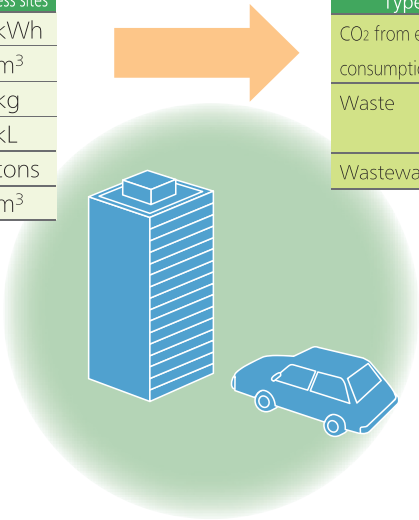


17 Environmental load from business activities

Material balance of domestic business sites

Input		
Type	Classification	Domestic business sites
Energy	Purchased electricity	412,770 kWh
	Gas	5,314 m³
	LPG	35 kg
	Gasoline	126 kL
Paper	Copy paper	5.2 tons
Water	Tap water	2,730 m³

* There are others including catalogues.



Output		
Type	Classification	Domestic business sites
CO ₂ from energy consumption	Office	CO ₂ 150 tons
	Transportation	CO ₂ 291 tons
Waste	Recycled waste	Purchased 5.6 tons
	Landfill/incineration	4.7 tons
Wastewater	Wastewater	2,730 m³

18 web Conditions for the Establishment of a System

ISO14001 certified locations

	Name of factories and companies	Timing of certification	Certification organization
NGK Spark Plug Co., Ltd.	1 Head office/factory	'99.8	TÜV Rheinland Japan Ltd.
	2 Komaki Factory	'00.12	
	3 Miyanojo Factory	'00.12	
	4 Ise Factory	'00.12	
Domestic	5 Nittoku Alfa Service Co.,Ltd.	'99.8	
	6 Nittoku Unyu Co.,Ltd.	'00.12	
	7 Ceramic Sensor Co.,Ltd.	'00.12	
	8 Iijima Ceramic Co.,Ltd.	'02.12	
	9 Nakatsugawa Ceramic Co.,Ltd.	'02.12	
	10 Kani Ceramic Co.,Ltd.	'02.12	
	11 Nansei Ceramic Co.,Ltd.	'02.12	
	12 Kamioka Ceramic Co.,Ltd.	'04.1	
	13 Nittoku Seisakusho Co.,Ltd.	'04.1	
	14 Nichiwa Kiki Co.,Ltd.	'04.1	
	15 Tono Ceramic Co.,Ltd.	'04.1	
	16 Tokai Taima Kogu Co., Ltd.	'09.1	
Overseas	17 NGK Spark Plug Industries Europe S.A.S.	'00.5	AFAQ
	18 NGK Spark Plugs (U.S.A.),Inc. WV Factory	'00.7	TUV Rheinland of North America, Inc.
	19 NGK Spark Plugs (U.S.A.),Inc. IRV Factory	'01.8	
	20 NGK Spark Plugs (U.K.) Ltd.	'01.12	BSI (British Standard Institute)
	21 Ceramica e Velas de Ignicao NGK do Brazil Ltda.	'01.12	ABS Quality Evaluations
	22 Siam NGK Spark Plug Co.,Ltd.	'02.11	RWTÜV Thailand Ltd.
	23 NGK Spark Plug Europe GmbH	'04.11	TÜV Industrie Service GmbH
	24 Woo Jin Industry Co.,Ltd.	'05.4	kfq (Korean Foundation for Quality)
	25 NGK Spark Plugs Malaysia Berhad.	'06.3	SIRIM QAS
	26 Taiwan NGK Spark Plug Co.,Ltd.	'06.4	SGS
	27 NTK Technical Ceramics Korea Co.,Ltd.	'06.4	ISC (International Standard Certification)
	28 NGK Spark Plug (Shanghai) Co.,Ltd.	'07.4	SGS
	29 P.T. NGK Busi Indonesia	'07.10	Bureau Veritas Certification
	30 NTK Technical Ceramics Polska Sp.z o.o.	'08.1	DEKRA Certification GmbH
	31 NGK Spark Plugs SA (Pty) Ltd.	'08.4	Bureau Veritas Certification

18 web Environmental Education

Numbers of official qualification holders and internal auditors

		4 Factories	Affiliates
Pollution control manager	Air	36	2
	Water	70	13
	Noise	35	2
	Vibration	22	2
Energy manager		34	10
Specially controlled industrial waste manager		42	19
Environment measurement engineer		4	0
Work environment measurement engineer		8	1
Assistant examiners		5	1
Internal auditors		466	231

