# Our New Plant: A Cutting Edge “Eco Plant”

## Tokyo Electron’s New Miyagi Plant

### About Tokyo Electron’s New Miyagi Plant

In the summer of 2010, the Tokyo Electron Group began construction of Tokyo Electron Miyagi Limited’s main plant in Taiwa Town, Miyagi Prefecture. In June 2011, the administration and development buildings began operations, and we plan to launch operations at the production building in October 2011. The new plant will consolidate the development and production of etching equipment for semiconductors, a market which is expected to see robust growth going forward. This integrated structure will help shorten the development phase of high value-added products, while corresponding changes in our production methods will improve productivity and reduce production lead times.

The etching process is an extremely critical step in the manufacturing of semiconductors, and as such, represents one of our core businesses. In addition, the new plant will also manufacture our etching system Tactras™ RLSA™ Etch that uses new plasma technologies. The site of the new plant is approximately 300,000m$^2$ and consists of three buildings, each focused on either production, development or administration, with a total floor area of approximately 70,000m$^2$.

### 1,000 kW PV Power Generation System

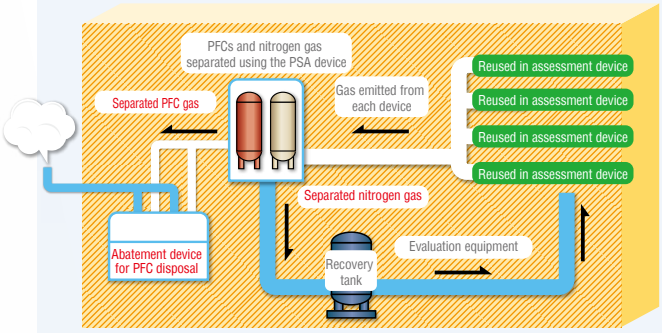
A large 1,000 kW PV power generation system has been installed on the roof of the production and development buildings, while energy saving facilities have also been used extensively throughout, making it an extremely eco-friendly plant. This system, which uses a thin-film PV cell panel that was made using TEL Group-related production equipment, features a 750 kW unit installed on the roof of the production building and a 250 kW unit atop the development building. In addition, the system’s power generating status is displayed on a monitor in the entrance hall, while employees can also confirm this information in real time over the intranet.

Thin-film PV cell panel installed at the new plant

### PFC Gas Abatement System with PSA Unit

Our Gas Abatement System uses a pressure swing adsorption (PSA) device to separate and recover nitrogen gas from the gases used in the cleaning and etching processes, as well as a system that breaks down PFCs[1] with an abatement device. This marks the first time the TEL Group has installed such a system. Consequently, we will be able to mitigate our impact on the environment through broadly reducing our emissions of PFCs—a greenhouse gas, curbing the amount of nitrogen gas we use by recycling recovered nitrogen gas, and cutting our energy consumption by minimizing the required number of PFC abatement devices.

1 PFC (perfluorocarbon): A fluorocarbon compound containing absolutely no hydrogen or chlorine that is one of the six gases subject to reductions stipulated in the Kyoto Protocol. Although PFCs do not damage the ozone layer, they have a greenhouse effect several thousand times that of $CO_2$.




Overview of the PFC Gas Abatement System with PSA Unit

## Promoting the Concept of *Mieruka* (Visualization)

Energy used in offices, production processes and assessment facilities can be checked by employees over the intranet using the Eco Factory Monitor. Empowering employees to visibly monitor their use of energy will help us promote energy conservation activities where all employees participate.


Eco Factory Monitor

## Efficient Natural Light Collection and Use of LED Lighting

The new plant employs LED lighting in the clean rooms of both the production and development buildings. This will help us curb not only energy use from lighting, but also reduce the load on the facilities' air conditioning system because LED lighting lowers the amount of heat emitted from lighting fixtures. LED lighting also has a longer service life than conventional fluorescent fixtures, which we expect will help us reduce costs associated with replacement lights. Furthermore, a natural light collection system will be used to reduce the use of lighting in offices, while the air conditioning system's use of natural ventilation will help conserve energy.

LED lighting

Natural light collection system

## Basic Environmental Agreement Concluded

On May 26, 2011, Tokyo Electron Miyagi Limited concluded a basic environmental agreement with Miyagi Prefecture and Taiwa Town. The signing ceremony was held at the Miyagi prefectural government building and attended by Miyagi Prefecture Governor Yoshihiro Murai, Taiwa Town Mayor Hajimu Asano, and Tokyo Electron Miyagi Limited President Hirofumi Kitayama, who each signed the agreement. This agreement focuses on the development and operation of an environmental management system as well as public information disclosures. Tokyo Electron Miyagi Limited constantly implements the PDCA cycle[2] for its own environmental plan in order to independently undertake proactive environmental measures.

2 PDCA cycle: Seeking continual improvements through repeating the four steps of Plan, Do, Check and Act.

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# Aspiring to Be the World's Foremost Manufacturer

I believe the mission of the new plant, through its integrated structure encompassing the development and manufacturing of etching equipment, will be to continue to provide greater value added products in a timely fashion. By extensively eliminating wasted time, communications and costs, we will be able to shorten the development period for new products, as well as improve quality and productivity beginning in the development stage. In addition, as a means to fulfilling one of our environmental commitments—aiming to reduce by 50% the impact of our business and transportation activities on the environment by 2015, compared to 2007 levels—the new plant employs a PV power generation system and LED lighting to help mitigate our environmental impact. And in terms of materials and logistics, we hope to receive the understanding of our suppliers throughout Japan toward the creation of a new system where parts are consolidated at strategic points in each region, then shipped jointly whenever possible. By achieving these challenges one at a time, we will aspire to be recognized by our customers as the world's foremost manufacturer of semiconductor production equipment.