

The Phase 3 Shionogi Group Environmental Protection Plan

Previously, Shionogi worked to reduce its environmental impact based on two stages of its Company-wide Environmental Protection Plan; Phase 1 covered fiscal 1995 through 2000, and Phase 2 covered fiscal 2000 through 2004.

Aiming to further augment its environmental activities and expand their scope to include the parent company and other Shionogi Group companies, Shionogi is currently carrying out Phase 3 of the Shionogi Group Environmental Protection Plan, which covers fiscal 2005 through 2010.

Targets and Results of Phase 3 Shionogi Group Environmental Protection Plan

Phase 3 Shionogi Group Environmental Protection Plan Targets	Fiscal 2008 Targets
<p>1 Strengthen conservation of resources and waste disposal measures</p> <ul style="list-style-type: none"> Reduce amount of waste generated by 38% (to 4,990 tons) [42% reduction to 4,460 tons] Reduce waste 40% by fiscal 2015 (to 4,830 tons) [44% reduction to 4,350 tons] <hr/> <ul style="list-style-type: none"> Promote zero emissions <hr/> <ul style="list-style-type: none"> Reduce use of copy paper and printing paper by 5% (to 36.5 million sheets) [7% reduction to 34.3 million sheets] Reduce 8% in fiscal 2015 (to 35.3 million sheets) [10% reduction to 33.1 million sheets] 	<p>13% reduction (to 6,971 tons) [25% reduction to 5,794 tons]</p> <ul style="list-style-type: none"> Raise environmental efficiency by reducing the amount of waste generated (Kanegasaki Plant) Implement registration processes for the treatment of PCB waste products (Shionogi Research Laboratories, Aburahi Laboratories) <hr/> <p>Waste sent directly to landfills: 0.95 ton [0.95 ton]</p> <ul style="list-style-type: none"> Promote appropriate treatment methods and reduce waste volume to zero (Nichia Pharmaceutical Industries) Further increase the sophistication of waste separation into burnable and non-burnable categories (Nagoya branch office) <hr/> <p>8.3% reduction (to 35.255 million sheets) [10.3% reduction to 33.024 million sheets]</p> <ul style="list-style-type: none"> Employ shared folders and diverse printing machine functions to achieve further progress toward paper-free operations
<p>2 Implement measures to counter global warming</p> <ul style="list-style-type: none"> Maintain greenhouse gas emissions at level of benchmark year (to 102,500 tons-CO₂) [8% reduction to 84,000 tons-CO₂] Reduce 1% in fiscal 2015 (to 101,500 tons-CO₂) [8% reduction to 84,000 tons-CO₂] Promote energy conservation 	<p>Limit increase to 10.3% (to 113,086 tons-CO₂) [5.9% increase to 97,207 tons-CO₂]</p> <ul style="list-style-type: none"> Work to renovate energy-saving facilities Increase environmental efficiency (Kanegasaki Plant)
<p>3 Strengthen management of chemical substances</p> <ul style="list-style-type: none"> Monitor and reduce use, emissions and transfer of hazardous chemicals <hr/> <ul style="list-style-type: none"> Completely eliminate specified CFCs (applies to equipment holding more than 20kg) <hr/> <ul style="list-style-type: none"> Set and manage voluntary control levels for atmosphere, wastewater, soil, and underground water 	<ul style="list-style-type: none"> Continue to monitor use, emissions and transfer of hazardous chemicals as well as undertake appropriate management Reduce atmospheric emissions of dichloromethane to not more than 87 tons (Kanegasaki Plant) Practice and sustain environment-friendly experiment methods (Shionogi Research Laboratories) <hr/> <ul style="list-style-type: none"> Renovate three facilities employing specified fluoron gases (Kuisse Site) <hr/> <ul style="list-style-type: none"> Continue periodic measurement and evaluation of air, water, and soil
<p>4 Enhance system for evaluating safety of chemical processes</p>	<ul style="list-style-type: none"> Maintain administration of chemical process safety evaluation system (Kuisse Site)
<p>5 Promote Product Life Cycle Assessment</p>	<ul style="list-style-type: none"> Consider selection of packaging materials, methods, etc., based on results of environmental impact surveys (Kuisse Site)
<p>6 Implement environmental accounting</p>	<ul style="list-style-type: none"> Continue to collect data in accordance with environmental accounting guidelines
<p>7 Expand green purchasing</p> <ul style="list-style-type: none"> Raise rate of green purchasing of office supplies to 75% [75%] Raise rate to 80% in fiscal 2015 [80%] 	<p>Green purchasing rate 78% [76%]</p> <ul style="list-style-type: none"> Promote green procurement
<p>8 Contribute to society</p>	<ul style="list-style-type: none"> Promote communication with surrounding communities
<p>9 Disclose environmental information</p>	<ul style="list-style-type: none"> Publish environmental information as part of the Annual Report

Scope of application: Shionogi Group companies (domestic and overseas)

Benchmark year: Fiscal 1990 (or fiscal 2004) (Figures in [] in the table show non-consolidated targets or results for Shionogi.)