	Item	Type	Unit	Regulation value	Voluntary standard value	Average	MAX
Head Office/ Factory	Atmosphere	Soot and dust	Boiler (No.12)	mg/Nm ³	50	40	0.0
		Firing furnace (PR-2)	mg/Nm ³	150	120	6.0	12.0
		NOx	Boiler (No.12)	ppm	150	120	34
		Firing furnace (PR-2)	ppm	180	144	75	83
	Drain (sewer)	pH	-	5.0~9.0	5.4~8.6	6.96	7.5
		SS	mg/l	600	480	21.0	79
		BOD	mg/l	600	480	14	39
		n-hexane extract	mg/l	30	24	0.7	1.8
		Cyanogen	mg/l	1	0.8	0.15	0.3
		Total chromium	mg/l	2	1.6	0.00	0.06
		Hexavalent chromium	mg/l	0.5	0.4	<0.04	<0.04
		Zinc	mg/l	2	1.6	0.54	1.20
		Lead	mg/l	0.1	0.08	<0.02	<0.02
		Nitrogen	mg/l	120	96	21.9	34
		Phosphor	mg/l	16	12.8	0.44	1
		Fluorine	mg/l	8	6.4	0.36	1.2
		Boron	mg/l	10	8	<1	<1
	Noise	Morning	R spot	dB	70	68	60.4
			T spot	dB	65	63	63.8
		Daytime	R spot	dB	70	68	56.6
			T spot	dB	65	63	70.3
		Evening	R spot	dB	70	68	61.9
			T spot	dB	65	63	64.4
		Night	R spot	dB	65	64	56.3
			T spot	dB	55	54	59.6
	Vibration	Daytime	R spot	dB	70	65	38
			T spot	dB			40
		Night	R spot	dB	65	60	39
			T spot	dB			45
Komaki Factory	Atmosphere	Soot and dust	Boiler (No.1-5)	mg/Nm ³	200	160	<2
		Firing furnace (No.9-10)	mg/Nm ³	200	160	13	16
		NOx	Boiler (No.1-5)	ppm	250	200	23
		Firing furnace (No.9-10)	ppm	200	160	47	59
	SOx	Boiler (No.1-5)	Nm ³ /h	8,379	6,703	<0.3	<0.3
		Firing furnace (No.9-10)	Nm ³ /h	8,379	6,703	2.1	2.2
	pH	East	-	6.0~8.0	6.2~7.8	7.4	7.8
		West				7.3	7.6
		North				7.2	7.4
		East				2.0	4.0
	SS	West	mg/l	30	24	3.3	10.0
		North				2.0	6.0
		East				3.7	7.8
		West	mg/l	25	20	3.1	19.0
	BOD	North				1.7	3.5
		East				4.8	9.5
		West	mg/l	-	-	5.2	7.0
		North				4.5	9.1
	COD (total)	Komaki Plant total	kg/day	169.02	169.02	12.18	26.69
		East				0.55	1.3
		West	mg/l	5.0	4.0	0.51	0.6
		North				0.53	1.0
	Cyanogen	East				<0.1	<0.1
		West	mg/l	0.5	0.4	<0.1	<0.1
		North				<0.1	<0.1
	Total chromium	East				<0.04	<0.04
		West	mg/l	1.0	0.8	<0.04	<0.04
		North				<0.04	<0.04
	Copper	East				0.04	0.06
		West	mg/l	1.0	0.8	0.06	0.11
		North				0.09	0.65
	Zinc	East				0.19	0.70
		West	mg/l	1.8	1.6	0.05	0.24
		North				0.04	0.16
	Lead	East				<0.02	<0.02
		West	mg/l	0.1	0.08	<0.02	<0.02
		North				<0.02	<0.02
	Nitrogen	East				7.35	12.0
		West	mg/l	120	60	4.72	13.0
		North				7.33	12.0
	Nitrogen (total)	Komaki Plant total	kg/day	124.26	124.26	18.69	52.31
		East				0.39	0.8
		West	mg/l	16	8.0	0.68	1.8
		North				0.64	1.3
	Phosphorus (total)	Komaki Plant total	kg/day	12,471	12,471	1.40	7.8
		East				0.11	0.20
		West	mg/l	-	-	<0.1	<0.1
		North				<0.1	<0.1
	Manganese	East				<0.1	<0.1
		West	mg/l	10	8	0.13	0.30
		North				0.13	0.30
	Fluorine	East				0.61	1.2
		West	mg/l	8	6.4	1.32	2.2
		North				0.96	1.4
	Boron	East				1.25	2.0
		West	mg/l	10	8	<1	<1
		North				<1	<1
	Noise	Morning	Fifth spot	dB	65	63	52
		Daytime	Fifth spot	dB	70	68	60.9
		Evening	Fifth spot	dB	65	63	51.2
		Night	Fifth spot	dB	60	58	49.7
	Vibration	Daytime	Fifth spot	dB	70	70	<40
		Night	Fifth spot	dB	65	65	<40

