

companies concentrated on developing their renewable energy for the long-term utility market; in other words, they were not very concerned with short-term profitability. Amoco, on the other hand, treated Solarex as part of the business from the very beginning, producing revenues from existing products at the same time as investing in technology development.

Today this strategy is paying off. In 1995, Solarex captured 27% of the U.S. market (12% of the global market), with total sales of \$45 million. In January 1996, the company broke ground on a new wing at its manufacturing facility in Frederick, Maryland, which already employs 240 people.

"This dynamic expansion project by Solarex will provide the kind of high quality [jobs] that Maryland needs to continue building a prosperous, vibrant economy."

— James Brady, Secretary of the Maryland Department of Business and Economic Development
(*Solar Industry Journal*, First Quarter, 1996)

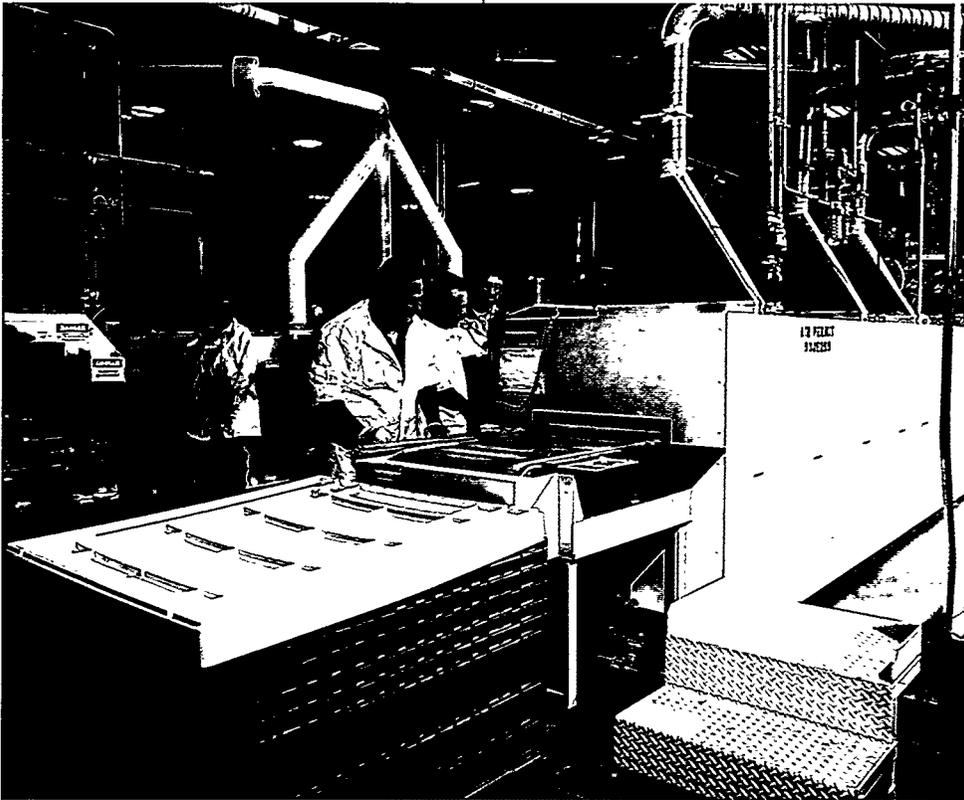
Solarex is also building a \$25 million manufacturing plant in James City, Virginia. The company was lured there by state incentives specifically designed to create jobs and strengthen the state's economy by attracting PV manufacturing companies to the area. The new plant will employ a total of approximately 80 people.

How It Works

Photovoltaics is the direct conversion of light ("photons") into electricity ("voltage").

The basic unit of a typical photovoltaic system is the PV cell, which is made of layers of semiconducting materials similar to those used in computer chips. When incoming photons of light strike atoms in the semiconductor material, some electrons are knocked loose, causing electricity to flow. The greater the intensity of the light, the more power is generated by the cell.

PV cells, which produce DC electricity, are usually connected together and enclosed in protective casings called modules. Photovoltaic systems can provide an independent, stand-alone power supply or can be connected to the electrical grid. In stand-alone applications, modules can be connected to inverters to supply AC electricity and to batteries to store electrical power for periods when the sun is not shining. Grid-connected systems both feed power into the grid and use the grid as a source of backup power.



U.S. manufacturers are expanding their output to meet the growing demand for PV systems. This creates skilled jobs at production facilities in several states, such as this thin-film plant in Golden, Colorado.