

# Environmental Data

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# Environmental Data

## KHI Environmental Load Data (Fiscal 2014)

			Unit	Whole group	Change from previous fiscal year
INPUT		Total energy consumption (crude oil conversion)	kl	152,496	102%
		Purchased electricity	MWh	352,866	113%
		Fuel	TJ	2,492	91%
		Renewable energy	MWh	1,887	106%
		Materials	10,000 t	11	79%
		Water	1,000 m <sup>3</sup>	5,991	95%
OUTPUT	Air	CO <sub>2</sub> emissions volume from energy sources	t-CO <sub>2</sub>	262,599	92%
		SOx	t	7	85%
		NOx	t	144	85%
		Soot and dust	t	2	110%
		PRTR regulated substance	t	864	82%
	Water	Wastewater	1,000 m <sup>3</sup>	3,545*	91%*
		COD	t	9	88%
		Nitrogen	t	20	69%
		Phosphorus	t	0.1	136%
		PRTR regulated substance	t	1	120%
	Waste	Total emitted	t	49,578	93%
		Recycled	t	48,410	93%
		Intermediate waste	t	1,032	89%
		Final disposal volume	t	136	70%
		Specially controlled industrial waste in above total	t	1,461	78%
		PRTR regulated substance in above total	t	231	101%
	Others	CO <sub>2</sub> emissions during transport	t-CO <sub>2</sub>	3,837	89%

## Waste and Other Emissions Volume and Recycling Volume (Fiscal 2014)

(t)

Type of waste	Total emissions volume	Recycling (material recycling)	Recycling (thermal recycling)	Recycling rate	Intermediate treatment	Final disposal
<b>General waste</b>						
Paper scrap	2,421	1,843	578	100%	0	0
Wood scrap	656	402	254	100%	0	0
Others	308	289	19	100%	0	0
<b>Subtotal</b>	<b>3,384</b>	<b>2,533</b>	<b>851</b>	<b>100%</b>	<b>0</b>	<b>0</b>
<b>Industrial waste</b>						
Sludge	2,114	1,753	189	93%	93	78
Waste oil	6,432	2,402	4,024	100%	7	0
Waste acid	203	190	13	100%	0	0
Waste alkali	469	440	29	100%	0	0
Waste plastics	3,122	643	1,589	71%	889	0
Wood scrap	3,221	1,620	1,601	100%	0	0
Fiber scrap	179	0	179	100%	0	0
Metal scrap	1,001	1,001	0	100%	0	0
Glass, concrete debris and ceramics	256	256	0	100%	0	0
Slag	2,591	2,438	96	98%	0	57
Rubble (waste construction materials)	40	40	0	100%	0	0
Soot and dust	0	0	0	100%	0	0
Others	10	10	0	97%	0	0
<b>Subtotal</b>	<b>19,637</b>	<b>10,792</b>	<b>7,719</b>	<b>94%</b>	<b>989</b>	<b>135</b>
<b>Specially controlled industrial waste</b>						
Waste oil	572	431	141	100%	0	0
Waste acid	520	498	16	99%	9	0
Waste alkali	211	180	31	100%	0	0
Infectious waste	0.5	0.1	0	20%	0	0.4
Hazardous industrial waste	158	117	7	100%	35	0
<b>Subtotal</b>	<b>1,461</b>	<b>1,226</b>	<b>195</b>	<b>97%</b>	<b>43</b>	<b>0.4</b>
<b>Valuables (metal scrap, etc.)</b>	<b>25,094</b>					
<b>Total</b>	<b>49,578</b>	<b>39,645</b>	<b>8,765</b>	<b>98%</b>	<b>1,032</b>	<b>136</b>

## Release and Transfer Volume of Chemical Substances (Fiscal 2014)

(t)

