



Medium-Term Environmental Action Plan

The Showa Shell Group has developed Medium-Term Environmental Action Plan based upon its environmental efforts in 2004 and 2005. The plan sets forth goals for each department and group company to achieve by 2008. Among these are goals for the Showa Shell Group as a whole to meet in 2006.

Area	Program	Goals for 2008
Energy conservation and global warming countermeasures	Refinery energy conservation measures	Reduce unit energy consumption by 10% in comparison with 1990 level; accurately grasp performance with regard to CO2 emissions volume (final target to be reached in 2010) Apply effective energy conservation measures
	Depot energy conservation measures	Comprehend and reduce volume of fuel, electricity, and water consumption at depots
	Vehicle engine idling (while parked or waiting) abatement measures	Provide guidance on engine idling abatement to transport companies
	Reduced fuel usage through more efficient ground transport	Use NEU PLANET to promote shortest tank lorry delivery runs
	Reduced fuel usage through more efficient marine transport	Increase size of Japanese sea vessels and promote most efficient routes
Industrial waste recycling measures	Refinery waste disposal measures	Reduce final disposal of industrial waste by 75% or more by 2010, against 1990 base year
	Reduction of industrial waste (recycling and reuse of catalysts)	Continue recycling and reuse of catalysts
	Waste disposal measures for operational sites, facilities, and depots	Continue efforts to measure actual volume, to recycle, and reduce
Soil contamination countermeasures; chemical substance management	Soil contamination countermeasures	Ascertain status of contamination at company service stations and take necessary measures
	DSS: soil contamination risk management at Showa Shell service stations	Provide education on soil contamination risk; conduct daily inspections at service stations that have been in operation for 40 years or longer
	Volatile organic compound (VOC) measure: installing gasoline tank inner-floats	Carry out planned improvements of tanks based on open tank plans
	Management in accordance with PRTR Law	Reduce and measure amounts of designated agent emissions and transported volumes
	Development and application of material safety data sheet (MSDS)	Reliably provide latest versions of documents
Environmentally friendly products and services	Sales of sulfur-free fuels	Promote sale of sulfur-free fuels
	Development and promotion of environmentally friendly gasoline	Promote use of the environmentally friendly high-octane gasoline Shell Pura
	Solar batteries	Research, develop, and study the commercialization of copper indium selenide (CIS) solar batteries Expand sale of solar batteries
	Fuel cells/hydrogen fuel/hydrogen stations	Carry out verification tests of stationary fuel cells Establish technologies for handling hydrogen and fuel cell systems
	GTL fuels	Expand fuel volume and the types of buses that employ GTL fuel
	Environmental efforts in the office	Green purchasing (office supplies)
Office Zero Emissions		Continue recycling efforts and collecting and sorting of garbage
Office energy conservation		Maintain office temperatures; conserve electricity Move forward with ECO TRY21 energy and resource conservation program
Environmental management	Development of environmental management system (MS)	Continue improvements in environmental MS
	Continuous MS improvements based on HSSE (health, safety, security, environment) audit	Carry out service station, operational site, and depot audits, in addition to internal audits for each department
	Environmental cost measurement and analytical results evaluation	Measure costs by department and item; assess and construct analytical evaluation methods
	Green procurement	Establish structure for group companies' use of the Green Procurement Guidelines and for cooperation with related companies Periodically check to verify non-use of environmentally impacting substances in lubricants
	Continuous improvements in compliance with ISO 14001 and new certification	Continue to improve compliance with ISO 14001 (for already-certified companies and operational sites) Obtain ISO 14001 certification for operational sites and research laboratories
	Oil spill accident prevention measures	Switch exclusively to time-chartered double-hull oil tankers
	Ship inspections: Japanese flag ship screening system	Build and use database of Japanese flag ships
Environmental contributions and communication	Showa Shell Sekiyu Foundation for Promotion of Environmental Research	Support environment-related research in natural and social sciences
	Showa Shell Environmental Photo Contest	Engage in community service and improvement activities with environmental themes
	Barrier-free service stations	As much as possible, incorporate barrier-free design in new construction and remodeling
	Beautification of neighborhood environment surrounding depot; emphasis on relationships with local neighborhood associations in the vicinity of depot	Hold cleanup days (a program to beautify surroundings) and car-free days
Education	HSSE seminars	Continue to hold HSSE seminars
	Internal HSSE education	Conduct education and training tailored to each department's operations
	Education and awareness training for employees of associated companies	Conduct and expand ongoing, scheduled training for associated companies