	Item	Type		Unit	Regulation value	Voluntary standard value	Average	MAX	
Miyanojo Factory	Atmosphere	Soot and dust	Absorption heater/chiller	mg/Nm ³	300	240	7	7	
			3T water boiler	mg/Nm ³	100	80	6	6	
		NOx	Absorption heater/chiller	ppm	180	144	60	60	
			3T water boiler	ppm	150	120	74	74	
	Drain (public water area)	pH		-	6.0~8.0	6.5~7.8	7.4	7.6	
		SS		mg/l	35	28	8.3	20.0	
		BOD		mg/l	20	16	5.7	14.0	
		COD		mg/l	160	128	17.5	18.0	
		n-hexane extract		mg/l	5	4	2.3	2.5	
		Cyanogen		mg/l	1	0.8	<0.05	<0.05	
		Hexavalent chromium		mg/l	0.5	0.4	<0.05	<0.05	
		Copper		mg/l	3	2.4	<0.05	<0.05	
		Zinc		mg/l	2	1.4	0.09	0.10	
		Lead		mg/l	0.1	0.08	<0.01	<0.01	
		Fluorine		mg/l	8	6.4	<0.2	<0.2	
		Boron		mg/l	10	8	2.2	2.3	
	Coli bacteria		counts/cm ³	3000	2400	0	0		
	Noise	Morning		dB	60	55	43.7	45.7	
		Daytime		dB	65	60	49.9	52.5	
		Evening		dB	60	55	47.7	53.5	
		Night		dB	50	50	45.1	46.1	
	Vibration	Daytime		dB	60	60	33.2	33.2	
		Night		dB	55	55	32.7	32.7	
Ise Factory	Atmosphere	Soot and dust	Firing furnace	mg/Nm ³	250	100	4.7	5	
		NOx	Firing furnace	ppm	180	140	46.7	120	
		Drain (public water area)	pH		-	5.8~8.6	6.0~8.4	7.8	8.3
			SS		mg/l	30	24	1.0	1.0
	BOD			mg/l	10	8	1.3	4.0	
	COD			mg/l	15	12	1.1	2.0	
			(Living related)		mg/l	25	20	8.5	17.0
	COD (total)			kg/day	3.4	3.4	0.38	0.94	
	n-hexane extract			mg/l	5	2.5	<1	<1	
	Cyanogen			mg/l	1	0.5	<0.1	<0.1	
	Total chromium			mg/l	2	1	<0.04	<0.04	
	Hexavalent chromium			mg/l	0.5	0.25	<0.04	<0.04	
	Copper			mg/l	1	0.5	<0.02	<0.02	
	Zinc			mg/l	2	1	0.07	0.07	
	Lead			mg/l	0.1	0.05	<0.01	<0.01	
	Nitrogen		mg/l	120	60	7.76	37.00		
		(Living related)		mg/l		11.0	18.0		
	Nitrogen (total)		kg/day	4.1	4.1	0.49	1.05		
	Phosphorus		mg/l	16	8	1.16	3.60		
	Phosphorus (total)		kg/day	0.39	0.39	0.07	0.12		
			kg/day	0.39	0.39	0.07	0.12		
	Manganese		mg/l	-	-	<0.02	<0.02		
	Fluorine		mg/l	8	4	<0.1	<0.1		
	Boron		mg/l	10	5	0.01	0.03		
	Coli bacteria		counts/cm ³	3000	1500	0	0		
	Noise	Morning	East	dB	55	55	52.4	52.4	
		Daytime	East	dB	60	58	50.2	50.2	
		Evening	East	dB	55	55	52.1	52.1	
		Night	East	dB	50	50	49.8	49.8	
Vibration	Daytime (all directions)		dB	65	-	<50	<50		
	Night (all directions)		dB	60	-	<50	<50		
Iijima Ceramic	Atmosphere	Soot and dust	Firing furnace: YA-5.6	mg/Nm ³	250	250	<5	<5	
			Firing furnace: YA-7.8				<5	<5	
			Absorption heater/chiller: FGL		100	100	<5	<5	
			Absorption heater/chiller: FGD				<5	<5	
		NOx	Firing furnace: YA-5.6	ppm	180	180	<10	<10	
			Firing furnace: YA-7.8				<10	<10	
			Absorption heater/chiller: FGL		150	150	30.5	34	
			Absorption heater/chiller: FGD				34.0	36	
	Drain (public water area)	pH		-	5.8~8.6	6.0~8.0	7.3	7.4	
		SS		mg/l	50	10	2.00	4.0	
		BOD		mg/l	30	25	1.40	3.2	
		COD		mg/l	30	30	3.07	5.5	
		n-hexane extract		mg/l	5	5	<1	<1	
		Cyanogen		mg/l	0.5	0.2	<0.01	<0.01	
		Copper		mg/l	2	2	0.04	0.05	
		Zinc		mg/l	3	3	0.07	0.12	
		Lead		mg/l	0.1	0.1	0.009	0.017	
		Fluorine		mg/l	15	15	0.95	1.80	
		Boron		mg/l	50	50	1.58	2.00	
Noise	Phenols		mg/l	5	5	<0.02	<0.02		
	Ammonia		mg/l	500	500	9.9	12.0		
	Coli bacteria		counts/cm ³	3000	3000	23.5	81		
	Morning	First spot	dB	65	65	47.5	47.5		

