

# 1

# Dai Nippon Printing Co., Ltd.

## Company thinking

<p>□ <b>Background and purpose for accounting</b></p>	<ul style="list-style-type: none"> <li>• Because accounting for greenhouse gases throughout the supply chain is becoming a societal and business requirement, we have conducted a Scope 3 accounting to implement reduction countermeasures throughout our supply chain in order to improve our emissions management.</li> <li>• We are aiming for more efficient reduction measures by clarifying the phases with the largest potentials for reduction.</li> <li>• Dai Nippon Printing's products include both finished goods and semi-finished goods, and it is difficult to clarify the affect of emissions in the usage stage for both kinds of products. It is possible that we will be able to acquire information that is useful for determining future product specifications through an accounting.</li> <li>• Because there are not many examples of companies accounting for emissions from their entire supply chains, accounting for and disclosing our emissions is likely to result in a certain degree of praise from both society and as a business. We also feel that it is meaningful for a company such as ours that is involved in making both finished and semi-finished goods to attempt an accounting.</li> </ul>
<p>□ <b>Utilization of accounting results</b></p>	<ul style="list-style-type: none"> <li>• By establishing certain accounting methods for emissions from the entire supply chain, we will be able to confirm the quantitative changes in emissions over time. In addition, we will be able to clarify the problems in data accuracy and thereby improve it.</li> <li>• With respect to handling a wide range of products, we will be able to learn accounting methods for emissions for the entire supply chain, and will aim to create a database for volume data, etc.</li> <li>• By gradually refining our emissions data for the entire supply chain for our overall corporate activities, we will be able to collect data by product type, customer, product type (carbon footprint) and other categories, so that we will be able to cope with customer requests which are likely to increase in the future.</li> </ul>
<p>□ <b>Advantages of accounting</b></p>	<ul style="list-style-type: none"> <li>• Through the above usage methods, we will be able to clarify reduction potential, refine accounting methods, and cope with customer requests for disclosing data.</li> </ul>
<p>□ <b>Internal accounting organization</b></p>	<ul style="list-style-type: none"> <li>• Data is collected from other departments and calculated by the Environment Department.</li> <li>• The data is collected from the following departments: Procurement (Categories 1 and 4), Accounting (Categories 2 and 8), Environment (Categories 3, 4 and 5), Labor (Categories 6 and 7), and Management (Categories 9, 11 and 12).</li> </ul>

## Company thinking

### ☐ To reduce supply chain emissions

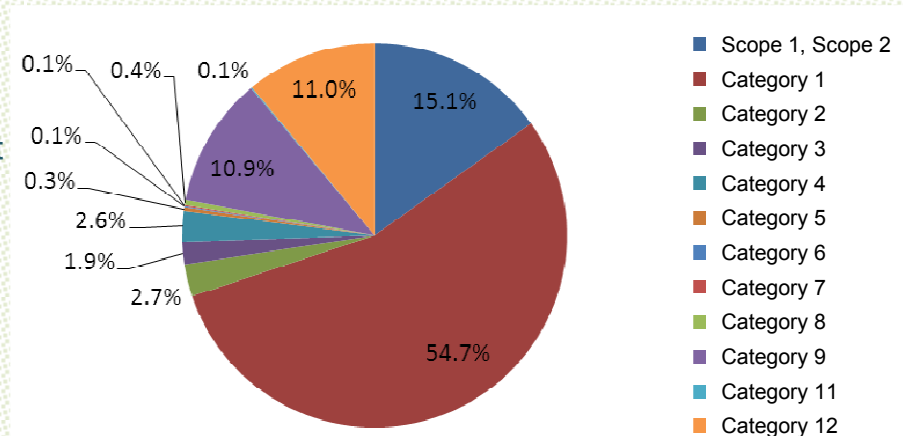
- We are making efforts to reduce emissions by promoting "green" procurement, development and sales of environmentally friendly products, and using more efficient means of transportation as a cargo owner.
- We are also aiming to make reduction more efficient by using the accounting results from fiscal 2012 to find the areas in the supply chain with the highest reduction potential.