Evaluation (○ : achieved; △ : achievement rate of 80%-99%; × : achievement rate of less than 80%)

Fiscal 2008 Results	Evaluation	Fiscal 2009 Targets
<p>9% reduction (to 7,283 tons) [23% reduction to 5,964 tons]</p> <ul style="list-style-type: none"> Environmental efficiency raised and waste product volume reduced through partial change of waste product treatment methods (Kanegasaki Plant) Registration processes for the treatment of PCB waste products was completed earlier (Shionogi Research Laboratories, Aburahi Laboratories) Installed recycling facilities for the reuse of outdoor drainage water (Bushu Pharmaceuticals) 	×	<p>12% reduction (to 7,109 tons) [24% reduction to 5,907 tons]</p> <ul style="list-style-type: none"> Make efforts to offset natural increase in environmental impact accompanying the start of operations at new building (Settsu Plant) Reduce waste product volume 145 tons below the fiscal 2008 level despite an increase in production volume (Kanegasaki Plant)
<p>Waste sent directly to landfills: 1.13 tons [0.93 ton]</p> <ul style="list-style-type: none"> 0.2 ton of landfill waste was generated, including activated charcoal, ion-exchange membranes, etc. (Nichia Pharmaceutical Industries) Waste separation was thoroughly implemented, decreasing the volume of non-burnable waste (Nagoya branch office) 	×	<p>Waste sent directly to landfills: 0.79 ton [0.79 ton]</p> <ul style="list-style-type: none"> Promote appropriate treatment methods (Nichia Pharmaceutical Industries) Thoroughly implement waste separation and decreasing the volume of non-burnable waste (Nagoya branch office)
<p>12.0% reduction (to 33.816 million sheets) [15.8% reduction to 31.016 million sheets]</p> <ul style="list-style-type: none"> Further progress was made toward paper-free operations based on the use of two-sided printing and compressed printing functions (Settsu Plant, Aburahi Laboratories) 	○	<p>8.6% reduction (to 35.127 million sheets) [12.6% reduction to 32.177 million sheets]</p> <ul style="list-style-type: none"> Employ diverse printing machine functions, information sharing, and other measures to sustain progress toward paper-free operations
<p>8.8% increase (to 111,574 tons-CO₂) [3.2% increase to 94,692 tons-CO₂]</p> <ul style="list-style-type: none"> Operation of an accumulator facility was turned off and a refrigeration unit and compressor unit were renovated (Kuisse Site) Measures including those to replace steam distribution pipes and renovated air compressors supported a rise in environmental efficiency (Kanegasaki Plant) 	○	<p>Limit to 14.3% increase (to 117,235 tons-CO₂) [9.6% increase to 100,581 tons-CO₂]</p> <ul style="list-style-type: none"> Reduce to below the fiscal 2008 level (Kuisse Site) Further raise environmental efficiency targets (Kanegasaki Plant)
<ul style="list-style-type: none"> Measured hazardous chemical use, emission, and transfer volumes and undertook appropriate management Dichloromethane emissions into the atmosphere were reduced from the previous year's level, to 89.8 tons, but the reduction target was not attained (Kanegasaki Plant) Reduced waste solvents and catalysts through measures that include modification of water content measurement methods, analysis methods, and refining methods (Shionogi Research Laboratories) 	×	<ul style="list-style-type: none"> Continue to monitor use, emissions, and transfer of hazardous chemicals and undertake appropriate management Respond to Osaka's chemical substance management system Increase capacity utilization rate of processes employing dichloromethane as a means of reducing emissions to below 95 tons (Kanegasaki Plant) Sustain use of environment-friendly experiment methods (Shionogi Research Laboratories)
<ul style="list-style-type: none"> Three freezer facilities were renovated according to plans (Kuisse Site) 	○	<ul style="list-style-type: none"> Renovate two freezers (Kuisse Site) Renovate one freeze-drying equipment (Settsu Plant) Renovate one freezer (Kanegasaki Plant)
<ul style="list-style-type: none"> Carried out periodic measurement and evaluation of air, discharged water, and soil based on voluntary standards 	○	<ul style="list-style-type: none"> Continue periodic measurement and evaluation of air, water, and soil
<ul style="list-style-type: none"> Chemical process safety evaluations were performed for all 39 processes related to new products under development (Kuisse Site) 	○	<ul style="list-style-type: none"> Continue to manage chemical process safety evaluation system (Kuisse Site)
<ul style="list-style-type: none"> Began experiments in preparation for a shift to new packaging methods (SP packaging and bottle cap material modification) (Kuisse Site) 	○	<ul style="list-style-type: none"> Continue considering selection of packaging materials, methods, etc., based on results of environmental impact surveys (Kuisse Site)
<ul style="list-style-type: none"> Collected data on Shionogi Group facilities in accordance with environmental accounting guidelines 	○	<ul style="list-style-type: none"> Continue to collect data in accordance with environmental accounting guidelines
<p>Green purchasing rate 76% [74%]</p> <ul style="list-style-type: none"> The response to the incidence of falsified claims of recycled paper content led to changes in sticker mark standards for environmental labels, causing a decline in the green purchasing rate. 	×	<p>Green purchasing rate 78% [76%]</p> <ul style="list-style-type: none"> Promote green purchasing
<ul style="list-style-type: none"> Undertook concerted cleanup campaigns near business facilities and for nearby main roads and participate in other environmental programs Co-sponsored "Iwate Prefecture's CO₂ Diet Point Promotion program" and the "Kanegasaki Greenery and Flower Bank" (Kanegasaki Plant) Lent out facility grounds and cooperated in work experience program for junior high school students (Aburahi Laboratories) 	○	<ul style="list-style-type: none"> Promote communication with surrounding communities
<ul style="list-style-type: none"> Made the Annual Report available as a booklet and made it public on the Internet 	○	<ul style="list-style-type: none"> Publish environmental information as part of the Annual Report