*1: These values apply to the background noise level. The background noise level is the noise when machines, and so on, are not operating. It is affected by traffic noise, noise from adjacent factories, and so on.



	Item	Type		Unit	Regulation value	Voluntary standard value	Average	MAX	
Nakatsugawa Ceramic (Nakatsugawa Factory)	Atmosphere	Soot and dust	Firing furnace(NN-1)	mg/Nm³	50	20	6	6	
		SOx	Firing furnace(NN-1)	Nm³/h	-	-	0	0	
	Drain (public water area)	pH	Factory 1&2	-	5.8~8.6	6.2~8.6	7.4	7.6	
		Factory 3	7.4				8.3		
		SS	Factory 1&2	mg/l	50	35	3.3	9.0	
		Factory 3	4.2	11.0					
		BOD	Factory 1&2	mg/l	15	13	1.6	6.8	
		Factory 3	3.7	11.0					
		COD	Factory 1&2	mg/l	40	30	5.1	8.6	
		Factory 3	10.5	18.0					
		n-hexane extract	Factory 1&2	mg/l	5	4	<0.5	<0.5	
		Factory 3	<0.5	<0.5					
		Nitrogen	Factory 1&2	mg/l	10	-	4.5	6.9	
		Factory 3	4.0	6.8					
		Phosphorus	Factory 1&2	mg/l	3	2.5	0.04	0.17	
		Factory 3	0.52	2.3					
		Coli bacteria	Factory 1&2	counts/cm³	3000	1000	73.8	410	
		Factory 3	9				110		
	Noise	Morning	Fourth spot	dB	60	58	49.0	54.0	
		Daytime	Fourth spot	dB	65	63	49.0	53.0	
		Evening	Fourth spot	dB	60	58	47.0	48.0	
		Night	Fourth spot	dB	50	50	45.5	48.0	
	Vibration	Daytime	Fourth spot	dB	65	63	15.0	15.0	
		Night	Fourth spot	dB	60	58	22.6	22.6	
Nakatsugawa Ceramic (Takenami Factory)	Drain (public water area)	pH		-	5.8~8.6	5.8~8.6	7.5	7.7	
		SS		mg/l	200	100	1.7	2.0	
		BOD		mg/l	160	130	8.6	16.0	
		COD		mg/l	160	80	5.7	8.2	
		n-hexane extract		mg/l	5	4	<0.5	<0.5	
		Nitrogen		mg/l	120	120	4.5	6.6	
		Phosphorus		mg/l	16	16	0.09	0.20	
		Coli bacteria		counts/cm³	3000	2000	58.3	110	
	Noise	Morning	Fourth spot	dB	50	50	46.0	46.0	
		Daytime	Fourth spot	dB	55	55	46.0	47.0	
		Evening	Fourth spot	dB	50	50	46.0	46.0	
		Night	Fourth spot	dB	45	45	45.0	45.0	
	Vibration	Daytime	Fourth spot	dB	55	55	15.0	15.0	
		Night	Fourth spot	dB	50	50	15.0	15.0	
	Kani Ceramic	Atmosphere	Soot and dust		mg/Nm³	100	90	9	9
			NOx		ppm	150	135	93	93
		Drain (sewer)	pH		-	5.8~8.6	5.9~8.5	7.8	7.8
			SS		mg/l	200	180	2.2	2.2
BOD				mg/l	160	144	12.0	12.0	
COD				mg/l	160	30	10.0	10.0	
Noise		n-hexane extract		mg/l	5	4.5	1.0	1.0	
		Morning	First spot	dB	50	50	46.2	46.2	
		Daytime	First spot	dB	60	60	48.5	48.5	
		Evening	First spot	dB	50	50	48.8	48.8	
Night	First spot	dB	45	45	43.8	43.8			
Nansei Ceramic	Drain (public water area)	pH		-	5.8~8.6	6.8	6.8	6.8	
		SS		mg/l	-	90	1	1	
		BOD		mg/l	20	20	2	2	
		COD		mg/l	-	40	2	2	
		n-hexane extract		mg/l	-	1	0.01	0.01	
		Lead		mg/l	-	0.1	<0.01	<0.01	
		Nitrogen		mg/l	-	100	1.4	1.4	
		Phosphorus		mg/l	-	16	0.15	0.15	
	Coli bacteria		counts/cm³	-	1000	0	0		
	Noise	Morning	North	dB	55	55	50.2	51.5	
Daytime		North	dB	60	60	57.4	57.6		
Evening		North	dB	55	55	50.8	50.9		
Night		North	dB	50	50	47.2	47.9		
Kamioka Ceramic	Drain (public water area)	pH	①	-	5.8~8.6	6.2~8.2	7.7	7.7	
			②				7.2	7.7	
			③				7.5	7.6	
		SS	①	mg/l	200	50	4.8	8.9	
			②				5.1	8.7	
			③				8.8	17	
		BOD	①	mg/l	160	40	0.90	1.1	
			②				23.5	30	
			③				4.60	7.5	
		COD	①	mg/l	160	40	2.7	4.6	
			②				31.5	36	
			③				10.00	17.0	
		n-hexane extract	①	mg/l	5	2.5	<0.5	<0.5	
			②				1.0	1.3	
			③				<0.5	<0.5	
		Coli bacteria	①	mg/l	3000	300	<30	<30	
	②		<30				<30		
	③		<30				<30		
	Noise	Morning	Fourth spot	dB	60	60	45	45	
		Daytime	Fourth spot	dB	65	65	47	47	
Evening		Fourth spot	dB	60	60	46	46		
Night		Fourth spot	dB	50	50	46	46		

