

Continue to reduce total energy consumption for million dollars of added value by at least 5% per year

### **INCREASE ENERGY EFFICIENCY**

The trend in energy saving continues to improve - 29% over the period 1994-2000 at equal production. We recently changed our indicator - from Production Value to Added Value - but this has not influenced the trend.

#### **Examples**

- Technical improvements in the way we test wafers at our site in Agrate, Italy, provides an energy saving of 85%. This has been achieved through a new competitive technology to probe wafers by creating a minizone of clean area around the wafer under test. This delivers productivity improvements and a more flexible plant layout, eliminates the need for an expensive clean-air work area and allows most of the testing to take place in air quality similar to offices.
- Our Ball Technic System (BTS™), an energy-saving technique to descale condenser tubes pioneered at our Toa Payoh site in Singapore, is now being used by other plants, as a result of the ST Knowledge Sharing initiative. This has produced a saving of 18,000 MWh per year (equivalent to more than \$1.2 millions per year).
- In our Malta site before 1999, no means of heat recovery in HVAC was available. A heat recovery system was installed in 1999 and since then the recovery system from the compressors has resulted in a powerful tool for the improvement of energy conservation (less fuel consumption), with the additional benefit of reduction of CO<sub>2</sub> emissions as shown in the chart below.

**Alternative Energies:** adopt, wherever possible, alternative energy sources such as cogeneration and fuel cells

### **USING COMBINED HEAT AND POWER PLANTS**

Conventional power stations that burn fossil fuels give off a lot of heat, wasting as much as 70% of the energy they consume. We are starting to use a more efficient generating technology that uses a system known as combined heat and power (CHP), or cogeneration, that captures most of the waste heat and uses it to make steam or provide heating.

By 2010 combined heat and power energy should supply 65% of ST's electricity with 30% coming from conventional methods.

#### **Examples**

At Catania in Italy we intend to buy electricity, heat and cooling from a new