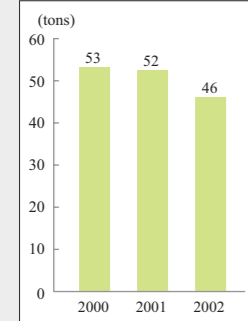


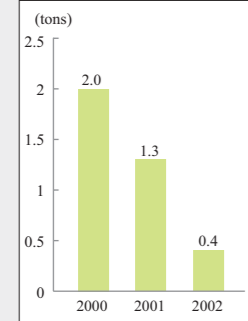
## Environmental Data by Plant

Actual values for exhaust gases, noise, vibration, pumped underground water, and wastewater for all three plants met all relevant laws, regulations, and voluntary standards.

Changes in Total NOx Emissions



Changes in Total SOx Emissions



### Reduction in NOx and SOx

NGK is continuing to reduce release of harmful substances into the atmosphere. Total NOx emissions in 2002 were 46 tons, representing a 12% reduction from the 2001 level. We are promoting a switch to low-nitrogen fuel, as well as improvements in the combustion characteristics that reduce NOx generation, which inhibits high-temperature combustion. A denitration system for stack gas was mounted to help minimize NOx contained in stack gas. Total SOx emissions in 2002 were 0.4 tons, representing a 70% reduction from the 2001 level. We have switched from heavy fuel oil and diesel fuel to LNG, which has a much lower sulfur content. We are continuing to upgrade remaining diesel fuel usage to a different supply with lower sulfur.

Standard Values (Under Law and Agreements) and Actual Values

Category	Item	Units	Nagoya Plant		Chita Plant		Komaki Plant	
			Standard	Actual Value	Standard	Actual Value	Standard	Actual Value
Exhaust gas	Sulfur produced in combustion	%	0.5*1	(Shifted to LNG)	0.5*7	(Shifted to LNG)	0.6*8	0.07
	SOx	Nm <sup>3</sup> /Hr	N	N	N	N	11.7*8	0.05
	NOx	ppm	144*1	14 - 130	150*7	50	170*8	90
	NOx volume	g/Hr	23,456*2	20,247	N	N	N	N
	Soot and dust	g/Nm <sup>3</sup>	0.15*2	N.D. - 0.032	0.2*7	0.002	0.2*8	0.01
	Be total plant output	g/day	N	N	10*7	0.119 - 0.570	N	N
	Be output concentration in residential areas	µg/m <sup>3</sup>	0.01*1	0.0001 - 0.0003	0.01*7	0.00005 - 0.00016	N	N
Noise	Day	dB	70*1	51 - 68*6	65*7	45 - 62	65*8	51 - 64*11
	Night (West side of Plant)	dB	60*1	46 - 60*6	65*7 (60*7)	45 - 54	55*8	50 - 62*11
Vibration	Day	dB	70*4	30 - 54	70*7	45 max	65*8	24 - 35
	Night	dB	65*4	28 - 62	70*7	45 max	60*8	
Pumped underground water	pH		N	N	N	N	4,023*5	2,490
	Effluent							
	pH		5.0 - 9.0*3	6.8 - 7.6	5.8 - 8.6*7	6.5 - 7.5	5.8 - 8.0*8	6.6 - 7.8
	SS	mg/l	600*1	6 - 150	30*7	1 - 9	80*8	1 - 8
	BOD	mg/l	600*3	1.1 - 27	N	N	17*8	N.D. - 7.7
	COD	mg/l	N	N	20	2 - 4.5	N	N
	Total COD emissions	kg/day	N	N	59.2	16.9 max	N	N
	Oil	mg/l	5*3	0.5 - 1.0	2*7	<0.5	2*8	N.D. - 0.9
	Copper	mg/l	3*3	N.D. - 0.01	1*7	0.02 - 0.01	3*8	N.D. - 0.02
	Zinc	mg/l	5*3	0.04 - 0.08	1*7	0.01 - 0.09	3*8	0.05 - 0.71
	Soluble iron	mg/l	10*3	N.D. - 0.2	0.5*7	<0.1	10*8	0.04 - 0.37
	Soluble manganese	mg/l	10*3	<0.1	N	N	10*8	0.02 - 0.05
	Cadmium	mg/l	N	N	0.1*3	<0.005	0.1*8	N.D.
	Cyanide	mg/l	1*3	<0.1	1*7	<0.1	1.0*8	N.D.
	Lead	mg/l	0.1*3	<0.02	0.1*7	<0.02	0.1*8	N.D.
	Hexavalent chromium	mg/l	0.5*1	<0.04	0.5*3	<0.04	0.5*8	N.D.
	Total mercury	mg/l	0.005*1	<0.0005	0.005*3	<0.0005	0.005*8	N.D.
Total chromium	mg/l	2*3	<0.04	2*7	<0.04	2*8	N.D.	
Fluorine	mg/l	8*3	N.D. - 0.2	8*7	0.3	8*8	N.D. - 0.5	
Nitrogen content	mg/l	N	N	10(guideline)*5	1.2 - 7.2	10(guideline)*5	0.9 - 7.1	
Phosphorus content	mg/l	N	N	1(guideline)*5	0.04 - 0.14	1(guideline)*5	0.02 - 0.43	
Tn-chloroethylene	mg/l	0.3*3	<0.002	0.3*7	<0.002	0.3	N.D. - 0.004	
Tetra-chloroethylene	mg/l	0.1*3	<0.001	0.1*7	<0.001	0.1	N.D.	
1, 1, 1-tri-chloroethylene	mg/l	3*3	<0.001	3*7	<0.001	3*8	N.D.	
Nickel	mg/l	N	N	N	<0.1	0.01*8(recommendation)	N.D.	
Antimony	mg/l	N	N	N	N	0.002*8(recommendation)	N.D. - 0.017	
Dichloromethane	mg/l	N	N	N	<0.02	0.2*8	N.D.	