Government ordinance no.	Name of substance	Volume released				Volume transferred	
		Air	Water	Soil	Subtotal	Sewer	Waste
<b>Class I designated chemical substances: annual volume handled 1t or above</b>							
053	Ethylbenzene	188	0	0	188	0	10
080	Xylene	430	0	0	430	0	68
086	Cresol	0	0.14	0	0.14	0	1
087	Chromium and chromium (III) compounds	0	0.02	0	0.02	0	10
144	Inorganic cyanide compounds	0	Under 0.01	0	Under 0.01	0	1
186	Dichloromethane	42	0	0	42	0	2
238	Hydrogenated terphenyl	0	0	0	0	0	0.8
240	Styrene	0.2	0	0	0.2	0	0.3
296	1,2,4-trimethylbenzene	11	0	0	11	0	0.4
297	1,3,5-trimethylbenzene	4	0	0	4	0	0.3
300	Toluene	324	0	0	324	0	71
349	Phenol	0	0	0	0	0	1
374	Hydrogen fluoride and its water-soluble salts	0.3	0	0	0.3	0	13
412	Manganese and its compounds	1	0	0	1	0	13
<b>Special Class I designated chemical substances: annual volume handled 0.5t or above</b>							
088	Chromium (VI) compounds	Under 0.01	Under 0.01	0	Under 0.01	0	4
309	Nickel compounds	0	Under 0.01	0	0.5	0	7

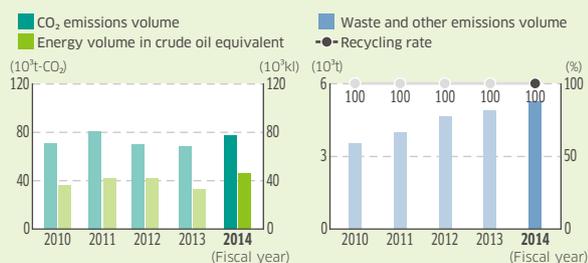
## Environmental Load Data by Business Site (Fiscal 2014) 1/2

		Unit	Gifu Works	Nagoya Works 1	Kobe Works	Hyogo Works	Nishi-Kobe Works	
INPUT	Total energy consumption (crude oil conversion)	kl	35,435	10,855	11,911	5,834	16,635	
	Purchased electricity	MWh	71,242	41,733	32,332	18,341	59,903	
	Fuel	TJ	678	16	148	46	62	
	Renewable energy	MWh	0	998	28	30	588	
	Water	1,000 m <sup>3</sup>	3,984	46	326	98	148	
OUTPUT	Air	CO <sub>2</sub> emissions volume from energy sources	t-CO <sub>2</sub>	61,596	16,628	23,438	11,213	31,604
		SOx	t	1	Under 0.1	6	0	0
		NOx	t	52	0.5	80	0.5	1
		Soot and dust	t	0.6	Under 0.1	2	Under 0.1	Under 0.1
		PRTR regulated substance	t	133	4	88	127	47
	Water	Wastewater	1,000 m <sup>3</sup>	2,335*	9	120	98	45
		COD	t	7	0.2	Under 0.1	Under 0.1	0.3
		Nitrogen	t	17	Under 0.1	Under 0.1	Under 0.1	0.7
		Phosphorus	t	Under 0.1	Under 0.1	Under 0.1	Under 0.1	Under 0.1
		PRTR regulated substance	t	1	0	0	0	0
	Waste	Total emitted	t	4,794	536	8,530	4,310	4,967
		Recycled	t	4,794	536	8,465	4,310	4,967
		Intermediate waste	t	0	0	0	0	0
		Final disposal volume	t	0	0	58	0	0
		Specially controlled industrial waste in above total	t	132	15	215	128	44
		PRTR regulated substance in above total	t	57	2	22	44	29

### Gifu Works (Including Nagoya Works 1)

**Location** 1, Kawasaki-cho, Kakamigahara, Gifu 504-8710, Japan

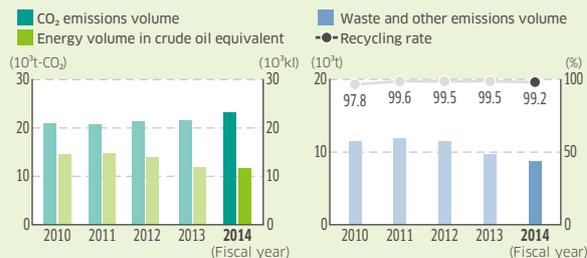
**Main products** Transport airplanes, helicopters, spacecraft, component parts for airplanes



