

2. Measures for Greenhouse Gas Reduction

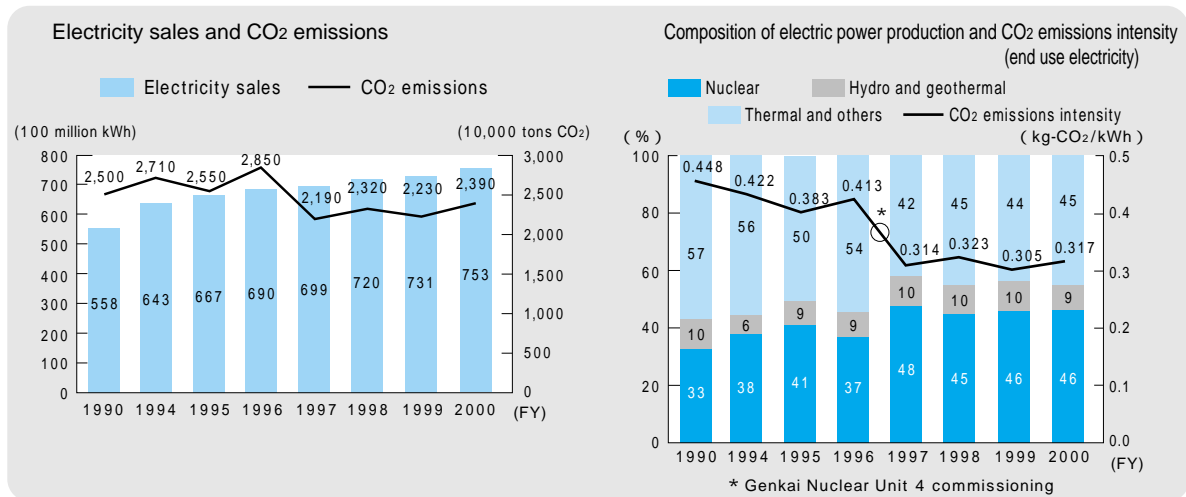
(1) Measures taken on the power supply side

CO₂ comprises 90% of the greenhouse gases emitted in Japan, and approximately 25% of this is attributable to the electric power industry.

Kyushu Electric's CO₂ emissions in fiscal 2000 amounted to 23.9 million tons of CO₂ or 2% of the total in Japan.

During the 10 years from fiscal 1990, Kyushu Electric's electricity sales increased 1.4 times; however, CO₂ emissions have been stable at 96%. This was mainly due to the development of two nuclear power plants (2.36 million kW).

Other indices show that CO₂ emissions per kWh consumed by customers, i.e. CO₂ emissions intensity (end use electricity), decreased to 71%.



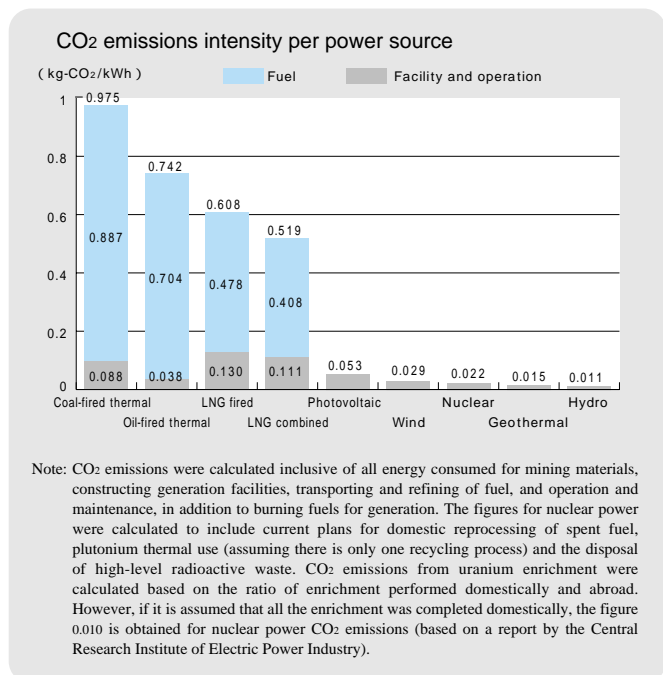
Promotion of nuclear power

Kyushu Electric is committed to developing and utilizing nuclear power, while placing utmost emphasis on safety, and the understanding and cooperation of the public. The nuclear power operating factor for fiscal 2000 was 85.8%, a 1.8-point improvement over fiscal 1999.