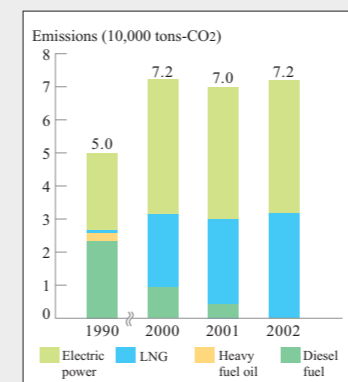
\*1. Nagoya Regulations \*2. Air Pollution Control Law \*3. Water Pollution Control Law \*4. Vibration Control Law  
 \*5. Aichi Prefecture Regulations or Guidelines \*6. Including background noise \*7. Pollution control agreement with Honda  
 \*8. Pollution control agreement with Komaki \*9. (recommendation) The Basic Environment Law  
 \*10. Self-imposed control \*11. Adjacent to the road (includes background noise)  
 \* Background noise: Total volume of noise from unverifiable sources. Because plant noise and human activity are generally lower at night, foreground noise decreases and background noise becomes more conspicuous. (Foreground noise is noise from verifiable sources.)  
 Be: Beryllium pH: Concentration of hydrogen ions SS: Suspended Solids  
 BOD: Biochemical Oxygen Demand COD: Chemical Oxygen Demand N.D.: Not Detected  
 \*Note: Items indicated by "-" fall outside the scope of pollution control laws, pollution control agreements, and self-imposed controls.

## Environmental Activities at the Nagoya Plant

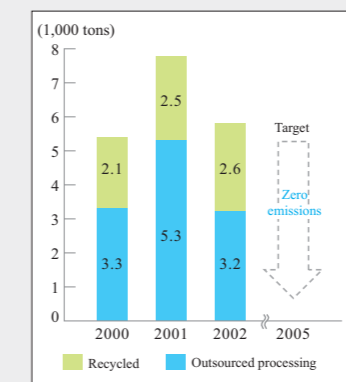
### Core Policy on the Environment

1. Observe applicable laws, regulations, and agreements with government agencies.
2. Further augment environmental management systems, and continue to improve efforts to prevent pollution and to enhance the overall system.
3. Set environmental objectives and targets, and review them periodically.
4. Promote resource conservation and recycling, and reduce industrial byproducts.
5. Promote energy conservation and reduce CO<sub>2</sub> emissions.
6. Promote R&D activities into contributing to the social environment.
7. Enhance employee education and training and improve environmental awareness.

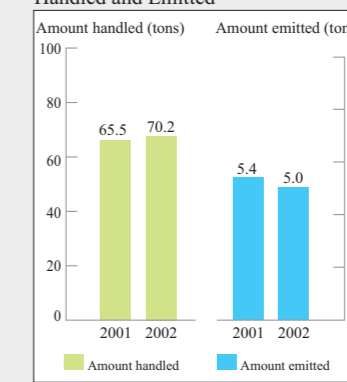
Changes in CO<sub>2</sub> Emissions



Changes in Byproduct Emissions



Amounts of Chemical Substances Handled and Emitted



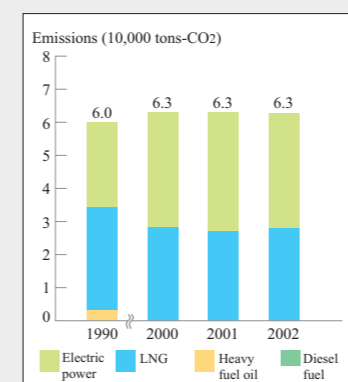
**Nagoya Plant**  
 Address: 2-56, Suda-cho, Mizuho, Nagoya  
 Major products: HONEYCERAM, NAS<sup>®</sup> batteries, etc.