	Item	Type		Unit	Regulation value	Voluntary standard value	Average	MAX		
Nittoku Seisakusho (Head Office Factory)	Drain (sewer)	pH	①Office building	-	5.0~	5.8~9.0	7.5	7.5		
			②Head factory				7.9	7.9		
			③West factory				7.3	7.3		
		SS	①Office building	mg/l	600	300	6	6		
			②Head factory				21	21		
			③West factory				11	11		
		BOD	①Office building	mg/l	600	300	2.3	2.3		
			②Head factory				24	24		
			③West factory				4.4	4.4		
		n-hexane extract	①Office building	mg/l	50	25	-	-		
			②Head factory				<0.5	<0.5		
			③West factory				<0.5	<0.5		
	Noise	Morning	Second spot	dB	60	60	60	60		
		Daytime	Second spot	dB	65	65	62	62		
		Evening	Second spot	dB	60	60	59	59		
Vibration	Daytime	Second spot	dB	-	-	42	42			
	Night	Second spot	dB	-	-	39	39			
Nittoku Seisakusho (Oguchi Factory)	Drain (public water area)	pH	Oguchi①	-	5.8~8.6	6.0~8.4	7.5	7.5		
			Oguchi②				7.0	7.0		
		SS	Oguchi①	mg/l	30	-	2	2		
			Oguchi②				5.0	5.0		
		BOD	Oguchi①	mg/l	25	20	3.6	3.6		
			Oguchi②				1.9	1.9		
		n-hexane extract	Oguchi①	mg/l	5	4	1.0	1.0		
			Oguchi②				1.0	1.0		
		Nitrogen	Oguchi①	mg/l	120	60	1.2	1.2		
			Oguchi②				0.7	0.7		
		Phosphorus	Oguchi①	mg/l	16	8	0.16	0.16		
			Oguchi②				0.02	0.02		
	Noise	Morning	First spot	dB	55	55	54	54		
		Daytime	First spot	dB	60	60	55	55		
		Evening	First spot	dB	55	55	53	53		
		Night	First spot	dB	50	50	48	48		
		Daytime	First spot	dB	-	-	49	49		
		Night	First spot	dB	-	-	53	53		
Vibration	Daytime	First spot	dB	-	-	48	49			
	Night	First spot	dB	-	-	53	53			
	Nichiwa Kiki	Drain (sewer)	pH	-		5.0~	6.0~8.0	7.3	7.6	
n-hexane extract			mg/l	50	40	1.25	2.0			
		Noise	Daytime	Cooling tower north side	dB	65	63	62.7	72.1	
Tono Ceramic	Atmosphere	Soot and dust		mg/Nm ³	-	200	28	28		
		NOx		ppm	-	400	50	50		
	Drain (public water area)	pH	-		-	5.8~8.6	7.0	7.0		
		SS	mg/l		-	200	6.0	6.0		
		BOD	mg/l		-	160	3.8	3.8		
		n-hexane extract	mg/l		-	5	0.5	0.5		
	Noise	Morning			dB	50	50	47	47	
		Daytime			dB	60	60	55.5	57	
		Evening			dB	50	50	47	47	
		Night			dB	45	45	44	44	
Ceramic Sensor	Atmosphere	Soot and dust		mg/Nm ³	200	200	0.001	0.001		
		NOx		ppm	-	-	71	71		
	Drain (public water area)	pH	-		6.0~8.0	6.0~8.0	7.4	7.8		
		SS	mg/l		18	18	5.0	8.0		
		BOD	mg/l		18	18	2.9	6.3		
		COD	mg/l		18	18	10.8	17.0		
		n-hexane extract	mg/l		2	2	1.0	1.0		
		Nitrogen	mg/l		30	30	10.7	15.0		
		Phosphorus	mg/l		4	4	0.3	0.9		
		Fluorine	mg/l		8	8	1.4	4.0		
	Noise	Boron	mg/l		10	10	1.5	3.0		
		Daytime			dB	70	70	58.7	59.3	
	Tokai Taima Kogyo Co., Ltd.	Noise	Night			dB	60	60	58.0	58.7
			Morning	East	dB	60	60	43.5	43.5	
Daytime			East	dB	65	65	45.2	45.2		
Evening			East	dB	60	60	43.3	43.3		
Vibration		Night	East	dB	50	50	41.1	41.1		
		Daytime	East	dB	65	65	48	48		
		Night	East	dB	60	60	48	48		

