

A global approach to minimizing environmental impacts by monitoring data for the Takeda Group as a whole

Totals for Production and Research Sites of Takeda Pharmaceutical Company Limited

Amount of Resources Used			Environmental impacts			
Total energy input	3,703	million MJ	CO ₂ emissions	226,191 tons	Dust	18 tons
[Main energy resources]			Amount of waste generated	16,090 tons	COD	119 tons
Purchased electricity	128,469	MWh	Amount of waste discharged	9,205 tons	Total phosphorus	7 tons
Heavy oil	41,352	kL	Amount of waste for final disposal	74 tons	Total nitrogen	53 tons
City gas	16,824K	m ³	SO _x	178 tons		
Coal	0	tons	NO _x	180 tons		
Water	5,424K	m ³				

Totals for Takeda Group Production and Research Sites Inside Japan (excluding the parent company)

Amount of Resources Used			Environmental impacts			
Total energy input	1,547	million MJ	CO ₂ emissions	86,248 tons	Dust	9 tons
[Main energy resources]			Amount of waste generated	35,288 tons	COD	12 tons
Purchased electricity	79,206	MWh	Amount of waste discharged	11,700 tons	Total phosphorus	2 tons
Heavy oil	4,285	kL	Amount of waste for final disposal	706 tons	Total nitrogen	2 tons
City gas	10,367K	m ³	SO _x	29 tons		
Coal	0	tons	NO _x	96 tons		
Water	2,163K	m ³				

Totals for Takeda Group Production and Research Sites Outside of Japan

Amount of Resources Used			Environmental impacts			
Total energy input	573	million MJ	CO ₂ emissions	34,597 tons	Dust	3 tons
[Main energy resources]			Amount of waste generated	2,553 tons	COD	12 tons
Purchased electricity	35,860	MWh	Amount of waste discharged	2,553 tons		
Heavy oil	0	kL	Amount of waste for final disposal	91 tons		
City gas	3,852K	m ³	SO _x	4 tons		
Coal	2,305	tons	NO _x	14 tons		
Water	184K	m ³				

Site Data for Takeda Pharmaceutical Company Limited

■ Osaka Plant

Amount of Resources Used			Environmental impacts			
Total energy input	1,505	million MJ	CO ₂ emissions	79,251 tons	Dust	0.3 tons
[Main energy resources]			Amount of waste generated	2,016 tons	COD	40 tons
Purchased electricity	87,819	MWh	Amount of waste discharged	1,935 tons	BOD	54 tons
Heavy oil	0	kL	Amount of waste for final disposal	45 tons	Total phosphorus	2 tons
City gas	13,956K	m ³	SO _x	0.3 tons	Total nitrogen	10 tons
Coal	0	tons	NO _x	18.0 tons		
Water	1,517K	m ³				

PRTR Data (Unit: tons)	Releases				Transfers		
	Air emission	Water bodies	Land	Total	POTWs	Waste	Total
Acetonitrile	1.0	0	0	1.0	0.35	67	68
Dichloromethane	0.026	0	0	0.026	0.0029	1.3	1.3
N,N-dimethylformamide	0.010	0	0	0.010	0.028	1.0	1.0
Dioxins (mg-TEQ)	0.018	0	0	0.018	0	0.30	0.30
Toluene	0.018	0	0	0.018	0.0002	1.8	1.8

■ Hikari Plant

Amount of Resources Used			Environmental impacts			
Total energy input	1,991	million MJ	CO ₂ emissions	136,258 tons	Dust	18 tons
[Main energy resources]			Amount of waste generated	13,883 tons	COD	79 tons
Purchased electricity	30,796	MWh	Amount of waste discharged	7,083 tons	Total phosphorus	5 tons
Heavy oil	41,352	kL	Amount of waste for final disposal	11 tons	Total nitrogen	43 tons
City gas	363K	m ³	SO _x	178 tons		
Coal	0	tons	NO _x	157 tons		
Water	3,809K	m ³				