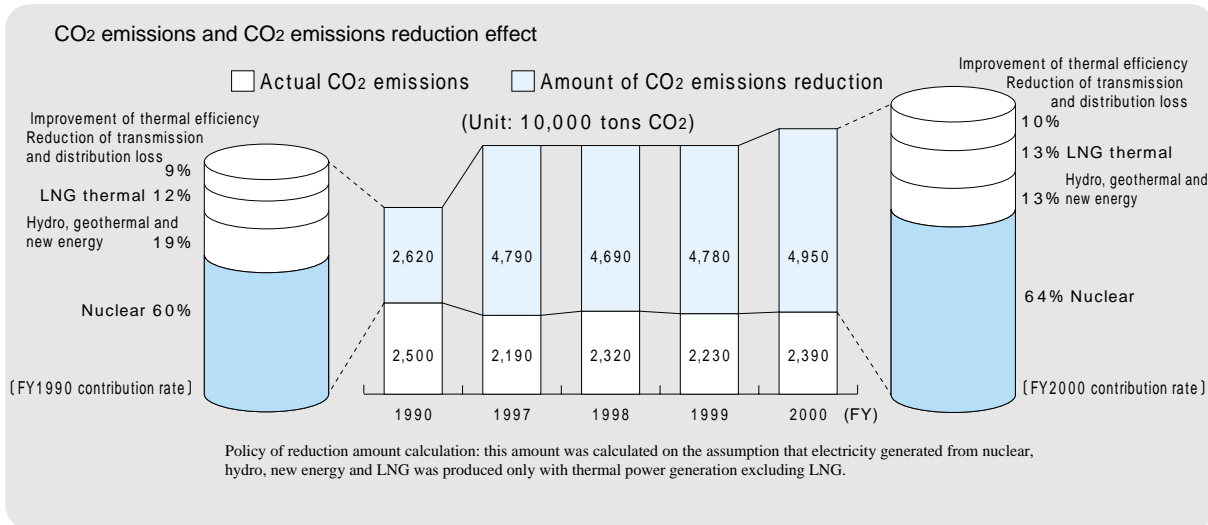
Lifecycle assessment CO₂ emissions comparison of Japan's energy sources

CO₂ is emitted not only during fuel combustion for power generation, but also during other energy-consuming work such as constructing power plants, mining, transporting and refining fuel, as well as waste treatment. The table shows the figures that are obtained by dividing the CO₂ emitted during the lifecycles of the plant including combustion and construction, by the amount of power production.

The nuclear power generation is noted for its advantage in addressing global warming since its comprehensive CO₂ emission is significantly low even when such indirect CO₂ emissions are taken into account.



CO₂ emissions reduction effects of nuclear power generation (contribution rate of 64%)



Recycling of nuclear fuel – Plutonium-Thermal (plutonium utilization in light water reactor) Project

Japan will begin plutonium-thermal use at 16 to 18 nuclear power plants by 2010. Kyushu Electric is conducting its own investigations towards implementation of the plan, to be completed as early as possible in the first decade of the 21st century.

Spent fuel contains unburned uranium and newly produced plutonium.

Reutilization of uranium and plutonium recovered from spent fuel conforms with our goals of helping to build a recycling-based society, and is an effective method of ensuring energy supply.

Plutonium-Thermal use refers to the utilization of MOX (mixed oxide) fuel, a mixture of uranium and plutonium in the form of oxide recovered by reprocessing the spent fuel at nuclear power plants in operation.

Plutonium-Thermal has been implemented throughout the world, mainly in European countries including France, Germany and Belgium, for over 30 years without problems.

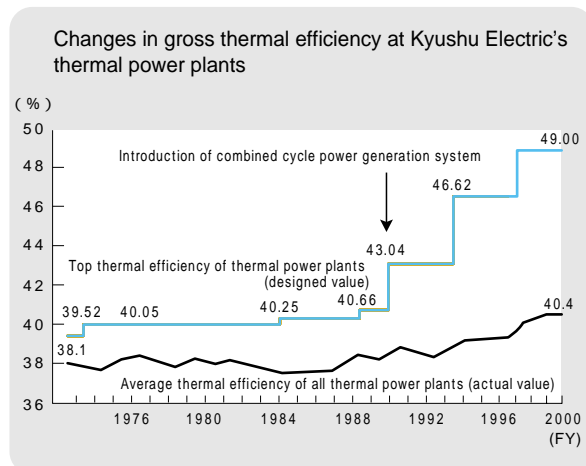
Improvement of power generation facility efficiency

Kyushu Electric strives to cut greenhouse gas emissions by promoting effective energy use through improvements in thermal efficiency of thermal power plants, which reduces fuel consumption.