*2: For the contents of infringements, see p.16 *Compliance. *The mean value is a value after completing measures.

Environmental conservation costs

(Unit : million yen)

Items			Non-consolidated				NGK Spark Plug Group*			
Classification	Major efforts		Investment		Expense		Investment		Expense	
			2007	2008	2007	2008	2007	2008	2007	2008
Costs within the business area	Pollution prevention cost	Air/water pollution prevention and noise reduction	517	36	1,610	1,757	527	40	1,836	1,987
	Global environmental conservation cost	Global warming prevention, energy conservation	17	19	424	366	107	27	484	424
	Resource circulation cost	Effective resource utilization, industrial waste treatment/disposal	54	8	552	530	62	10	713	651
Sub-total			588	63	2,585	2,654	697	76	3,033	3,062
Upstream & downstream cost			0	0	4	4	0	0	4	4
Management activity cost			8	8	293	345	8	9	354	406
R&D cost			1,473	548	5,853	5,691	1,473	548	5,853	5,691
Social activity cost			0	0	183	188	0	0	189	194
Environment damage correction cost			0	0	19	79	0	0	19	79
Other costs			0	0	1	0	0	0	1	0
Total			2,070	620	8,937	8,960	2,178	633	9,453	9,435

* Excluding Nittoku Alpha Service Co., Ltd.

Environmental conservation effective value (non-consolidated)

(Unit: million yen)

	Area of recognized effect	Non-consolidated
Revenue	Revenue generated from the recycling of waste generated in operations or used products	250
Cost saving	Energy cost saving achieved from energy conservation efforts	97
	Reduction of water expenses through water saving	18
	Waste disposal cost saving achieved by resource conservation and recycling efforts	62
Total		426

Calculation concept

The environment preservation cost is classified according to the guidelines of the Ministry of the Environment, and is calculated using a proportional division method according to rules drawn up by the Group, based on the direct equipment investments and costs.

Environmental conservation effective volume

Effect measured in the business area	Classification	Non-consolidated			NGK Spark Plug Group		
		2007	2008	Difference from the previous fiscal year	2007	2008	Difference from the previous fiscal year
Effect measured with respect to resource input into operations	Energy consumption						
	Purchased electricity (GWh)	26,575	25,567	-1,008	39,694	36,886	-2,808
	Gas (million m ³)	1,697	1,527	-170	1,795	1,603	-192
	LPG (tons)	4,809	4,869	60	10,600	10,559	-41
	Heavy oil A (kL)	57	51	-6	57	51	-6
	Water consumption						
	Tap water (m ³)	1,057,240	982,498	-74,742	1,276,028	1,165,701	-110,327
	Well water (m ³)	843,530	841,991	-1,539	962,834	963,205	371
Effect measured with respect to environmental load and waste from business activities	PRTR law-regulated substances handled (tons)	650	560	-90	975	800	-175
	CO ₂ emission from energy consumption (tons)	145,713	138,147	-7,566	208,927	194,580	-14,347
	Recycled plant wastewater * (tons)	1,444,680	1,300,042	-144,638	1,595,031	1,430,957	-164,074
	Waste						
	Recycle (tons)	25,909	19,363	-6,546	28,689	21,610	-7,079
	Buried, incineration (tons)	143	138	-5	166	161	-5
	PRTR law-regulated substances released into air and water (tons)	20	13	-7	213	152	-61

*Definition of recycled plant wastewater: Recycled water is defined as water that is reused after treatment of waste water.

