

# TOPICS

## Operations begun at our next-generation LSI device Green Factory using the latest eco-friendly equipment — Environmental measures adopted for new facility at Mie Plant

In April 2005, at the 307,000m<sup>2</sup> site of the Mie Plant (in Kuwana City, Mie Prefecture), a new facility was completed for the mass production of LSI logic devices on large-diameter 300mm wafers using 90nm and next-generation 65nm design rules.

The new factory, with 12,000m<sup>2</sup> of clean room area, is our latest Green Factory, actively committed to preventing global warming, reducing the discharge of waste and chemical substances, and reducing a wide variety of environmental burdens.



The new wing of the Mie Plant

### Environmental Measures

#### To Prevent Global Warming

- **Eliminated use of fuel oil**  
There are no boilers using fuel oil. They have been replaced with small boilers using natural gas.
- **Equipment installed to remove PFCs**  
This reduces the emission of substances other than CO<sub>2</sub> implicated in global warming.
- **NAS battery system**  
We are using NAS (sodium-sulfur) batteries to store electrical energy for nighttime use and to smooth the power load.
- **Localized clean rooms**  
These help to reduce air-conditioning energy requirements.
- **Solar cells and wind-power generators**  
These are used for car park lighting.



Small boilers burning natural gas



NAS batteries



PFC removal equipment



Solar and wind generators

#### To Reduce Waste Discharge

- **Zero emissions from the start of operations**  
Spent hydrofluoric and sulfuric acid are recovered and recycled.
- **Reducing the amount of waste generated**  
Equipment to compact alkali has been introduced.



Alkali compaction equipment

#### To Reduce Chemical Discharge

- **Reductions in the volumes of nitrogen and phosphorous discharged**  
Introduced method using microorganisms for wastewater treatment.
- **Reductions in the volume of fluorine discharged**



Secondary process device for fluorine

### Aseismic Measures

#### The World's First Hybrid Seismic Isolation Structure

In addition to the measures to reduce environmental burdens, measures have also been taken to cope with earthquakes. The new facility uses three types of devices to isolate the building from earthquake tremors: rubber laminations, oil dampers, and sliding supports. These suppress normal vibrations and protect the production lines against earthquake tremors rated up to 6 (strong) on the Japanese scale.

The risks of earthquake-induced environmental pollution and other human disasters have likewise been minimized.



Seismic isolation device (rubber laminate support)



Seismic isolation device (rigid slider support)



Seismic isolation device (oil damper)