

Environmental Activities of ST Liquid Crystal Display Corp. (ST-LCD)



Outline of Business Activities: ST-LCD is a joint venture between Toyota Industries and Sony Corporation that engages in the manufacture of low-temperature polysilicon TFT LCD panels (operations commenced in April 1999). The products manufactured at ST-LCD are used by Sony and several other companies mainly as panels for video cameras, digital still cameras, and personal digital assistants (PDAs).



Activities

Reducing Environmental Impact during the Production Process

Recycling Activities

Since commencing operations, ST-LCD has recycled or converted chemical liquids, including thinners, and sludge into fuels and raw materials. As of the end of fiscal 1999, ST-LCD had achieved a recycling rate of 95% and attained Zero Emissions*¹ as defined by its internal standards. ST-LCD further raised its recycling rate to 98.8% as of the end of fiscal 2000 by recycling glass used in LCDs as well as waste plastics and cardboard and introducing resource-conserving equipment through tie-ups with equipment suppliers. Also, ST-LCD recovers pure water used during production for reuse as cooling water, scrubber water, and toilet water.

Using Late-Night Electric Power for Daytime Plant Cooling

Late-night electric power is being used to make ice and to cool plants during daytime hours. By using late-night electric power, which uses less fossil fuels and is in excess supply, we have reduced our daytime consumption of electric power 4.4% from fiscal 1999 while contributing to a reduction in the volume of CO₂ emissions.



Ice storage tanks for plant cooling

Reducing Substances that Have an Impact on the Environment

We previously used acetone as an organic solvent for washing production facilities for LCDs. By shifting to water-based solvents, ST-LCD is working toward the use of processes that reduce environmental impact.

Activities to Conserve Resources

Since commencing operations, ST-LCD has worked to conserve resources through measures that include introducing equipment to recycle developing agents used in the photolithography*² process, with the aim of extending the useful life of these agents. ST-LCD also reuses dummy glass through cleaning. Also, by changing paint dispersal methods for resists, ST-LCD has attained a 20% reduction in the volume of waste material emitted per sheet of glass used.

Maintaining Water Containment Areas

ST-LCD has introduced rainwater collection tanks to avoid the risk of any pollution-causing substances that may accumulate on the ground surfaces at its plants from being directly washed into rivers by rain. Rainwater accumulating in these tanks is treated as wastewater before being discharged into rivers. Also, to confirm that this rainwater does not become polluted, water is temporarily stored in small catchment basins for examination.



Reservoir



Rainwater tank

*1 Zero emissions: ST-LCD defines zero emissions as the attaining of a 95% recycling rate.

*2 Photolithography: An electronic circuit pattern manufacturing technology. A photoresist (a light-sensitive resin) is coated on a raw material. A mask pattern is transferred to the photoresist when ultraviolet light is flashed through a glass mask and a photo-reaction takes place.