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Greenhouse Gasses other than Carbon Dioxide from Energy Sources

Results of computing greenhouse gases according to the system for computing, reporting on, and publicizing the quantity of greenhouse gases

(tons CO₂)

		Head Office/Factory	Komaki Factory	Miyanojo Factory	Ise Factory	Total
Non-energy-based carbon dioxide	CO ₂	—	1	—	—	1
Methane	CH ₄	19	115	8	16	157
Nitrous oxide	N ₂ O	6	60	7	5	79
Hydro-fluorocarbon	HFC	—	12	1	3	16
Perfluorocarbon	PFC	—	2,259	—	666	2,924
Sulfur hexafluoride	SF ₆	0.3	12	6	5	24
Total		25	2,460	22	694	3,201

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Waste Emission Volume Per Region

	Office or factory	Volume of emissions (tons)	Volume effectively used (tons)	Volume of buried and incineration (tons)	Recovery rate (%)
NGK Spark Plug Co., Ltd.	Head Office/Factory	825	816	9.6	98.8%
	Komaki Factory	12,776	12,675	101.1	99.2%
	Miyanojo Factory	3,184	3,166	18.1	99.4%
	Ise Factory	2,717	2,707	9.6	99.6%
	Subtotal	19,502	19,363	138.4	99.3%
Affiliates	Iijima Ceramic	808	800	7.7	99.0%
	Nakatsugawa Ceramic	426	420	5.9	98.6%
	Kani Ceramic	54	54	0.6	98.9%
	Nansei Ceramic	8	8	0.0	99.4%
	Kamioka Ceramic	54	53	0.3	99.4%
	Nittoku Seisakusho	220	219	1.8	99.2%
	Nichiwa Kiki	9	9	0.1	99.3%
	Tono Ceramic	26	26	0.2	99.3%
	Ceramic Sensor	656	654	2.7	99.6%
	Tokai Taima Kogu Co., Ltd.	7	4	2.9	60.6%
	Total	21,771	21,610	160.7	99.3%



Per-region PRTR data

* The table contains the substances that each business location was required to report

(kg)

