

Low-Pressure Plasma Reactors for Eco-friendly Semiconductor Processing

Technology Overview

- Semiconductor processes emit large amounts of greenhouse gases, unstable precursors, and by-product particles, which are of great concerns from environmental and economic points of view
- With an object to overcome these concerns, we propose a low-pressure plasma technology

Core Technologies

- Plasma reactors placed before a vacuum pump
- Cylindrical electrode structure and low-frequency driving

Application Area and Advantages

- Abatement of greenhouse gases → Eco-friendly processing
- Reduction in quantity of by-product particles → Increase in vacuum pump lifespan
- Stabilization of unstable precursors → Prevention from fire or explosion

Accomplishments

- Technology transfer to LOTVACUUM Co. Ltd.: \$250,000
- Sales in 2014: \$5,000,000 (Samsung Electronics)

