

Energy Conservation Program

Global warming which is caused by CO₂ emissions produced by burning fossil fuels, such as petroleum, is considered to be the most critical of all global environmental problems. In order to counter this problem, energy conservation, including electric power, has become a critical issue.

Oki has established targets for the reduction of CO₂ emissions generated by its own sites and is promoting activities to achieve these targets:

TARGETS

- Reduce the power consumption (energy consumption rate) by 10% more than 1995, by the year 2000.
- Reduce CO₂ emissions (energy consumption rate) from all energy consumption by 10% more than 1995, by the year 2000.

The electric power consumption (energy consumption rate) for FY1999 was 16.8% reduced over that of FY1995, thereby reaching their target.

Furthermore, the CO₂ emissions (energy consumption rate), were reduced by 15.9% over those of 1995 and 14.1% over the previous year, reaching their target as well.

1. Major energy conservation measures and effects for FY1999

Approximately 90% of all energy consumption at Oki takes place at its semiconductor plants.

In order to reduce the energy consumption the following measures were taken, centering around semiconductor plants.

| Energy conservation measures | Effects (kiloliters of crude oil) |
|--|--------------------------------------|
| Improvement of production methods | 1,390 |
| Improvement of existing air conditioning and other facilities | 325 |
| Improved operating efficiency through centralization of facilities | 118 |
| Improved efficiency for lighting and the turning off of lighting when not needed | 70 |
| Change of fixed air conditioner temperature | 56 |
| Changes implemented at facilities (for increased efficiency) | 20 |

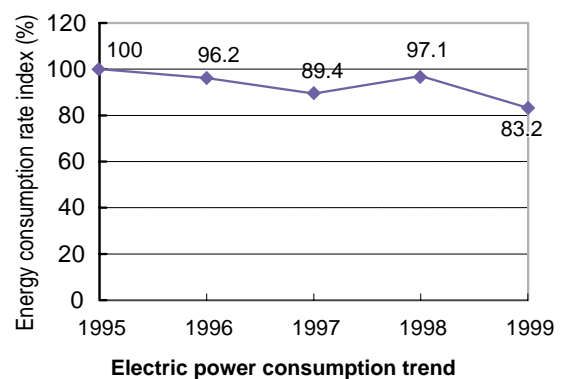
3. Energy conservation through improved production processes

In the printed circuit board production process, when production lines undergo changes to stop producing one type of product (say product A) to start producing another type of product (say product B), an idle time occurs due to the time required to change the production of product A to B. While such changes are being made the production facility is still in operation, causing a wasteful consumption of electric power.

In order to improve this situation Oki implemented the just in time (JIT)* production method at the Numazu Division, whereby the idle time is minimized and the wasteful facility operating time is reduced. This resulted in a reduction of approx. 20% of the power consumption.

*JIT production method

A production method which is characterized by the thorough elimination of waste, by various means including implementation of flexible production lines and reduction of lead time.

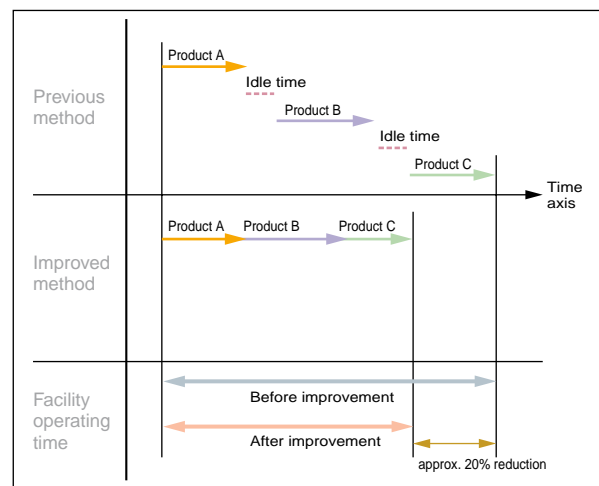


2. Carbon dioxide emissions reduced through increased boiler efficiency and fuel change

For a given desired thermal radiation level, gas supplied by local utilities produces 40% less CO₂ when compared to type A crude oil.

In FY1999, Oki Honjo area switched three of their four crude oil boilers to gas boilers, while at the same time the efficiency of the boilers was raised.

As a result, the CO₂ emissions reduced from 148 to 52 ton-C, and the sulfur oxide emissions were reduced from 542 to 35 Nm³.



Example of energy conservation through production process improvements