### ☐ Tasks to account for supply chain emissions

- Because many Dai Nippon Printing products are semi-finished goods, it is difficult to account for the fabrication and use (Categories 10 and 11) of the products we have sold downstream.
- In our fiscal 2012 accounting, only PET bottle preforms were included. (The energy used to cool products made into PET bottles and sold as drinks.)
- With respect to the processing and use of other parts, either their part of the overall weight of the finished product is small or no energy is used in processing and use, so these were not included.

### ☐ For those starting to account for supply chain emissions

- Because how data is collected is important, it is important that the entire company is involved in the effort.
- At Dai Nippon Printing many different departments cooperated with the Environment Department to collect comprehensive data, so that it was possible to come up with a comprehensive accounting that includes many categories.
- When starting accounting, not being able to collect data will be a major barrier, so that it is important to overcome this problem.



Supply Chain Emissions Accounting Results

# 3

# Dai Nippon Printing Co., Ltd.

Category	Accounting methods	
	Activity data	Emission factor
Category 1: Purchased goods and services	<ul style="list-style-type: none"> <li>Materials procurement amount (weight, cost) (The priority should be weight over cost)</li> </ul>	<ul style="list-style-type: none"> <li>CFP Basic / available DB</li> <li>3EID (Use CFP before 3EID)</li> </ul>
Category 2: Capital goods	<ul style="list-style-type: none"> <li>Amount required to purchase land/buildings and machinery</li> </ul>	<ul style="list-style-type: none"> <li>3EID</li> </ul>
Category 3: Fuel and energy related activities not included in Scope 1 or 2	<ul style="list-style-type: none"> <li>Fuel, electricity and steam energy usage</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor DB*</li> </ul>
Category 4: Transportation and delivery (upstream)	<ul style="list-style-type: none"> <li>Cargo owner shipments (ton-km) and estimated supplier shipments (ton-km) (*) (* Scenarios should be set up for load capacity, load percentage and shipment distances to estimate the ton-km based on purchased weight. For items for which purchased weight is not know, the unit price per weight for known items should be used to estimate the purchase amount from the weight.)</li> </ul>	<ul style="list-style-type: none"> <li>CFP Basic DB</li> </ul>
Category 5: Waste generated in operations	<ul style="list-style-type: none"> <li>Waste weight by type and processing method</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor DB*</li> </ul>
Category 6: Business travel	<ul style="list-style-type: none"> <li>Estimated travel expenses for business trips and nearby travel (*), nearby transportation expenses paid, days spent in accommodations (* Set up scenarios for typical travel routes by means of transportation, and calculate from the number of times used.)</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor DB*</li> </ul>
Category 7: Employee commuting	<ul style="list-style-type: none"> <li>Commuting expenses paid by means of transportation</li> </ul>	<ul style="list-style-type: none"> <li>Emission factor DB*</li> </ul>
Category 8: Leased assets (upstream)	<ul style="list-style-type: none"> <li>Building and machinery lease payments</li> </ul>	<ul style="list-style-type: none"> <li>3EID</li> </ul>
Category 9: Transportation and delivery (downstream)	<ul style="list-style-type: none"> <li>Estimated shipment ton-km (*), sales volume and sales prices by type for six types of products, including paper printed products. (* Set up scenario for each type of accounting subject based on the CFP system PCR.)</li> </ul>	<ul style="list-style-type: none"> <li>CFP Basic DB</li> </ul>
Category 10: Processing of sold products	<ul style="list-style-type: none"> <li>Not included because the sold products were not processed or because their percentage of the final product was very small.</li> </ul>	
Category 11: Use of sold products	<ul style="list-style-type: none"> <li>Estimated electric power used to refrigerate drinks in PET bottles. (* Estimated based on PCR.)</li> </ul>	<ul style="list-style-type: none"> <li>CFP Basic DB</li> </ul>
Category 12: End-of-life treatment of sold products	<ul style="list-style-type: none"> <li>Waste emissions by type of disposal by type for six types of products, including paper printed products. (* Estimated based on PCR.)</li> </ul>	<ul style="list-style-type: none"> <li>CFP Basic / available DB</li> </ul>
Category 13: Leased assets (downstream)		
Category 14: Franchises	<ul style="list-style-type: none"> <li>Not applicable</li> </ul>	
Category 15: Investments		

\* "Emission Factor Database on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain"