Press Release

VDMA: European photovoltaic production can be profitable

Photovoltaic production in Europe and Germany across the entire value chain is competitive again if the size of the production fab is appropriate. This is the result of a survey by Fraunhofer ISE commissioned by VDMA, comparing the cost ratios of production in Europe and China.

Frankfurt, August 14, 2019 – The increased use of solar energy in Europe and Germany is essential if the climate goals of the Paris agreement are to be achieved. While the production equipment for solar modules is still manufactured in Germany, the production of cells has almost completely moved to Asia. However, this process could now be reversed; the production of solar modules could take place in Europe again at competitive costs and without state subsidies. According to the study commissioned by the VDMA, this would require a production capacity of at least 5 gigawatts (GW) per year. This would correspond to one-thirtieth of the currently installed production capacity of around 150 GW worldwide. Such a fab would mean an investment of slightly over 1 billion euros and would create several thousand direct and indirect new jobs.

"Securing the energy supply in the age of climate protection means having PV cells and modules in sufficient numbers. However, the first supply shortages for solar modules, which are mainly produced in Asia, are already becoming apparent. A new dependency is emerging for Germany and Europe, although the technological competence is available here," says Dr. Jutta Trube, Head of VDMA Photovoltaic Equipment. Therefore, the VDMA has commissioned the Fraunhofer Institute for Solar Energy Systems (ISE) to compare the costs of a PV cell and module production in Germany and Europe with those in China.
The study shows that a module manufactured in Europe can be produced for the European market at competitive costs – not least because transport costs from Asia are eliminated. The most cost-effective case arises when a closed supply chain for the essential materials is also established locally in Europe and when the production takes place, for example, in a European country with comparatively low labor costs. The modules manufactured in Europe can so be sold to neighboring regions.

**Market for solar power growing strongly worldwide**

Today, solar power is one of the cheapest ways of providing energy internationally, especially due to the excellent research and development work in Europe. By the end of 2018, more than 500 GW of solar capacity had been installed worldwide, 120 GW in Europe and 46 GW in Germany. Power generation costs in many highly sunny regions around the world were in the range of 2 cents per kilowatt hour (kWh). In less sunny Germany the costs were located below 5 cents per kWh. Prices for modules have fallen by half in the past three years and the usage of solar power is steadily increasing. In Europe alone, 11.5 GW of capacity was added last year. Experts predict an increase of another 24 GW of installed capacity for the EU next year. Considering the need for sector coupling, an annual increase of more than 100 GW is expected in Europe between 2025 and 2030, which is a significant market size.

The German photovoltaic industry, with its manufacturers of materials, components and systems besides a strong research landscape, has made the largest contribution to this development. Equipment manufacturers from Germany and Europe still supply machinery and equipment to produce highly efficient solar cells and modules around the globe. "With a European production of solar cells and modules, however, CO₂ emissions could be reduced to a minimum. Moreover, the topic sustainability could be introduced into the energy system as a result of recycling economy," explains Trube. "Politicians can support this process with appropriate general regulations, such as suitable expansion corridors, priority feed-in of renewables and a fitting grid infrastructure".

Do you still have questions? Dr. Jutta Trube, VDMA Photovoltaic Equipment, Phone +49 (0) 69 6603 1879, jutta.trube@vdma.org, is happy to answer your questions.

The VDMA represents more than 3200 companies in the medium-sized mechanical and plant engineering sector. With 1.3 million employees in Germany and a turnover of 232 billion euros (2018), the sector is the largest industrial employer and one of the leading German branches of industry overall.