

# Objectives and Results for Global Environmental Activities

JFE Holdings				
JFE Steel	JFE Engineering	Kawasaki Microelectronics	JFE Urban Development	aJFE R&D

Aims of JFE Group	Objectives	Results in FY2003
<b>1 Environmental management and communication</b>		
<b>(1) Expansion of environmental management</b>	Strengthening of systems and improvement in level of environmental management	<ul style="list-style-type: none"> <li>• ISO14001 certification JFE KOHNAN STEEL CENTER CO., LTD.</li> <li>• JFE Environmental Committee and environment-related committees in operating companies</li> <li>• Study of condition of environmental management in affiliated companies</li> </ul>
	Expansion of green procurement in Group as whole	<ul style="list-style-type: none"> <li>• Expansion of guidelines to affiliated companies (in progress)</li> </ul>
<b>(2) Communication with society</b>	Strengthening of communication	<ul style="list-style-type: none"> <li>• Disclosure of environmental information by Environmental Report and homepage</li> <li>• Timely information by company and works magazines</li> <li>• Participation in eco-product and waste technology trade shows</li> <li>• Research support by JFE 21st Century Foundation</li> <li>• Contribution to Kanagawa Prefecture's Kanagawa Forest Conservation Program for Water Resource Regions program by participating as Riverhead Forest Partner</li> </ul>
<b>(3) International cooperation</b>	Contribution to global warming counter-measures under Kyoto Mechanism (joint implementation, CDM, etc.)	<ul style="list-style-type: none"> <li>• Receiving of trainees from Environmental Agency in Shenyang, China</li> <li>• Completion of energy conservation model project of NEDO for waste heat recovery from WTE plant in Malaysia</li> </ul>
	Communications with overseas organizations, etc.	<ul style="list-style-type: none"> <li>• Presentation of environmental measures and examples of Japan's Eco-Town projects in China (CCICED)</li> <li>• Presentation at International Symposium on Waste Treatment</li> </ul>
<b>(4) Environmental accounting</b>	Qualitative measurement and evaluation of environmental activities	<ul style="list-style-type: none"> <li>• Education and Publication of environmental accounting</li> </ul>
<b>2 Reduction of environment loads in all business activities</b>		
<b>(1) Prevention of global warming</b>	Measures for preventing global warming referring to Voluntary Action Plan by Japan Iron and Steel Federation	<ul style="list-style-type: none"> <li>• Achieved 3% reduction in energy unit consumption in FY2003 from 2002</li> <li>• Achieved 0.6% reduction in energy consumption in FY2003 from 2002</li> <li>• Achieved 1.7% reduction in CO<sub>2</sub> emission in FY2003 from 2002</li> </ul>
<b>(2) Promotion of recycling</b>	Increase recycling ratio of byproducts of manufacturing processes	<ul style="list-style-type: none"> <li>• Recycling ratio dropped to 99.3% in FY2003 from 99.5% in 2002. Continuous R&amp;D activities for better recycling ratio</li> </ul>
	Recycling of byproducts (waste) generated by society	<ul style="list-style-type: none"> <li>• Increased receiving of waste plastic as blast furnace feed</li> <li>• Received 534,000 used appliances for recycling</li> </ul>
<b>(3) Promotion of environmental protection</b>	Reduced use and improved control of PRTR substances	<ul style="list-style-type: none"> <li>• Reporting of releases/transfers in FY2003 to government and disclosure in Environmental Report</li> </ul>
	Dioxin countermeasures	<ul style="list-style-type: none"> <li>• Measures to strengthen flue-gas treatment equipment at sintering plants</li> </ul>
	80% reduction in benzene by FY 2003 against 1999 baseline	<ul style="list-style-type: none"> <li>• Achieved 74% reduction in benzene emissions against 1999 baseline. Continuous efforts for achieving target by additional countermeasures in FY2004</li> </ul>
	Reduced environmental loads by more efficient product distribution	<ul style="list-style-type: none"> <li>• Shortened transportation distance and increased transportation lot size</li> </ul>
<b>3 Contribution through technologies, products, and services</b>		
<b>(1) Environment-conscious R&amp;D</b>	Development of innovative technologies to solve global environmental problems	<ul style="list-style-type: none"> <li>• Development of high efficiency natural gas hydrate production technology</li> <li>• Development and commercialization of JFE Gas Clean DX (compact dioxin removal equipment in flue gas)</li> <li>• Development of Hyper 21 Stoker System</li> </ul>
	LCA-based product development	<ul style="list-style-type: none"> <li>• Development marine remediation material (Marine Block, Marine Base, Marine Stone) and promotion of Sea Purification Project</li> </ul>
<b>(2) Eco-products</b>	Reduction of environmental loads in society by expanded use of high performance steel products	<ul style="list-style-type: none"> <li>• Increased sales of high performance chromate-free coated steel sheet</li> <li>• Development of high tensile strength steel sheet for ultra-light weight auto body</li> <li>• Development of laminated steel sheet for food cans</li> <li>• Expanded application of heat island mitigating paving material</li> <li>• Sales of slow-release potassium silicate fertilizer</li> <li>• Increased production of high-purity silicon for solar cells</li> </ul>
<b>(3) Total solutions for the environment</b>	Contribution to Eco-Town and recycling-oriented society	<ul style="list-style-type: none"> <li>• Start of fluorescent lamp recycling plant</li> <li>• Start of RDF gasifying power generation plant</li> <li>• Start of food waste recycling business (BIGADAN biomass system)</li> </ul>
	Development of clean energy sources anticipating next-generation needs	<ul style="list-style-type: none"> <li>• Start of 100t/day DME direct synthesis plant operation</li> <li>• Development of DME fueled diesel engine power generation system</li> <li>• Cumulative wind power capacity reached 91,850kW(end of March 2004)</li> <li>• Start of high efficiency fuel cell power generation (SOFC)</li> <li>• Start of biomass power generation</li> <li>• Start of Clathrate Hydrate Slurry Latent Heat Air-conditioning System</li> </ul>
	Contribution to society by multi-faceted environmental engineering activities	<ul style="list-style-type: none"> <li>• Completion of RDF power generating plant</li> <li>• Providing the design and manufacturing technology of stoker furnace to a Chinese company</li> </ul>