

# Environmental performance

## Saving energy measures

### Saving energy activities

We promoted saving energy activities by complete implementation of registered items regarding saving energy, and energy management in detail to achieve the reduction of energy unit requirement and carbon dioxide emission unit requirement at a rate of 1% or more annually on an average, which is the objective in the third saving energy activities.

However, in fiscal 2000, energy unit requirement increased by 1.5%, while carbon dioxide emission unit requirement decreased by 1.4%, compared with fiscal 1998, because of production amount decrease and environmental improvement measures, in spite of reduction of energy consumption.

### The outline of saving energy activities

**The third saving energy activities**  
(fiscal 1999 to fiscal 2003)  
Target year : fiscal 2003

- Goal : energy unit requirement reduction by 5% or more for five years (compared with fiscal 1998)
- Goal : carbon dioxide emission unit requirement reduction by 5% or more for five years (compared with fiscal 1998)

Reference : energy unit requirement = equivalent crude oil to energy used / in-house yield  
Carbon dioxide emission unit requirement = amount of carbon dioxide emitted / in-house yield

### The third company-wide saving energy activities action program

Items	Theme
Operation	1. related divisions meeting in head office
	2. saving energy activities meeting in the secretariat
	3. the visit to the plants where saving energy measures are implemented
Promotion of saving energy	1. inclusion of saving energy technology in company-wide important investments, and in general investment
	2. promotion of medium- and long-term plan
	3. saving energy investments (applying global environment-related budget)
	4. saving energy operation
	5. saving energy survey by specialists
	6. introduction of new technologies
Training of saving energy engineers	1. training of energy management engineers
	2. opening of Kubota saving energy study group
	3. sending mobile saving energy lectures
	4. improvement of saving energy technologies
	5. saving energy education
Enlightenment of saving energy activities	1. awarding saving energy activities by small group
	2. challenging for saving energy excellent plant
	3. Kubota saving energy white paper
	4. improvement of energy management standards in plants



### Energy consumption reduction

The volume of energy used was 250 thousand kℓ based on crude oil conversion in fiscal 2000.

We revised our company-wide energy management rules, and re-considered our energy management standards, to meet revised Energy Conservation Law, as saving energy activities.

We are now developing Kubota saving energy top-runner campaign to discover new saving energy themes, activating saving energy activities this year.

Twenty-four ideas were applied for this campaign this year. We reduced energy consumption by 0.7%, by conducting these ideas successfully.

Typical saving energy ideas are as follows:

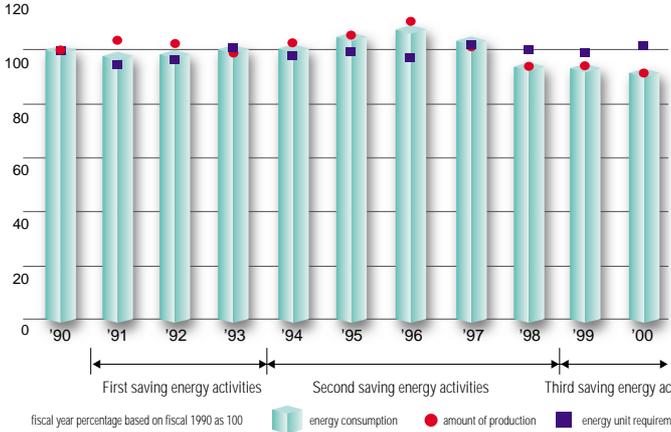
- Application of inverters to the high-voltage motors for main blower and dust collector in cupola
- Application of high-efficiency re-generation burner in melt-keep furnace for aluminum
- Effective utilization of high-efficiency electric furnace for intermittent operation
- Turning out the lights automatically

We were awarded a Director of the Bureau of Trade and Industry Award for our daily saving energy activities, in Tsukuba plant.

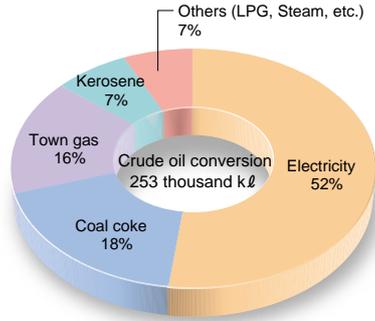
We were also awarded an Energy Conservation Center Japan Chairman Award at National Convention of Excellent Examples of Saving Energy, in Ohama plant.

We promote our saving energy activities, continuing saving energy top-runner campaign next year.

### Transition of company-wide energy consumption (fiscal year percentage based on fiscal 1990 as 100)



### Company-wide energy consumption in fiscal 2000, by type of energy



**Carbon dioxide emission reduction**

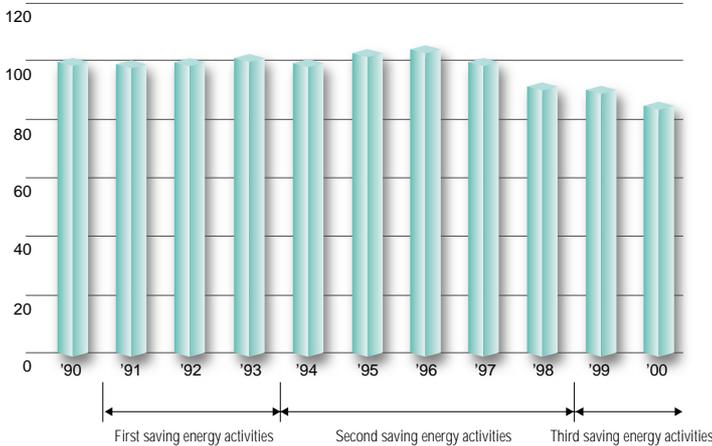
In fiscal 2000, carbon dioxide emission amounted to 156 thousand metric tons, based on carbon conversion, reducing five thousand metric tons compared with previous year.

The goal, the reduction of greenhouse gas by 6% by the year 2010 compared with 1990 level, was established in COP 3.

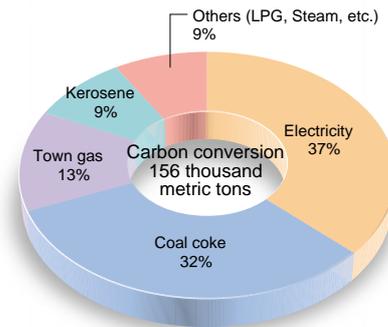
We reduced carbon dioxide emission by 13% compared with 1990 level.

We maintain our objective value from now on by saving energy activities.

**Transition of carbon dioxide emission**  
(fiscal year percentage based on fiscal 1990 as 100)



**Company-wide carbon dioxide emission in fiscal 2000**



**An example of saving energy measures**  
(an example of saving energy top-runner campaign)

**Saving energy by application of re-generation burner for melting furnace**

(reduction of gas consumption in melt-keep furnace for aluminum in Sakai costal plant)

Almost all gas fuel is used to melt and keep aluminum ingots in die casting lines.

Heat energy of 1.26 million kJ/h is necessary to melt and keep the ingots.

However, a half of it is heat loss, namely heat efficiency is 50%.

So re-generation burner was adopted to reduce gas consumption, increasing the heat efficiency.

