



WELCOME TO
THE APPLIED MATERIALS
SOLAR TECHNOLOGY CENTER

We make the equipment that makes the products that improve the way people live.

APPLIED MATERIALS MAKES THE EQUIPMENT THAT MAKES THE PRODUCTS THAT IMPROVE THE WAY PEOPLE LIVE.

We're the world's leading supplier of equipment that makes computer chips, flat panel displays, and solar PV panels.



SILICON MANUFACTURING EQUIPMENT



DISPLAY MANUFACTURING EQUIPMENT



CLEAN ENERGY MANUFACTURING EQUIPMENT

Beginning with semiconductors in 1967, Applied's equipment has been behind most of the advances in these industries, cutting costs and increasing performance to make advanced technologies both available and affordable for billions of people.

What do computer chips, flat screen LCD TVs and solar photovoltaic (PV) panels have in common? They're all made of microscopic electronic components — mostly transistors — that are etched into silicon. Our equipment creates those components with amazing precision and reliability.

Over 40 Years of Leadership

Applied Materials was one of the first international electronics companies to invest in China.

Over the years our investment has grown, creating jobs, educational opportunities and business partnerships that benefit everyone involved.

- 1984** Opened service center in Beijing and became the first semiconductor equipment company to establish a presence in China
- 1994** Established \$1 million Research and Development Fund with the city of Shanghai to support microelectronics research at local universities in China
- 1995** Opened offices in Beijing, Tianjin and Wuxi
- 2000** Surpassed \$100 million in revenue in China
- 2004** Inaugurated third phase of Shanghai Research and Development Fund
- 2007** Opened Global Development Center to provide engineering and software support services to Applied Materials locations around the world
- 2008** Activated a 56 kilowatt solar array with Xi'an Party Secretary Qingyun Sun to reduce greenhouse gas emissions by more than 65 tons per year
- 2009** Dedicated the Applied Materials Solar Technology Center

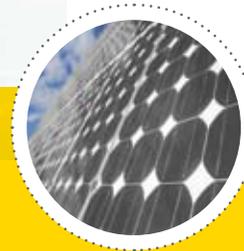
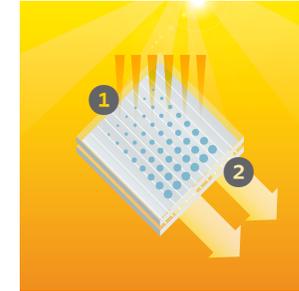
25 YEARS IN CHINA

GROWING ENERGY DEMANDS REQUIRE A DIVERSIFIED ENERGY SOLUTION



How Does Solar PV Power Work?

- 1 When sunlight shines on a solar panel, it excites electrons in the silicon and creates current.
- 2 Microscopic "wiring" carries the current where it is needed.



Why Solar Now?

Everyone understands that we can't keep burning fossil fuels to power our lives. The supply is limited and the environmental impact is devastating.

SOLAR POWER OFFERS AN OPPORTUNITY FOR UNLIMITED, RENEWABLE, CLEAN ENERGY.

And unlike wind turbines, hydroelectricity, and other renewable technologies, solar panels can go anywhere — on the grid in cities or off the grid in remote areas that don't have reliable electrical power today.

Crystalline Silicon

Ideal for space constrained/
rooftop applications

Today, there are two common types of silicon-based solar PV panels. The first is called crystalline solar, because the electronics are etched onto wafers of solid, crystallized silicon. They are efficient at converting sunlight to electricity and extremely compact.

Thin Film

Designed for large scale applications

The newer kind of panels are called thin film solar, because they can be made by essentially spraying silicon or metals onto thin glass sheets. They are not as efficient as crystalline cells, but generally cost less to produce.

ONLY SOLAR PV CAN CREATE A CLEAN TECH ECOSYSTEM, WHERE ENERGY DOLLARS STAY IN A LOCAL COMMUNITY.



The Applied Materials Solar Technology Center

This facility is one of the largest and most advanced centers for solar panel research in the world. We work here with customers to advance solar technologies, test them, customize them for their own uses, and integrate them with their existing production lines.



THE XI'AN CENTER DEMONSTRATES OUR COMMITMENT TO MEET CUSTOMERS' TECHNOLOGICAL NEEDS – AND THE WORLD'S NEED FOR CLEAN, AFFORDABLE ENERGY.

Utility Adoption of Solar Power is the Key to Changing How We Make Electricity

In many locations, solar photovoltaic (PV) is already price competitive with natural gas for peak power generation. The technology we are developing here in Xi'an will further help drive down panel manufacturing costs, enabling massive utility-scale solar development. Furthermore, many forward looking utilities are considering owning not only solar panel farms but also the factories that produce those panels. This can further eliminate costs and deliver ultra-low cost solar solutions.

Your Visit to Applied Materials

Today, you will learn about Applied's solar panel manufacturing systems, as well as the benefits solar technologies can bring to communities around the world. A guide will take you through working solar panel production lines, explain how they operate and answer your questions. We hope you enjoy this facility, and go home with an understanding of how solar power is a convenient and cost effective way to help meet the world's energy needs today.



Applied Materials' equipment has helped make electronics smaller, more powerful, and less expensive every year, year after year. Our story is about scale: scaling components down to fit more circuits on chips; scaling productivity up to make chips and flat panel displays more affordable; and working on a global scale to reach people around the world. Now we're applying our expertise and resources to solar technologies to make clean energy available to billions.

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