The thermal efficiency improvement of thermal power plants decreases the amount of fuel consumption, thus reducing CO₂, SO_x and NO_x emissions.

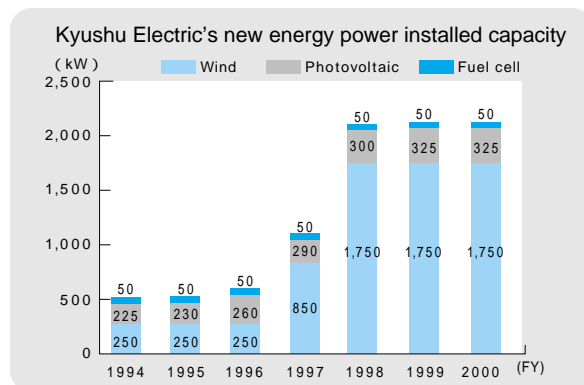
Kyushu Electric is working to achieve improved thermal efficiency of thermal power plants through introducing combined cycle power generation systems that utilize both gas and steam turbines.

Gross thermal efficiency in fiscal 2000 was 40.4%, the same level as the previous year, thanks to the high operation factor of efficient power plants such as the Shin-Oita Power Station, which employs the combined cycle power generation system.



(2) Promotion of new energy (wind, photovoltaic powers and others)

New energy such as wind and photovoltaic power still faces problems such as dependence on weather, low energy density, and high generation costs. However, Kyushu Electric has installed new energy facilities within its premises. The company purchases electricity generated by new energy from customers, and offer subsidies to customers who install new energy facilities.

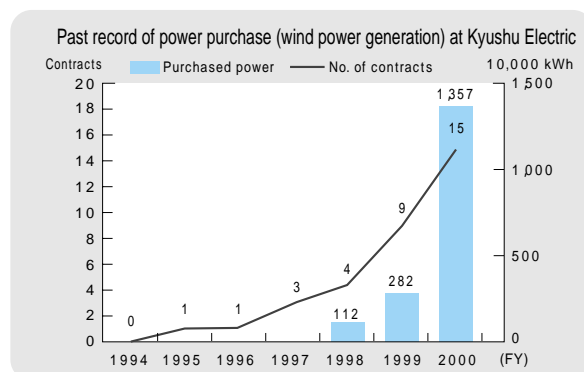


Installation of power generation facilities utilizing new energy

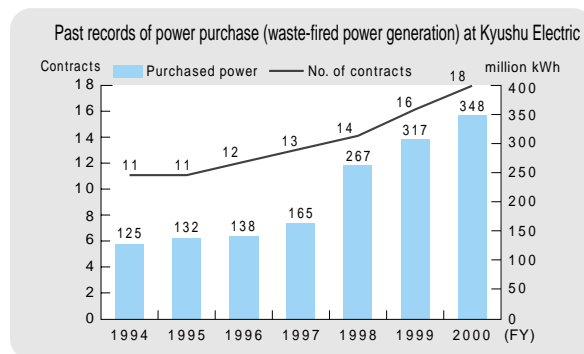
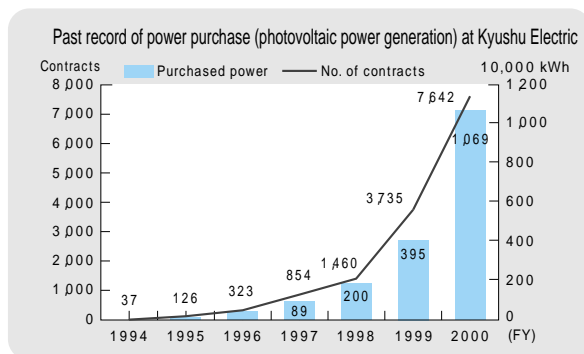
Kyushu Electric has installed power generation facilities utilizing new energy within company premises. Total capacity at all facilities reached 2,075kW by the end of fiscal 2000, the sum of 1,750kW from six units of wind power facilities and 325kW from 21 photovoltaic power facilities.

Purchase of power from customers

Kyushu Electric purchases surplus power generated at customers' wind or photovoltaic power generation facilities at the same unit price as Kyushu Electric's power supply. In the case of commercial wind power generation, amounts of power below 2,000kW are purchased at the long-term contract price, and amounts exceeding 2,000kW are purchased by bidding. Meanwhile, power generated from the heat exhaust of cleaning factories is purchased at the unit price shown in the purchasing lineup.