Reference page	2005 accomplishments	2006 goals
p.33	Reduced total unit energy consumption for all group refineries by 14.7% from 1990 level	Further reduce unit energy consumption at group refineries
p.32	Developed strategy for holding Refinery Cross-sectional Team Benchmark Workshop	Implement measures, based on Energy Conservation Master Plan
p.28	Ascertained and managed volume of production and shipments	Ascertain and manage volume of manufacturing and shipments
p.43	Conducted idling abatement measures at each transport company independently	Add to company's guidance topics
p.43	Minimized tank truck travel time through NEU PLANET	Implement efficient distribution using tank trucks in accordance with NEU PLANET
p.42	Average load of Japanese flag ships: 4,000 kl	Average load of Japanese flag ships: 4,000 kl
p.40	Reduced industrial waste disposal at all group refineries by approximately 88% from 1990 level	Continue reduction efforts at group refineries
p.40	Recycled and reused disposable catalysts (as cement materials and for metal recovery)	Recycle and reuse disposable catalysts (as cement materials and for metal recovery)
p.28	Continued efforts to measure actual volume, to recycle, and reduce	Continue efforts to measure actual volume, to recycle, and reduce
p.38	Complete survey of 665 service stations	Complete surveys of remaining 400 service stations
p.38	Conducted attitude survey regarding soil studies at service stations that have been in operation for 40 years or longer	Follow up at 511 designated service stations
p.36	Implemented in two tanks	Implement in two tanks
p.41	Measured actual amounts of designated agent emissions and transported volumes	Measure actual amounts of PRTR-designated agent emissions and transported volumes
p.41	Distributed latest versions of MSDS	Study and respond to changes in requirements under amended laws (GHS response, etc.)
p.34	Began production of sulfur-free gasoline/light oil	Continue sale of sulfur-free gasoline/light oil
p.25	Expanded sales area (commenced sales in city of Sendai, Miyagi Prefecture)	Examine expanding sales area and how to raise performance
p.35	Made decision to commercialize CIS solar batteries and commenced construction of factory	Complete CIS solar battery factory
p.35	Marketed crystalline silicon solar batteries	Begin sale of crystalline silicon solar batteries
p.35	Commenced verification tests of stationary fuel cells for household use	Conduct large-scale verification tests of stationary fuel cells for household use
p.35	Operated hydrogen supply stations	Continue to operate hydrogen supply stations
p.34	Expanded Eco-kerosene sale area (commenced sales in Gunma Prefecture, in addition to Kanagawa Prefecture)	Expand sales
p.13	Purchased Eco Mark products	Continue to purchase Eco Mark products
p.45	Continued recycling efforts and collecting and sorting of garbage	Continue recycling efforts and collecting and sorting of garbage
p.45	Maintained office temperatures; conserved electricity	Maintain office temperatures; conserve electricity
p.45	To make it an eco-summer: reduced electricity consumption by managing lighting and interior temperature; moved forward with paperless operations	Reduce electricity consumption by managing lighting and interior temperature; continue to move forward with paperless operations under ECO TRY21
p.14	Formulated waste management regulations	Introduce driving standards and chemical substance management regulations
p.17	Carried out HSSE audits, as well as internal audits, at 97 service stations, 12 operational sites, and six depots	Conduct HSSE audits, as well as internal audits, at 155 service stations, 16 operational sites, and six depots
p.46	Measured cost by department and item; assessed analytical evaluation methods	Measure costs by department and item; assess analytical evaluation methods
p.13	Made procurement policies clear to suppliers; established green procurement procedures and concrete evaluation and inspection standards	Make procurement policies clear to suppliers; establish green procurement procedures and concrete evaluation and inspection standards
p.13	Inspected and confirmed materials covered under RoHS directive	Survey and confirm chemical substances covered under the RoHS directive
p.17	Continued to improve compliance with ISO 14001	Improve compliance with ISO 14001
p.17	Obtained ISO 14001 certification at Yokohama and Kobe blending plants	Obtain ISO 14001 certification at the Central Research Laboratory
p.37	Completed switch to time-chartered double-hull oil tankers	Give preference to spot leasing of double-hull ships
p.42	Entered approximately 1,000 Japanese flag ships into database consisting solely of Japanese ships	Continually update database; maintain 100% Japanese flag ships
p.59	Provided aid to 48 cases (of which one received a prize for research), at a total investment of ¥32.9 million	Continue to participate, improving name recognition outside Japan (the company will provide 50 cases of assistance totaling ¥33 million)
p.48	Held first contest	Continue to participate, improving name recognition outside Japan
—	Made 15 service stations barrier-free	As much as possible, incorporate barrier-free design in new construction and remodeling
p.62	Conducted based on each business location's annual plan	Hold at every business location, in accordance with the location's annual plans
—	Held annual seminar (44 attendees)	Hold annual seminar (approx. 50 attendees)
—	Conducted departmental training tailored to each department's operations; provided information on HSSE	Conduct departmental training tailored to each department's operations; provide information on HSSE
—	Conducted planned training for associated companies	Conduct and expand ongoing, scheduled training for associated companies