

## Reducing CO<sub>2</sub> Emissions through Energy Conservation

### FY 2001 Actions

In FY 2001, to enhance our power supply methods, we improved the efficiency of our air compressor and introduced a steam-powered air compressor. We reduced energy loss in our production lines through measures to prevent air leakage and through shutdowns between shifts and on holidays. In addition, improvements were made to production facilities.

In constructing the Higashiura Plant, one of our targets from the standpoint of preventing global warming was to reduce electric power consumption by 20% in comparison with the amount of electricity used by conventional plant facilities. To accomplish this, we introduced clean equipment and facilities such as solar and wind power generators to conserve energy. (For details on the Higashiura Plant, see pages 36-37.)

### Improving Energy Conservation in FY 2001

#### ■ Installing Steam-Powered Air Compressor

In the Nagakusa Plant, we installed a steam-powered compressor to replace our old air compressor facilities. This steam-powered compressor utilizes the difference in pressure of the high pressure steam emitted by the cogeneration system to create air. As a result, the plant was able to reduce electric power consumption by 1,150 MW annually, or 760 t-CO<sub>2</sub> per year.

#### ■ Improving Production Facilities to Reduce Electric Power Consumption

In the Hekinan Plant, we use a coolant (oil) at the cutting stage during the processing of parts. By creating a more compact nozzle and performing head cleaning intermittently, we were able to reduce the coolant used. In addition, we could reduce the number of spray pumps. As a result, annual electric power consumption was reduced by 620 MW, or 410 t-CO<sub>2</sub> per year.

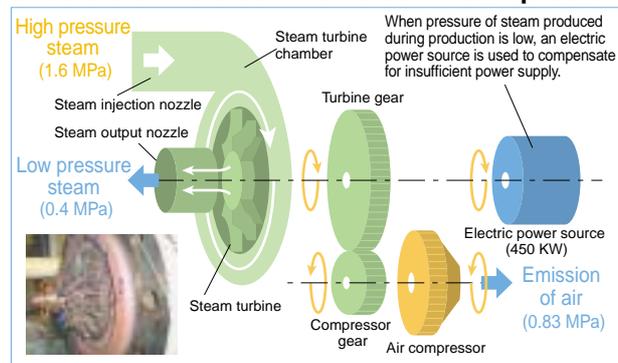
### Future Actions

In FY 2002, at our Kyowa Plant, we plan to introduce a cogeneration system, minimize electric power loss during non-operating hours, and improve efficiency through the integration of production lines. In the future, we aim to aggressively work at conserving energy and reducing CO<sub>2</sub> emissions.

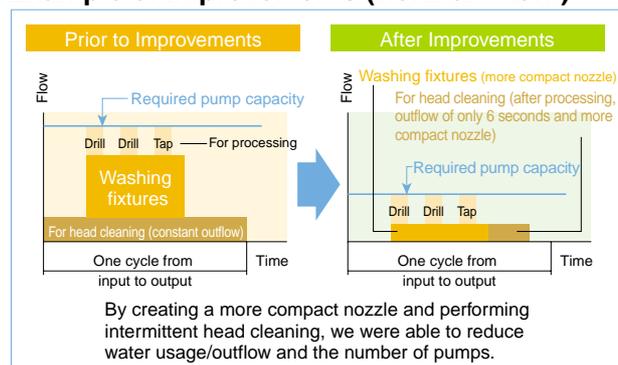
### Key Energy Conservation Activities in FY 2001

Action	Details
Improving power supply methods	<ul style="list-style-type: none"> <li>Improving efficiency of air compressors</li> <li>Introducing a steam-powered air compressor</li> </ul>
Reducing energy loss in production lines	<ul style="list-style-type: none"> <li>Measures to prevent air leakage</li> <li>Facilities shutdown between shifts and on holidays</li> </ul>
Improving production facilities	<ul style="list-style-type: none"> <li>Better energy efficiency owing to shorter cycle time</li> <li>Employing air blowers with nozzles which conserve energy</li> <li>Converting to fluorescent lighting (phase out mercury lighting)</li> </ul>
Surveying energy saving items by adopting a system to measure energy usage	<ul style="list-style-type: none"> <li>Introducing in-house examples (introduce horizontally throughout other divisions)</li> </ul>
Introducing energy saving facilities at the Higashiura Plant	<ul style="list-style-type: none"> <li>Employment of micro gas turbine, solar power, and hybrid solar and wind street lamps</li> <li>High efficiency air compressors</li> </ul>

### Structure of the Steam-Powered Air Compressor



### Example of Improvements (Hekinan Plant)



#### • Energy Conservation Month

December of every year is Energy Conservation Month. We ask employees to send in posters or to give us proposals for energy conservation. In FY 2001, 122 posters were sent in. Three were chosen for display in the office. This event helps to heighten awareness on energy conservation.