In fiscal 2000, Kyushu Electric purchased 13.57 million kWh generated by wind (15 contracts), 10.69 million kWh generated by photovoltaic methods (7,642 contracts) and 348 million kWh generated by waste power generation (18 contracts).



Support and subsidy for wind and photovoltaic power generation

Green Power System (introduced in October 2000)

This system enables customers to participate in the Kyushu Green Power Fund together with Kyushu Electric, thus contributing to the promotion of natural energy. Subsidies from the fund are offered to facilities employing photovoltaic or wind power generation, thereby encouraging further use of natural energy.

The fund is managed by the Kyushu Industrial Advancement Center (KIAC) to ensure transparency of administration and operations.

Kyushu Electric donates an amount equal to customer contributions (one share: 500 yen per month) in addition to promoting the system, receiving applications and drawing contributions from customer's bank accounts on behalf of KIAC.

The system attracted 3,552 shares by the end of August 2001.

Provision of a subsidy of 29 million yen is decided according to the conditions below:

Outline of FY2001 subsidy (total: 29 million yen)

	Photovoltaic power generation	Wind power generation
Candidate for subsidy	Facilities to be installed at public institutions in Kyushu, such as schools and community centers	Candidates who won the large-scale wind power generation bid conducted by Kyushu Electric in FY2001
Scale of subsidy	141kW (upper limit of 20kW per recipient)	49,750kW
Subsidy unit price	100,000 yen/kW	0.05 yen/kWh (for three years, performance records)

Support and cooperation by a NGO to promote photovoltaic power generation in households

Kyushu Electric offers subsidies and support for ventures that promote photovoltaic power generation and are borne by the Renewable Energy Promoting People's Forum West Japan (R. E. P. W.), an environment-conscious NGO.

A total of 255 subsidies had been provided by the end of fiscal 2000, resulting in gross power generation of approximately 900kW valued at 146 million yen.

Photovoltaic power generation promotion by R. E. P. W.

		FY1999	FY2000
Contents	A subsidy to partially cover costs is offered to households (individuals) in Kyushu to help install photovoltaic power generation facilities		
Number of subsidies	Network type	200,000 yen/kW	
	Independent type	30,000 yen/100W	50,000 yen/100W
Subsidy scale	Network type	Max. 3kW	
	Independent type	Max. 300kW	
Number of subsidized facilities and gross generation		89 facilities 299kW	166 facilities 599kW



Installation of photovoltaic power generation panels

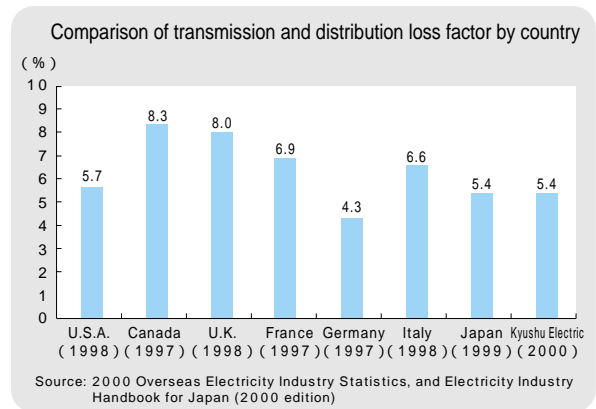
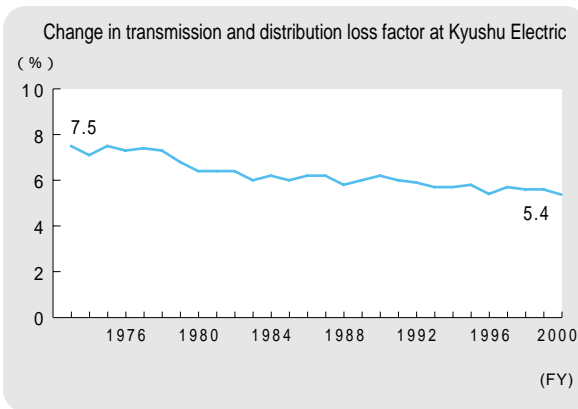
(3) Measures for energy conservation

Kyushu Electric believes that energy conservation is not just about reducing or ceasing energy use, but using the energy required efficiently and without waste. We work towards reducing environmental load through creating an efficient energy supply by reducing transmission and distribution loss. The company also encourages more efficient energy use by promoting customer use of high-efficiency equipment and heat storage systems, promoting reduced use of unnecessary lighting at offices, and by introducing electric vehicles.