### Kobe Works

**Location** 1-1, Higashikawasaki-cho 3-chome, Chuo-ku, Kobe, Hyogo 650-8670, Japan

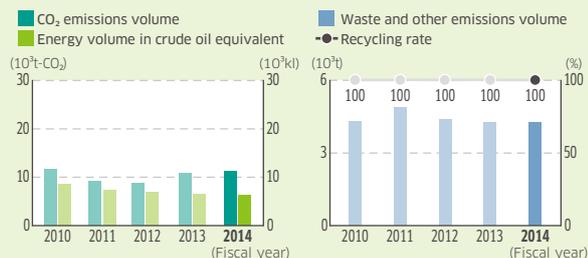
**Main products** Ships & maritime application equipment, steam turbines for ground and maritime applications, diesel engines



### Hyogo Works

**Location** 1-18, Wadayama-dori 2-chome, Hyogo-ku, Kobe, Hyogo 652-0884, Japan

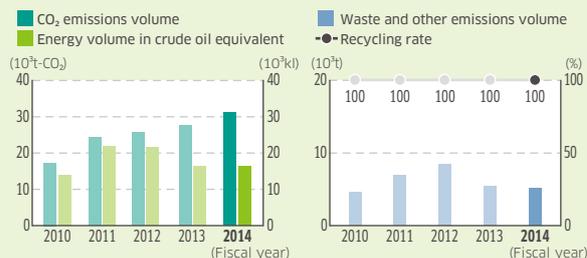
**Main products** Rolling stock, automated guideway transit systems, platform screen doors



### Nishi-Kobe Works

**Location** 234, Matsumoto, Hazetani-cho, Nishi-ku, Kobe, Hyogo 651-2239, Japan

**Main products** Various hydraulic systems for industrial use, marine machinery, precision machinery and equipment



Note: CO<sub>2</sub> emissions are impacted by the electricity emission factor.

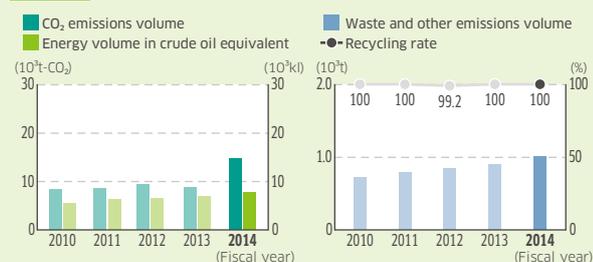
## Environmental Load Data by Business Site (Fiscal 2014) 2/2

		Unit	Seishin Works	Akashi Works	Kakogawa Works	Harima Works	Sakaide Works	
INPUT	Total energy consumption (crude oil conversion)	kl	7,809	47,559	3,894	4,292	7,541	
	Purchased electricity	MWh	24,602	52,549	7,402	13,575	27,113	
	Fuel	TJ	64	1,334	79	33	27	
	Renewable energy	MWh	0	170	0	5	68	
	Water	1,000 m <sup>3</sup>	83	901	11	76	318	
OUTPUT	Air	CO <sub>2</sub> emissions volume from energy sources	t-CO <sub>2</sub>	14,949	97,588	7,544	8,229	19,350
		SOx	t	0	0	0	0	0
		NOx	t	1	9	0	0.2	Under 0.1
		Soot and dust	t	Under 0.1	Under 0.1	0	Under 0.1	Under 0.1
		PRTR regulated substance	t	8	98	0	42	317
	Water	Wastewater	1,000 m <sup>3</sup>	63	561	5	41	268
		COD	t	0.5	1	Under 0.1	Under 0.1	0.3
		Nitrogen	t	0.6	1	Under 0.1	Under 0.1	0.3
		Phosphorus	t	Under 0.1	Under 0.1	Under 0.1	Under 0.1	Under 0.1
		PRTR regulated substance	t	0	0.2	0	0	0
	Waste	Total emitted	t	1,000	9,053	1,934	3,984	10,433
		Recycled	t	1,000	9,047	1,929	3,984	9,328
		Intermediate waste	t	0	0	0	0	1,032
		Final disposal volume	t	0	6	0	0	73
		Specially controlled industrial waste in above total	t	124	717	0	0	43
		PRTR regulated substance in above total	t	2	61	0	3	11