Relationship with Environment

PRTR Data (Unit: tons)	Releases				Transfers		
	Air emission	Water bodies	Land	Total	POTWs	Waste	Total
Substance							
Acetonitrile	0.5	0.020	0	0.52	0	0	0
Dichloromethane	21	0.082	0	21	0	520	520
N,N-dimethylformamide	0	0	0	0.0	0	0	0
Dioxins (mg-TEQ)	0.0022	0.00062	0	0.0028	0	3.1	3.1
Trichlorofluoromethane	1.1	0	0	1.1	0	0	0
Toluene	1.8	0	0	1.8	0	0	0
Formaldehyde	1.2	0.25	0	1.5	0	0	0

■ Tsukuba Research Center

Amount of Resources Used

Total energy input	207 million MJ
[Main energy resources]	
Purchased electricity	9,854 MWh
Heavy oil	0 kL
City gas	2,505K m ³
Coal	0 tons
Water	98K m ³

Environmental impacts

CO ₂ emissions	10,682 tons	Dust	0 tons
Amount of waste generated	191 tons	COD	0.5 tons
Amount of waste discharged	187 tons	Total phosphorus	0 tons
Amount of waste for final disposal	17 tons	Total nitrogen	0 tons
SO _x	0 tons		
NO _x	5 tons		

Stakeholders' Voices Employees in charge of the environment and safety

■ Osaka Plant



Takeda performs a broad array of activities at the Osaka Plant including research, production and administrative operations. The environmental impacts of these activities are just as diverse. The plant was accredited for ISO 14001 certification in 2000 as one way to minimize its environmental impacts and have a positive effect on the environment. Since then, we have been working constantly on protecting the environment. In addition, we are working, together with the Hikari Plant, to achieve the goal of zero emissions in fiscal 2010. Naturally, people are vital to all these initiatives. To succeed, we must prevent employees from falling into the same routines and losing their enthusiasm. An office supplies recycling campaign, volunteer neighborhood trash pick-up activities and awareness-raising movies about the environment are examples of how we keep the interest of employees in environmental programs high. Starting in fiscal 2009, we have been giving out environmental awards and assisting employees in passing the certification test for environmental specialists. I want everyone at the Osaka Plant to take a lead in environmental issues as part of their activities at work, in the community and at home.

Hideko Inaoka

Environmental Control & Safety, Osaka Plant,
Pharmaceutical Production Div.

■ Hikari Plant



My job has two parts. One is overseeing the waste and wastewater processing system that operates on a 24-hour basis to treat effluents from this plant's production processes and other operations. The other is operating and supervising the gasification incinerator used for the disposal of flammable materials. I watch the management of these operations very carefully because after passing through a treatment facility the effluents go into the ocean. In recent years, the Hikari Plant has stopped manufacturing vitamins, agricultural chemicals and other products. Terminating production at these high-volume facilities has greatly reduced the environmental impacts from effluents and waste materials. As a result, the plant now requires waste treatment under conditions that I have never experienced. We have made many improvements in order to continue treating waste properly. Furthermore, we have cut the plant's CO₂ emissions by using less fuel oil.

Hitoshi Tanaka

Maintenance & Utility Supply (Hikari),
Engineering & Site Service Dept.,
Pharmaceutical Production Div.

■ Tsukuba Research Center



Working in the Tsukuba Research Center, which has a beautiful natural environment, gives us the opportunity to realize the value of nature and the ecosystem. As we watch the seasons change, we gain a strong sense of the importance of protecting the environment for future generations. The fundamental philosophy for our activities is "Think globally, act locally." This expresses our belief that preserving the natural environment around us can contribute to maintaining the well-being of the Earth, which is the source of all life. Environmental protection activities are one way we accomplish this. We are reducing the amount of waste materials and chemical effluents. It is also important to prevent air and water pollution along with problems caused by noise, vibrations, odors and other items that affect the environment. Along with these activities, we also have programs for waste recycling and energy conservation.

Satoko Niibori

Administration, Research Administration Dept.,
Pharmaceutical Research Div.