Environmental Performance Trends by Site

Production site

Years ended March 31	Category		USHIO INC. (Harima)	USHIO INC. (Gotemba)	USHIO INC. (Yokohama)	USHIO LIGHTING	NIHON DENSHI GIJUTSU	USHIO OPTO SEMICONDUCTORS, INC.(including USHIO EPITEX INC.)	ADTEC Engineering	WACOM ELECTRIC CO.,LTD.	MAXRAY	USHIO AMERICA	CHRISTIE DIGITAL SYSTEMS USA	CHRISTIE DIGITAL SYSTEMS CANADA	BLV	USHIO PHILIPPINES	USHIO (SUZHOU)	USHIO (SHAOGUAN)	CHRISTIE DIGITAL SYSTEMS SHENZHEN	TAIWAN USHIO LIGHTING
2013	INPUT	Total energy input (MJ)	188,099	48,275	14,456	47,996	47,996	4,692				23,468	21,899	71,130	37,612	116,014	26,920			15,120
		Water used (m3)	46,405	44,400	3,109	5,625	5,625	2,024				16,231	7,701	4,234	2,665	76,941	14,819			5,310
	OUTPUT	Greenhouse gas emissions (t-CO2)	7,904	1,940	599	1,897	1,897	193				982	906	2,986	1,591	3,836	1,030			580
		Total waste water emissions (m3)	46,405	44,400	3,109	5,625	5,625	2,024				16,231	7,701	4,234	2,665	76,941	14,819			5,310
		Total industrial waste volume (kg)	183,893	79,564	7,450	82,925	82,925	23,275				43,584	131,260	390,514	68,770	68,288	74			10,401
		Total industrial waste volume (kg)	4,053	27	0	16,053	16,053	1,556				23,672	45,176	67,770	5,540	268	74			4,177
		Effective resource utilization rate	97.8%	100.0%	100.0%	80.6%	80.6%	93.3%				45.7%	65.6%	76.5%	91.9%	99.6%	0.0%			59.8%
2014	INPUT	Total energy input (MJ)	183,608	55,013	14,565	43,895	666	4,909	52,412			22,778	22,356	72,417	31,179	81,416	24,939			13,102
		Water used (m3)	45,796	45,202	3,863	6,898	215	1,952	11,316			14,725	8,717	4,273	1,457	78,916	24,056			6,282
	OUTPUT	Greenhouse gas emissions (t-CO2)	9,802	3,506	777	2,310	36	257	3,356			1,152	1,131	1,457	1,550	4,049	1,944			785
		Total waste water emissions (m3)	35,237	45,202	3,863	5,009	219	1,266	11,316			14,725	8,717	4,273	1,457	78,916	26,216			6,282
		Total industrial waste volume (kg)	306,551	61,861	8,891	60,276	10,415	24,257	20,984			47,907	101,485	368,217	44,944	91,731	897			11,617
		Total industrial waste volume (kg)	1,579	0	0	16,183	0	445	13,238			21,979	42,323	66,850	4,110	8,763	897			4,016
		Effective resource utilization rate	99.5%	100.0%	100.0%	73.2%	100.0%	98.2%	36.9%			54.1%	58.3%	81.8%	90.9%	90.4%	0.0%			65.4%
2015	INPUT	Total energy input (MJ)	186,920	55,936	14,296	42,878	712	51,232	53,943	3,419		19,947	18,501	71,694	28,389	81,514	20,785	17,081		
		Water used (m3)	40,930	47,690	4,238	6,107	204	65,759	12,567	1,859		16,604	8,462	4,319	1,358	86,512	11,529	–		
