B Prevention and alleviation of environmental problems

[Objective]

We abide by all environmental laws and regulations and strive to the utmost to improve and protect the environment by setting internal control standards based on our integrated management system.

B-4 Environmental Accounting

The results of environmental accounting for HORIBA, Ltd. in 2013 among business area, in global environmental protection costs decreased by 41% compared to 2012. This is because large facility investments was limited. However, we have invested necessary facilities, like energy management systems. Meanwhile, in terms of environmental protection effects, energy consumption during product use and greenhouse gas emissions increased by approximately 45%. This is because large-size eco-design products that were newly introduced to the market have begun to increase to sales.

Environmental Accounting Standards:

1) Investment/expenditure classification: Based on financial accounting standards
2) Costs: Includes personnel, management and R&D expenses (excl. depreciation)
3) i) Personnel costs: Average labor costs × no. hrs environmental protection activities
   ii) R&D economic benefit: Contribution of eco-friendly products to operating income
4) Based on Environmental Accounting Guidelines by the Ministry of the Environment (2005 version)

Costs of Environmental Protection (by Business Activity)

Scope: HORIBA, Ltd. head office/Biwako Plant/13 sales offices and it's training center, HORIBA Techno Service Co., Ltd. 24 service stations
Accounting period: January 1, 2013 to December 31, 2013

(Millions of yen)

Environmental Protection Costs (by Business Activity)							Economic Effect (Internal)	
Category		Key Actions	Amount Invested	Total Cost	Total	Year-on-year Comparison (%)	Benefits of Amount	Remarks
(1) Cost in Business area			13.8	62.6	76.4	83.1	112.7	
Details	1. Cost of pollution prevention	Maintained existing exhaust and drainage facilities; providing regular and preventive maintenance	0.0	7.2	7.2	100.4	12.8	Power-saving in facilities, effective operational benefits
Details	2. Cost of global environmental protection	Switchover of all air conditioners from electricity to gas, Promoting switchover to energy-efficient facilities, and other initiatives	13.8	8.2	22.0	59.1	35.6	Conversion to energy-efficient facilities, modification of equipment, effect of electricity conservation
Details	3. Cost of resource circulation	Water conservation and Promoting zero emissions activity	0.0	47.2	47.2	99.3	64.3	Reduction of water consumption, etc.
(2) Upstream and downstream cost		Promoting green purchasing, and collection and reuse of used products	8.7	10.1	18.8	68.2	6.2	Promotion of green purchasing and reuse of collected used products
(3) Administration cost		Improved operational efficiency of environmental management systems, Promoting ecotraining and other initiatives	0.0	83.6	83.6	92.1	1.8	Benefit of environmental advertisements, etc.
(4) R&D cost		Promoting design for environment, the leadfree initiative, and other initiatives	32.9	573.6	606.5	80.3	901.0	Expansion of eco-friendly products, contribution to operating income
(5) Cost of social activities		Actively Promoting awareness-raising activities related to environmental technology and other initiatives	0.0	13.1	13.1	88.3	0.1	Support of environmental improvement, promotion of enlightenment initiatives
(6) Cost of environmental remediation		N/A	0.0	0.0	0.0	0.0	0.0	N/A
Total cost of environmental protection			55.4	743.0	798.4	77.5	1,021.8	

B-4 Environmental Accounting

Effect of Environmental Protection

Scope: HORIBA, Ltd. head office/factory/14 sales offices and it's training center, and HORIBA Techno Service Co., Ltd. 26 service stations
Accounting period: January 1, 2013 to December 31, 2013

Effect of Environmental Protection

Category	Environmental Performance Indicator (unit)	2012 (standard)	2013	Difference from Standard (Environmental protection benefits)	
Effect of resources invested related to environmental protection	Total energy input (GJ)	139,544	139,556	12	*1
	Power consumption (GJ)	110,333	109,018	△ 1,315	*1
	City gas consumption (GJ)	18,714	20,614	1,900	*1
	Fuels (diesel, kerosene and gasoline)	10,497	9,924	△ 573	*1
	Core production elements input (iron, SUS, aluminum, copper and glass) (t)	886	1,737	851	
	Recycled resource input (t) Office paper and packing materials (cardboard, wood and polystyrene)	300	277	△ 23	
	Water input (km^3)	47	47	0	
	Groundwater input (km^3)	15	16	1	
	City water input (km^3)	32	31	△ 1	
Effects to environment and waste generation by environmental protection	Greenhouse gas emissions (t-CO_2)	7,425	7,429	4	*2
	Greenhouse gas emissions through electric energy consumption (t-CO_2)	5,675	5,612	△ 63	*2
	Greenhouse gas emissions through city gas consumption (t-CO_2)	1,046	1,152	106	*2
	Greenhouse gas emissions through fuel consumption (t-CO_2)	704	666	△ 38	*2
	Total waste generated (t)	460	337	△ 123	
	Final waste at landfill (t)	1	1	0	*3
	Total water drained (km^3)	47	47	0	
	Water quality (BOD/COD) (mg/L)	N/A	N/A	-	
	NOx and SOx emissions (t)	N/A	N/A	-	
	Malodor (max. density) (mg/L)	N/A	N/A	-	

Environmental Protection Benefits

Category	Environmental Performance Indicator (unit)	2012 (standard)	2013	Difference from Standard (Environmental protection benefits)	
Effects in terms of goods and services generated	Energy consumption during operation (GJ) (Total of eco-friendly energysaving products)	37,901	54,833	16,932	*1
	Greenhouse gas emissions during operation (t-CO_2) (Total of eco-friendly energy-saving products)	1,468	2,124	656	*2
	Hazardous substances emitted during disposal of used products and recycling of containers and packaging (t)	3	9	6	
	Amount of used products, containers and packaging recycled (t)	8	2	△ 6	
	Amount of product packing materials used (t)	276	255	△ 21	
Other effects of environmental protection	Greenhouse gas emissions from transporting products (t-CO_2)	165	154	△ 11	*2
	Products transported (t-km)	2,034,761	1,790,102	△ 244,659	
	Soil contamination (m^2)	0	0	-	
	Noise (dB) *at night	55	54	△ 1	
	Vibration (dB) *in evening	Less than 30	Less than 30	-	

***1: GJ (gigajoule):** Converted and calculated at 0.00976 GJ/kWh (from the April 1, 2006 public notification of the Energy Conservation Center).

***2: CO_2 emissions factor:** Calculated assuming 0.378 kg of CO_2 per kWh, which is the average of all electric companies in Japan. The official value of the Kansai Electric Power Company is used for the Kyoto District.

***3:** Only for HORIBA, Ltd. head office/factory

Economic Benefits from Environmental Protection Activities

(Millions of yen)

Economic Benefits from Environmental Protection Activities (Substantial Benefits)

	Effect	Amount
Profit	Sales of solder residue, metal waste, etc. generated in production processes	1.7
	Gain on sale of recycled products	108.9
Total		110.6