### Seishin Works

**Location** 8-1, Takatsukadai 2-chome, Nishi-ku, Kobe, Hyogo 651-2271, Japan

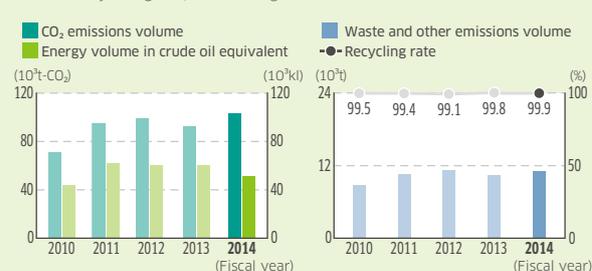
**Main products** Component parts for jet engines and gas turbines



### Akashi Works (Including Kakogawa Works)

**Location** 1-1, Kawasaki-cho, Akashi, Hyogo 673-8666, Japan

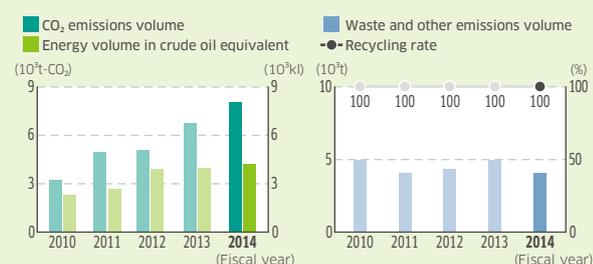
**Main products** Motorcycles, General-purpose gasoline engines, industrial robots, jet engines, industrial gas turbines



### Harima Works

**Location** 8, Nijijima, Harima-cho, Kako-gun, Hyogo 675-0155, Japan

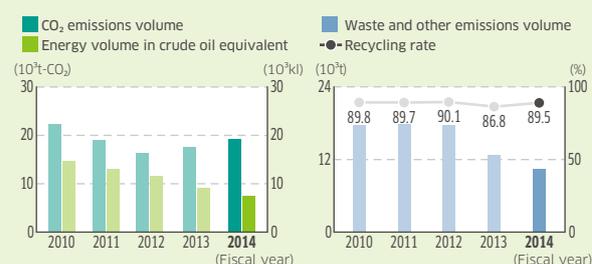
**Main products** Industrial & environmental plants, boilers, construction machinery, rolling stock



### Sakaide Works

**Location** 1, Kawasaki-cho, Sakaide, Kagawa 762-8507, Japan

**Main products** Ships & maritime application equipment (LNG carriers, LPG carriers, container ships, etc.)

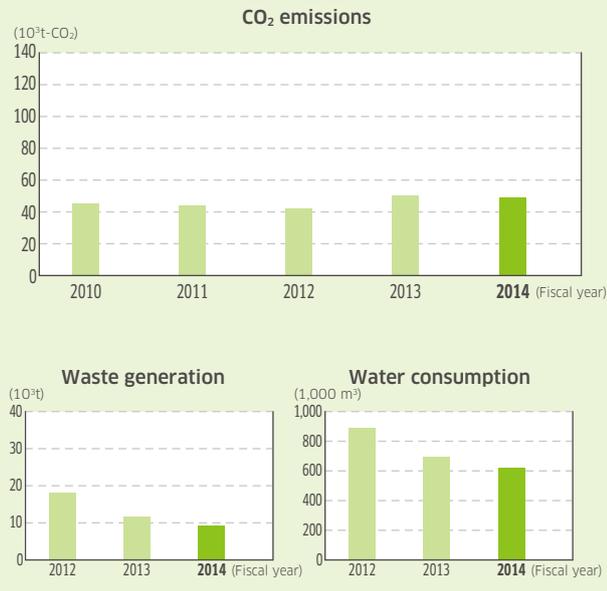


Note: CO<sub>2</sub> emissions are impacted by the electricity emission factor.