## Environmental Activities at the Chita Plant

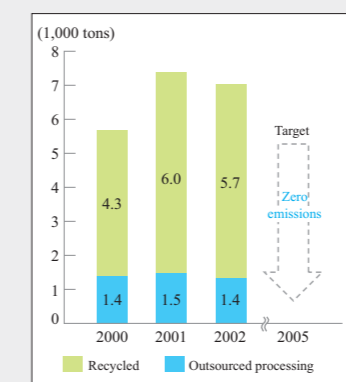
### Core Policy on the Environment

1. Promote resource conservation and recycling, and reduce industrial byproducts.
2. Promote energy conservation and reduce CO<sub>2</sub> emissions.
3. Work to prevent atmospheric and water pollution, and observe applicable laws, regulations and agreements with government agencies.
4. Promote the development of production technologies and environmental equipment with reduced environmental impact.
5. Set environmental objectives and targets, and review them periodically.
6. Enhance employee education and training and improve environmental awareness.
7. Review the environmental management system periodically and continue improvement.

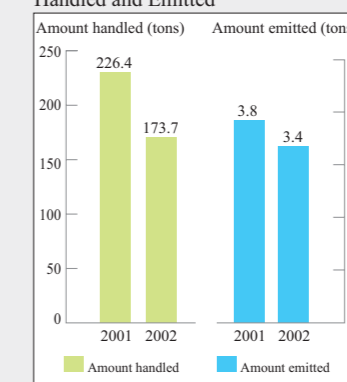
Changes in CO<sub>2</sub> Emissions



Changes in Byproduct Emissions



Amounts of Chemical Substances Handled and Emitted



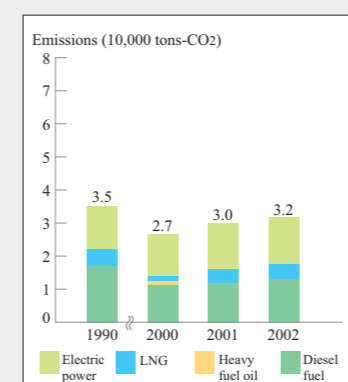
**Chita Plant**  
 Address: 1, Maegata-cho, Handa, Aichi  
 Major products: Insulators, equipment for electrical transmission and distribution, ceramic products for the chemical industry, beryllium-copper strips, ceramic components for semiconductor manufacturing, etc.

## Environmental Activities at the Komaki Plant

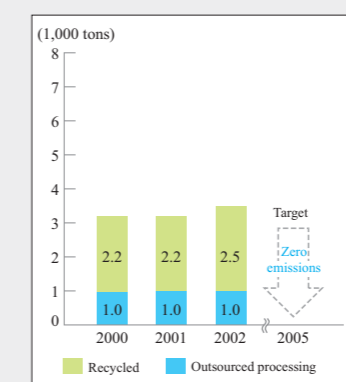
### Core Policy on the Environment

1. Continue to improve the environmental management system.
  - 1) Set, implement, and review environmental objectives and targets.
  - 2) Periodically review the environmental management system.
2. Prevent environmental pollution and observe applicable laws and regulations.
  - 1) Observe applicable laws, regulations and agreements with government agencies.
  - 2) Expand and improve environmental conservation activities.
3. Promote resource conservation activities and reduction of environmental impact.
  - 1) Promote resource conservation and recycling, and reduce industrial byproducts.
  - 2) Promote energy conservation and reduce CO<sub>2</sub> emissions.
4. Enhance employee education and training and improve environmental awareness.

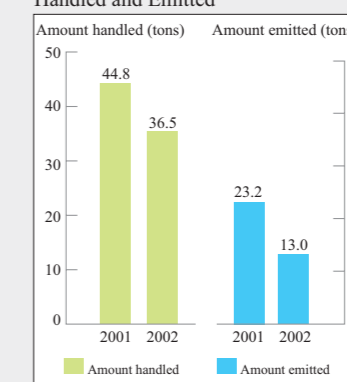
Changes in CO<sub>2</sub> Emissions



Changes in Byproduct Emissions



Amounts of Chemical Substances Handled and Emitted



**Komaki Plant**  
 Address: 1155, Tagami, Futatabi, Komaki, Aichi  
 Major Products: Suspension insulators for electrical transmission, equipment for electrical transformation and distribution, HYCERAM<sup>®</sup>, etc.