Environmental Accounting

The Showa Shell Group performs environmental accounting to quantitatively measure the costs and effects of environmental preservation initiatives related to its business activities.

In general, the majority of investment and expenditures in the oil industry go toward reducing the environmental impact of the refining and supply of oil products. In other words, periodic repairs and renovations to refineries represent major environment impact reductions measures. These areas also constitute a high percentage of investment and expenditures in environmental accounting at Showa Shell Sekiyu.

Scope of Data
The scope of data includes Group companies that have introduced HSSE-MS as of December 31, 2013, including three petroleum refining companies. The costs of contract dealers (sales companies, primarily service stations) are outside the scope of data.

Period
The period covered is from January 1 to December 31, 2013. For those companies whose fiscal years end on March 31, the period covered is from April 1, 2013, to March 31, 2014.

Calculation Method
Calculations were performed by referring to the Environmental Accounting Guidelines 2005 and the Environmental Preservation Cost Classification Handbook 2003, by the Ministry of the Environment of Japan. An overview of these items is provided below.

Environmental Preservation Costs
The portion of investments and capital expenditures that goes toward environmental preservation is counted as environmental preservation costs, and amounts are recognized during the periods in which they are incurred.
1. Costs within the Business Area
These costs are incurred to reduce environmental impact at refineries and lubricant production sites. Specific investments and expenditures are calculated in relation to the prevention of atmospheric pollution and water pollution, the prevention of global warming, energy conservation, and the recycling and processing of waste materials.

2. Upstream and Downstream Costs
These costs are those incurred to curtail the environmental impact of primary upstream and downstream business activities. These include such items as investments in upgrades of equipment to reduce the sulfur content of fuel oils, operation and maintenance expenditures, and the expenditures needed to reduce the benzene contained in fuel oils.

These investments and expenditures constitute a major portion of the Showa Shell Group’s environmental preservation costs.

3. Cost of Management Activities
These include the costs of creating and operating a HSSE-MS, as well as the costs of operating an ISO 14001 system. They also include expenses incurred to monitor environmental impact and train employees, as well as the cost of disclosing environment performance information.

4. Research and Development Costs
These costs are those related to the development of technologies. They also include the costs of developing lubricants and other products that conserve the use of resources.

5. Costs of Social Activities
These costs are incurred in relation to various environmental activities undertaken, such as the Environmental Photo Contest, tours of megasolar power plants, membership fees in local disaster prevention associations, donations to environmental protection organizations, and local cleanup activities.

6. Costs of Addressing Environmental Damage
The costs of addressing environmental damage include such costs as oil pollution liability insurance premiums and SOx pollution load levies and the costs of addressing soil contamination.
### Costs Related to Environmental Preservation (January–December 2013)

(Millions of yen)

<table>
<thead>
<tr>
<th>Category</th>
<th>Investment amount</th>
<th>Year on year</th>
<th>Expense amount</th>
<th>Year on year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs within the Business Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Pollution Prevention Costs</td>
<td>126.4</td>
<td>21.9</td>
<td>11,138.7</td>
<td>2,044.5</td>
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<tr>
<td>-Environmental Preservation Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>-Resource Environmental Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upstream and Downstream Costs</td>
<td>8.6</td>
<td>-419.1</td>
<td>74,840.7</td>
<td>3,326.4</td>
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<tr>
<td>Cost of Management Activities</td>
<td>0.0</td>
<td>0.0</td>
<td>814.4</td>
<td>-50.7</td>
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<tr>
<td>Research and Development Costs</td>
<td>0.0</td>
<td>0.0</td>
<td>30.7</td>
<td>-16.8</td>
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<tr>
<td>Costs of Social Activities</td>
<td>0.0</td>
<td>0.0</td>
<td>37.8</td>
<td>-6.5</td>
</tr>
<tr>
<td>Costs of Addressing Environmental Damage</td>
<td>0.0</td>
<td>0.0</td>
<td>574.8</td>
<td>-19.9</td>
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<tr>
<td>Total</td>
<td>135.0</td>
<td>-397.2</td>
<td>87,437.1</td>
<td>5,277.0</td>
</tr>
</tbody>
</table>

**Economic Effect**

The economic effect refers to the benefit gained as a result of environmental preservation measures, as measured in currency units. For the Showa Shell Group, whose capital expenditures and efforts to improve operations and practices span many years, measuring the economic effect is difficult. Here, we present only the effect of activities conducted during the preceding fiscal year for which effect could be calculated.

Income from the sale of disposable catalysts generated at refineries: ¥275 million