# Environmental data of Consolidated Subsidiaries

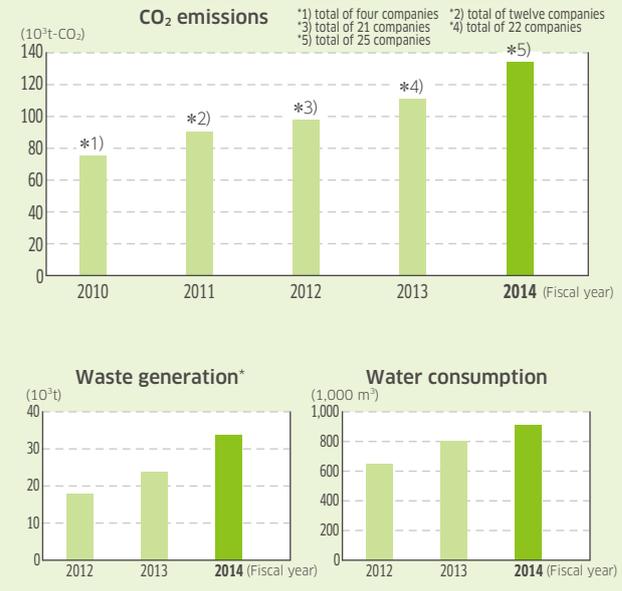
## Domestic

### Total of domestic subsidiaries



## Overseas

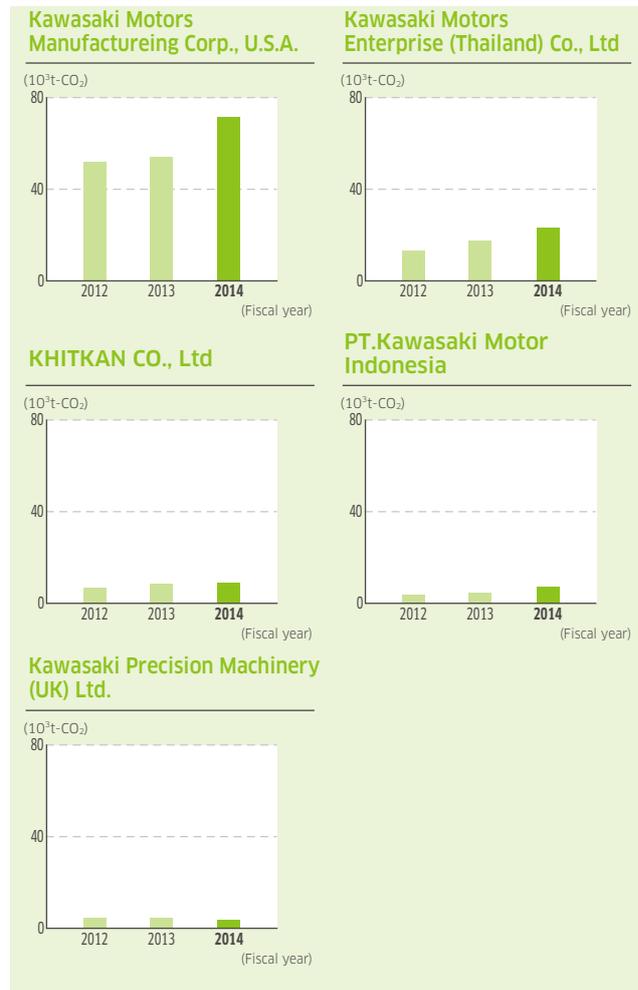
### Total of overseas subsidiaries



### CO<sub>2</sub> emission of domestic major subsidiaries



### CO<sub>2</sub> emission of overseas major subsidiaries



Note: the CO<sub>2</sub> emissions coefficients used in graphs are in principle those indicated below.

● Japanese Ministry of the Environment website; press releases; publication of emissions coefficients for each fiscal year.

● For CO<sub>2</sub> emissions volume through overseas electricity consumption, the figures published by the Greenhouse Gas Protocol are used.

\*Data updated in Oct. 2014