	OUTPUT	Greenhouse gas emissions (t-CO2)	10,120	3,230	727	2,283	38	2,657	3,180	173		1,008	941	1,433	1,410	4,061	1,616	1,309		
		Total waste water emissions (m3)	35,385	47,690	4,238	4,476	204	65,759	12,572	1,859		16,659	8,462	4,319	1,358	86,512	10,431	–		
		Total industrial waste volume (kg)	287,324	53,742	10,064	57,055	3,000	42,329	21,963	–		53,673	91,657	311,867	43,527	95,355	971	–		
		Total industrial waste volume (kg)	1,949	0	0	13,367	0	6,199	15,223	–		21,431	26,374	56,540	4,720	30,336	971	–		
		Effective resource utilization rate	99.3%	100.0%	100.0%	76.6%	100.0%	85.4%	30.7%	–		60.1%	71.2%	81.9%	89.2%	68.2%	0.0%	–		
2016	INPUT	Total energy input (MJ)	183,608	55,013	14,565	42,959	662	63,819	61,733	2,088	2,739	19,459	15,623	74,662	27,575	84,608	8,736	30,821	10,452	
		Water used (m3)	39,492	43,274	4,099	6,530	202	57,255	15,219	1,775	446	14,997	7,245	4,347	1,730	80,048	9,640	9,751	3,403	
	OUTPUT	Greenhouse gas emissions (t-CO2)	10,428	3,176	727	2,198	34	3,319	3,553	105	145	984	94	1,416	1,371	4,221	677	1,448	801	
		Total waste water emissions (m3)	36,951	43,274	4,099	4,085	202	1,889	69,629	1,775	446	14,997	7,245	4,347	1,730	80,048	8,972	4,453	3,403	
		Total industrial waste volume (kg)	278,046	145,013	19,682	110,995	5,116	32,656	109,484	–	82,979	43,582	94,457	300,002	48,637	105,103	70	–	17,898	
		Total industrial waste volume (kg)	1,940	0	0	11,390	0	657	21,131	–	39,617	21,402	26,555	51,030	5,463	33,302	70	–	17,898	
		Effective resource utilization rate	99.3%	100.0%	100.0%	89.7%	100.0%	98.0%	80.7%	–	52.3%	50.9%	71.9%	83.0%	88.8%	68.3%	0.0%	–	0.0%	
2017	INPUT	Total energy input (MJ)	216,954	67,626	14,139	39,015		63,646	69,691	2,819	3,251	20,168	14,831	69,573	29,402	92,864	10,162	19,802	11,152	
		Water used (m3)	38,930	59,885	4,734	4,237		66,212	12,264	1,664	537	15,164	7,231	4,012	1,522	116,357	4,950	9,023	3,440	
	OUTPUT	Greenhouse gas emissions (t-CO2)	11,304	3,483	711	1,995		3,267	4,007	141	171	1,021	756	1,315	1,463	4,615	787	1,550	855	
		Total waste water emissions (m3)	36,115	59,885	4,734	2,985		65,778	12,264	1,664	537	15,164	7,231	4,012	1,522	114,771	4,584	9,023	3,440	
		Total industrial waste volume (kg)	257,172	67,529	37,711	98,092		22,626	87,670	–	10,315	48,009	99,361	296,452	44,127	114,355	143	–	29,009	
		Total industrial waste volume (kg)	1,863	0	0	13,861		552	29,187	–	4,640	22,379	27,272	42,870	5,120	52,032	143	–	150.2	
		Effective resource utilization rate	99.3%	100.0%	100.0%	85.9%		97.6%	66.7%	–	55.0%	53.4%	72.6%	85.5%	88.4%	54.5%	0.0%	–	99.5%	