Area	Cabinet order No.	Name of chemical substance	Quantity handled	Quantity released			Quantity transferred			Quantity removed and treated Disassociation reaction	Quantity taken out Product/Sold
				Atmosphere	Public water area	Soil	Public sewer	Buried and incineration	Effective use		
Head Office / Factory	40	Ethylbenzene	5,333	0						5,332	
	63	Xylene	25,918	2				0		25,916	
	68	Chromium and chromium (III) compounds	5,191				1	0	488		4,701
	108	Inorganic cyanide compounds (except complex salts and cyanates)	1,020				9			1,010	
	224	1,3,5-trimethylbenzene	2,696	0						2,696	
	227	Toluene	59,126	84				0		59,042	
	231	Nickel	45,075						83		44,993
Komaki Factory	299	Benzene	2,188	1						2,187	
	24	N-alkylbenzenesulfonic acid and its salts (alkyl C=10-14)	2,216							2,216	
	25	Antimony and its compounds	2,190					4	492		1,694
	30	Polymer of 4,4'-isopropylidenediphenol and 1-chloro-2,3-epoxypropane (liquid) ; bisphenol A type epoxy resin (liquid)	4,379							4,379	
	40	Ethylbenzene	2,778	19					1,154	1,605	
	43	Ethylene glycol	3,346	1				0	923	2,402	20
	63	Xylene	32,404	4,451					19,605	8,348	
	68	Chromium and chromium (III) compounds	1,305					0	632		673
	100	Cobalt and its compounds	2,317					1	285		2,031
	108	Inorganic cyanide compounds (except complex salts and cyanates)	7,643						12	2,440	5,191
	207	Copper salts (water-soluble, except complex salts)	80,529		41				3,209	77,280	
	227	Toluene	10,834	417					31	10,385	
	230	Lead and its compounds	3,370					16	339		3,014
	231	Nickel	8,680					36	172		8,473
	232	Nickel compounds	10,636		50				3,155	7,431	
	243	Barium and the water solubility compound	10,243						661		9,582
	299	Benzene	1,024	5						1,019	
	304	Boron and its compounds	35,817		378			66	2,728		32,646
	309	Poly (oxyethylene) nonylphenyl ether	1,835						1,716	120	
	310	Formaldehyde	8,330						8,266	63	
	311	Manganese and its compounds	4,341		16			19	4,232		74
	346	Molybdenum and its compounds	1,029						44		985
Miyanojo Factory	68	Chromium and chromium (III) compounds	1,539					0	1,464		75
	108	Inorganic cyanide compounds (except complex salts and cyanates)	2,706						29	2,677	
	231	Nickel	129,571								129,571
	304	Boron and its compounds	6,700		16				148		6,537
Ise Factory	63	Xylene	9,038	7,850					1,188		
	230	Lead and its compounds	28,176						8,122		19,913
Subtotal			559,520	12,830	500	0	10	143	59,177	216,548	270,171
Iijima Ceramic	40	Ethylbenzene	1,091	251					840		
	63	Xylene	7,140	2,379					4,761		
	68	Chromium and chromium (III) compounds	1,523						590		933
	108	Inorganic cyanide compounds (except complex salts and cyanates)	3,159		1				2,391	200	568
	227	Toluene	37,327	37,327							
	230	Lead and its compounds	1,289						194		1,095
	231	Nickel	1,618								1,618
Nakatsugawa Ceramic (Nakatsugawa Factory)	270	Di-n-butyl phthalate	8,264						964	7,300	
	40	Ethylbenzene	1,308	494					788		26
	63	Xylene	7,408	2,790					4,473		145
	64	Silver and its water-soluble compounds	1,076								1,076
	68	Chromium and chromium (III) compounds	5,928						3,506		2,423
	227	Toluene	68,346	67,569					777		
	230	Lead and its compounds	4,347						1,330		3,017
Nakatsugawa Ceramic (Takenami Factory)	270	Di-n-butyl phthalate	18,406						10,383	5,180	2,843
	272	Bis(2-ethylhexyl) phthalate	4,167						3,191	310	665
	346	Molybdenum and its compounds	2,280						182		2,097
	227	Toluene	32,827	27,980					4,847		
	230	Lead and its compounds	5,088						906		4,182
	270	Di-n-butyl phthalate	4,182						1,124		3,058
	272	Bis(2-ethylhexyl) phthalate	2,644						501		2,143
Kani Ceramic	270	Di-n-butyl phthalate	2,419						1,233	1,187	
Nittoku Seisakusho (Oguchi Factory)	231	Nickel	8,364								8,364
Ceramic Sensor	253	Hydrazine	7,256						6,302	954	
	283	Hydrogen fluoride and its water-soluble salts	2,121						1,944	177	
	304	Boron and its compounds	1,335					0		424	911
Total			800,432	151,620	501	0	10	143	110,403	232,280	305,334



Number of vehicles owned

(No. of cars)

Category	NGK Spark Plug Co., Ltd.		Affiliates
	4 Factories	Sales Locations	
Total number of company vehicles	122	103	29
CNG Car, LPG Car	3	0	0
New☆☆☆☆ (75%-decreased level in the exhaust gas standards in 2005)	40	58	8
New☆☆☆ (50%-decreased level in the exhaust gas standards in 2005)	10	22	5
☆☆☆ (75%-decreased level in the exhaust gas standards in 2000)	7	13	7
☆☆ (50%-decreased level in the exhaust gas standards in 2000)	7	4	1
☆ (25%-decreased level in the exhaust gas standards in 2000)	5	5	1
Others (Exempted from exhaust gas regulations)	50	1	7



Cleaning Activities around Our Business Location

Area	Cleaning events
Head Office and Head Office Factory	4 times (total 80 people)
Komaki Factory	4 times (total 186 people)
Miyanojo Factory	3 times (total 108 people)
Ise Factory	2 times (total 52 people)
Iijima Ceramic	2 times (total 30 people)
Nakatsugawa Ceramic	4 times (total 47 people)
Kani Ceramic	2 times (total 36 people)
Nansei Ceramic	4 times (total 52 people)
Kamioka Ceramic	2 times (total 57 people)
Nittoku Seisakusho	8 times (total 97 people)
Nichiwa Kiki	2 times (total 52 people)
Tono Ceramic	12 times (total 90 people)
Ceramic Sensor	4 times (total 41 people)
Tokai Taima Kogu Co., Ltd.	2 times (total 16 people)

Locally Hosted Cleaning Activity

Participation area	Event name	Held by	Location
Komaki factory, Ceramic sensor	Komaki Beautification Activities	Komaki City	Civic Hall area
Ise Factory	Miya River cleaning activities	Miya River Renaissance Assembly	Miya River
Iijima Ceramic	Environmental picnic	Ina Techno-valley Regional Center of the Nagano Prefecture Techno Foundation	Tenryu River
Kani Ceramic	Kani River mass cleanup	Kani City	Kani River
Nittoku Seisakusho	Oguchi Town cleanup activities	Oguchi Town	Embankments on both sides of the Aise River