Reduction of transmission and distribution loss

Kyushu Electric strives to reduce the transmission and distribution loss and to supply power more efficiently in order to conserve energy.

The transmission and distribution loss for fiscal 2000 was 5.4%, a 0.2 point-improvement over fiscal 1999.

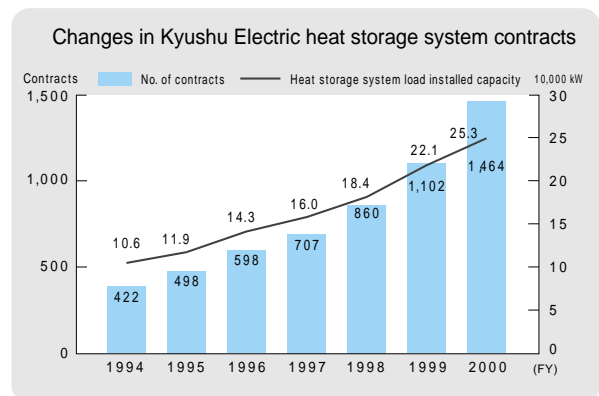


Promotion of heat storage systems and electric water heaters

Kyushu Electric promotes heat storage systems and electric water heaters which help accomplish more efficient energy use by utilizing nighttime power.

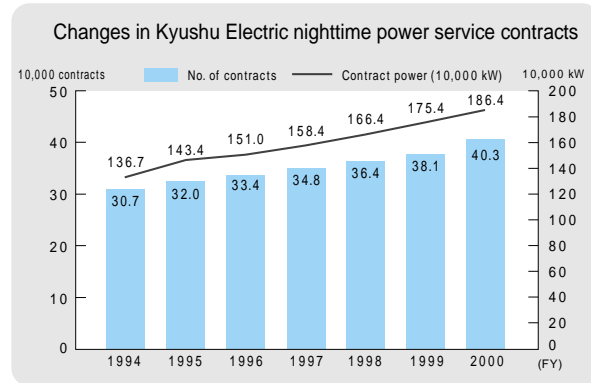
Heat storage systems

Through heat storage systems, the cold and thermal energy necessary to air condition buildings or factories is stored in a heat storage tank in the form of ice or warm water, and is used during the daytime. The number of contracts for such heat storage systems by the end of fiscal 2000 was 1,464, and total load installed capacity was 253,000 kW.



Electric water heater

The electric water heaters currently on the market include improved models such as heat-pump types, with three times better efficiency than conventional heaters, and multi-functional heat-pump types, in addition to conventional models using electric heaters. The number of contracts for electric water heaters as of the end of fiscal 2000 was 403,000 with a total contract power of 1,864,000 kW.



Conserving energy in everyday business operations

Every employee at Kyushu Electric practices saving energy in their everyday work dealings.

Reducing power consumption in offices

Energy conservation activities include switching off unnecessary lights, controlling air conditioner temperature settings as appropriate, and refraining from elevator use to nearby floors.

Kyushu Electric has drafted an Implementation Plan for Everyday Energy and Resource Conservation Activities, and carries these out accordingly.

Kyushu Electric has set energy-savings targets for the period ending in fiscal 2003, and is working towards achieving those targets.

Introduction of electric vehicles

Kyushu Electric has promoted the development and adoption of electric vehicles since 1986. So far, a total of 25 electric vehicles have been introduced within the company, including an electric bus for power station tours. It was developed in 1999 and is one of the largest electric buses in Japan.

Kyushu Electric plans to increase the number of electric vehicles to 60 in fiscal 2001.

(4) Reduction of SF₆ (sulfur hexafluoride) gas emissions

Kyushu Electric uses SF₆ gas for insulation in some of its electric facilities, and takes care not to release this gas into the atmosphere during overhauls of facilities.

Because of the excellent insulation it provides, SF₆ gas is used in some electric facilities. The use of SF₆ is essential since there are no effective insulating gases that can substitute for it.

Thanks to the introduction of gas recovery equipment, the gas recovery rate (reutilization rate) improved from 40% in fiscal 1997 to 95% in fiscal 2000. In fiscal 2000, 21.7 tons of SF₆ gas (equivalent to the greenhouse effect caused by 519,000 tons of CO₂) was recovered out of a total of 22.8 tons (equivalent to 545,000 tons of CO₂) from the facilities subject to overhauls.



SF₆ gas recovery work