Non-production site

Years ended March 31	Category		USHIO INC. (Headquarter)	USHIO INC. (Tokyo Sales Headquarters)	USHIO INC. (Osaka Branch)	USHIO INC. (Kawasaki Bio Lab)	XEBEX	Protosera Inc.	USHIO EUROPE	USHIO FRANCE	USHIO UK	USHIO HONG KONG	USHIO SHANGHAI	USHIO ASIA PACIFIC	USHIO ASIA PACIFIC (THAILAND) LTD.	USHIO KOREA	EAVG	CDS UK	USHIO TAIWAN
2013	INPUT	Total energy input (MJ)	1,546	580	130		2,479		1,264	620	248	7,293	213	694	78	2,787			3,001
	OUTPUT	Greenhouse gas emissions (t-CO2)	72	24	5		108		59	29	12	299	9	5	5	175			155
		Total industrial waste volume (kg)	11,182	6,652	385		7,872		1,200	636	240	49,667	1,772	328	88	433			727
		Total industrial waste volume (kg)	0	304	0		382		180	636	240	34,747	432	328	88	36			382
		Effective resource utilization rate	100.0%	95.4%	100.0%		95.2%		85.0%	0.0%	0.0%	30.0%	75.6%	0.0%	0.0%	91.7%			47.4%
2014	INPUT	Total energy input (MJ)	1,510	583	136		2,489		1,264	620	248	6,081	196	593	66	2,871			1,408
	OUTPUT	Greenhouse gas emissions (t-CO2)	86	31	7		136		59	20	12	468	15	30	5	188			91
		Total industrial waste volume (kg)	10,193	6,198	384		7,067		1,200	636	240	33,316	1,987	240	108	32			
		Total industrial waste volume (kg)	249	292	0		408		180	636	240	23,959	495	240	108	32			
		Effective resource utilization rate	97.6%	95.3%	100.0%		94.2%		85.0%	0.0%	0.0%	28.1%	75.1%	0.0%	100.0%	0.0%			
2015	INPUT	Total energy input (MJ)	1,476	579	140	1,831	2,121	446	1,264	620	248	6,357	200	576	101	3,123			1,302
	OUTPUT	Greenhouse gas emissions (t-CO2)	80	29	7	93	110	24	59	20	12	489	15	30	7	206			84
		Total industrial waste volume (kg)	11,848	6,649	456	16,176	9,530	—	1,200	636	240	27,432	2,239	240	240	240			240
		Total industrial waste volume (kg)	0	1	2	16,176	416	—	180	636	240	20,927	557	240	240	240			240
		Effective resource utilization rate	100.0%	100.0%	99.6%	0.0%	95.6%	—	85.0%	0.0%	0.0%	23.7%	75.1%	0.0%	100.0%	0.0%			200.0%
2016	INPUT	Total energy input (MJ)	1,322	610	180,656	1,502	2,096	579	1,264	620	248	6,103	216	584	130	2,715	3,594	2,739	1,354
	OUTPUT	Greenhouse gas emissions (t-CO2)	70	31	9	75	108	30	59	20	12	470	17	30	9	177	181	150	87
		Total industrial waste volume (kg)	21,506	9,920	4	2,022	8,728	—	1,200	636	240	29,109	2,349	240	190	342	371	10,900	
		Total industrial waste volume (kg)	0	0	2,870	1,090	446	—	180	636	240	19,234	584	240	190	30	371	10,900	
		Effective resource utilization rate	100.0%	100.0%	-76827.2%	46.1%	94.9%	—	85.0%	0.0%	0.0%	33.9%	75.1%	0.0%	100.0%	91.3%	0.0%	0.0%	
2017	INPUT	Total energy input (MJ)	1,512,043		415,001	1,452,051	2,233,705	636,821	1,263,995	619,925	248,077	5,991,783	255,172	572,248	163,495	2,834,865	3,869,108	3,675,849	
	OUTPUT	Greenhouse gas emissions (t-CO2)	81		21	73	115	33	59,052	20,488	11,957	461,246	19,554	29,316	11,207	183,484	195,202	162,593	
		Total industrial waste volume (kg)	9,207		332	2,424	23,669	—	1,200	636	240	17,276	2,293	240	180	319	371	10,900	
		Total industrial waste volume (kg)	0		0	1,235	505	—	180	636	240	10,278	570	240	180	26	371	10,900	
		Effective resource utilization rate	100.0%		100.0%	49.0%	97.9%	—	85.0%	0.0%	0.0%	40.5%	75.1%	0.0%	0.0%	91.8%	0.0%	0.0%	

*CO2 emissions coefficients: Fiscal 2013: 0.555 kg-CO2/kwh, Fiscal 2014 to fiscal 2017: Japan—Ministry of the Environment's emissions coefficients for each fiscal year. Overseas—IEA, CO2 Emissions from Fuel Combustion 2013

PRTR Substance Emission Trends

Years ended March 31	Category	USHIO INC. (Harima)
2013	PRTR chloroform (kg): atmosphere	8,150
	PRTR molybdenum (kg): industrial waste	57
2014	PRTR chloroform (kg): atmosphere	8,710
	PRTR molybdenum (kg): industrial waste	57
2015	PRTR chloroform (kg): atmosphere	6,937
	PRTR molybdenum (kg): industrial waste	82
2016	PRTR chloroform (kg): atmosphere	6,850
	PRTR molybdenum (kg): industrial waste	109
2017	PRTR chloroform (kg): atmosphere	7,002
	PRTR molybdenum (kg): industrial waste	130