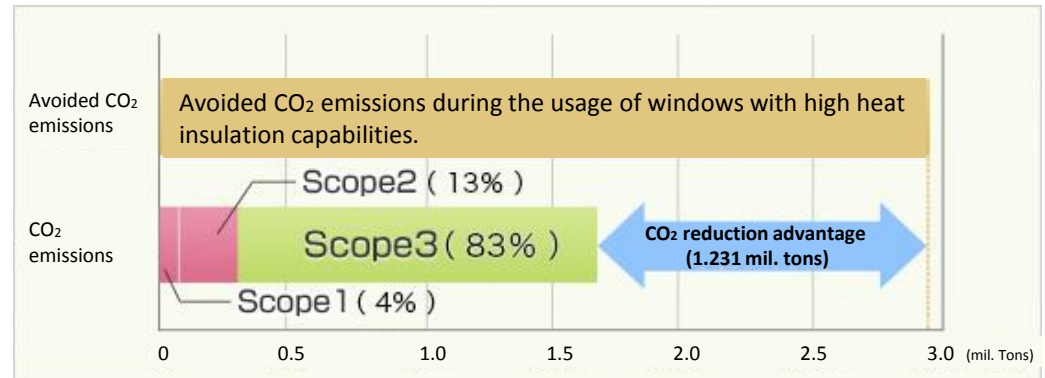


Fig. 2: Supply chain CO₂ emissions and avoided CO₂ emissions from the use of our housing windows

[Calculation assumptions]

(These calculations are compliant with “Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions”, The Institute of Life Cycle Assessment, Japan)

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 FY2016

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YKK AP Inc.

Category	Accounting methods	
	Activity data	Emission factor
Category 1: Purchased goods and services	● Weight of procured raw materials and other materials	● Emission factor database (*1, *2)
Category 2: Capital goods	● Value of procured capital goods	● Emission factor database (*2)
Category 3: Fuel and energy related activities not included in Scope 1 or 2	● Electricity and fuel energy usage	● Emission factor database (*1, *2)
Category 4: Transportation and delivery (upstream)	● Calculated based on accounting methods for specified cargo owners in accounting, reporting and public disclosure systems	● Mandatory Greenhouse Gas Accounting and Reporting System Emission Factors (*3)
Category 5: Waste generated in operations	● Volume of waste disposed of, by type	● Emission factor database (*2)
Category 6: Business travel	● Transportation expenses paid, by mode of transportation	● Emission factor database (*2)
Category 7: Employee commuting	● Transportation expenses paid, by mode of transportation	● Emission factor database (*2)
Category 8: Leased assets (upstream)	● Not calculated because emissions from the operations of leased assets are included in Scope 1,2.	
Category 9: Transportation and delivery (downstream)	● Freight transport tonne-km depending on the scenario settings	● Mandatory Greenhouse Gas Accounting and Reporting System Emission Factors (*3)
Category 10: Processing of sold products	● Shipping weight	● Emission factor per weight of products fabricated by our company
Category 11: Use of sold products	● Not calculated because there are no direct emissions from windows and doors itself	
Category 12: End-of-life treatment of sold products	● Shipping weight	● Emission factor database (*2)
Category 13: Leased assets (downstream)	● Not calculated because we did not rent to a another company	
Category 14: Franchises	● Not calculated, because we are not the franchiser	
Category 15: Investments	● Not calculated because we are neither an investment company nor a financial service providing company	
Other	● We have not calculated any other emission factors	

*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. 2.4"

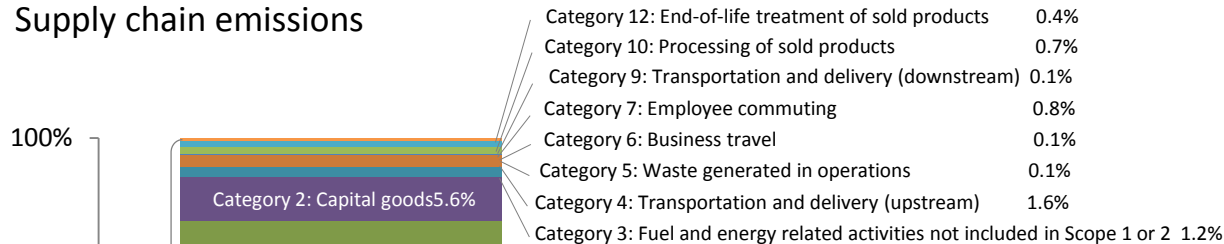
*3Mandatory Greenhouse Gas Accounting and Reporting System List of Emission Factors (<http://ghg-santeikohyo.env.go.jp/>)

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YKK AP Inc.

Accounting results

● Supply chain emissions



The breakdown of the amount of domestic emissions for YKK AP in FY2016

● Emission flow

