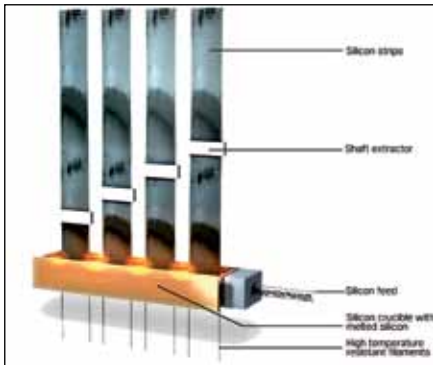




Producing 100 per cent of the energy while saving 50 per cent silicon and energy

Sustainability is at the heart of how business is carried out at Sovello, the German-based company, Stefan Heyn their spokesman says. Now one of the leading integrated module manufactures, their STRING RIBBON wafers are produced through an economically and ecologically balanced production process. "That's how we preserve our environment over the long term," he adds ...



BU1: A silicon strip (ribbon) is created by pulling two thin filaments vertically through molten silicon. This ribbon solidifies during cooling. Segments of the ribbon are then cut into wafers and processed to form solar cells and modules. This process significantly reduces silicon waste and is more cost effective than most conventional processes.

Stefan goes on: "This is also what makes our solar modules perform so well. They are based on highly efficient technology and have the shortest energy payback time (1.25 years) in the world compared to similar products."

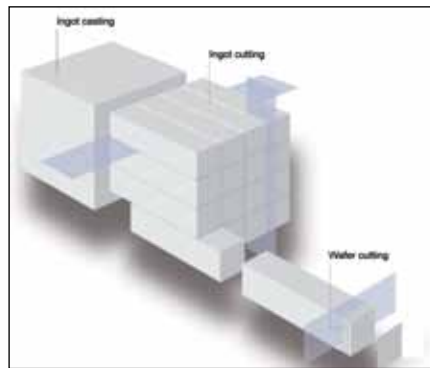
"At our location, we have already produced more than a million modules. Our poly-crystalline silicon PV modules have the smallest carbon footprint of all compared to other manufacturers' modules.

. Our highly-automated production system involves the entire value added chain from drawing the wafers directly out of the silicon cast to manufacturing high efficiency cells right up to the complete operational module. With the STRING RIBBON wafers, we can optimally coordinate all of the production stages and reduce the number of resource intensive steps. The advantages of this are consistently high quality, optimum use of resources and high performance."

"For us, innovation and technological progress are the basis for a cleaner, sustainable source of energy for the future. That is why we invest in important activities in research and development so we continuously improve the performance of our products. At the same time, we ensure consistently high quality standards for our products. Sovello is already among the best in the field today.

"Our modules based on STRING RIBBON wafers are produced with the highest level of efficiency. During the highly innovative production of our wafers, only 50% of the silicon needed for traditional wafers is used. This balanced technology is a clear market

advantage for us. The fundamental production principle of the STRING RIBBON wafers is as simple as the idea of generating energy from the sun: it is based on the phenomenon of surface tension. Several hundred furnaces in our production lines make silicon strips from valuable solar silicon.



BU2: Conventional Production Process. During the conventional production process, large blocks of silicon are cast or drawn. Next, the blocks are cut in silicon cubes, so-called "Ingots" which are then cut into wafers. This process produces a significant amount of silicon waste which cannot be recycled, and the many production steps make it more error prone.

"Each of our new quad furnaces produces four strips in parallel. Less of the precious raw material is wasted in comparison to conventional technology. Simply put, we produce 100 per cent of the energy while saving 50 per cent silicon and energy. Competitors usually use quartz furnaces to produce the ingots for solar wafers. This leads to a so-called light-induced degradation tendency after assembly of the solar modules, which results in a reduction in performance of up to three per cent during the first weeks after assembly. Sovello therefore uses graphite furnaces in production, which significantly reduces this effect," Stefan tells PES.

"The resulting products originate from a production process which requires less energy, and thus have a considerably shorter energy payback period. The principle is this: simplicity and economic efficiency with high ecological benefits.

The Sovello Pure Power Series

"Our product series Sovello Pure Power X Series and the Sovello Pure Power T Series were manufactured in Germany in one of the most advanced fully-integrated solar factories in the world in accordance with the highest quality standards. The modules are extremely efficient, easy to manage and impress with a superb specific energy production

as well as minimal CO₂-emissions. The Sovello Pure Power solar modules have a particularly tight performance tolerance with 100 per cent guaranteed nominal performance. "Our products achieve high energy output on the basis of the fully-integrated manufacturing process and the use of high-quality components, such as, for example, the special solar glass. Sovello modules are not only impressive because of their high performance, but also due to their longevity and high degree of flexibility regarding system configuration and installation.

We offer our customers maximum insurance with a five-year guarantee on the materials and we also guarantee at least 80 per cent of the given nominal performance after 25 years.

"Only first class modules guarantee first class earnings. For many years Sovello has attached great importance to research, development and the Made in Germany label, thereby continuously ensuring quality, safety and performance in photovoltaic systems. With Sovello solar energy is becoming the energy of the future." ■

For more information, please visit:
www.sovello.com

STRING RIBBON is a trademark of Evergreen Solar, Inc. Evergreen Solar's patented wafer manufacturing technology is used by Sovello AG under license in the manufacture of products with String Ribbon wafer.

About the company

Sovello is one of the world's largest fully-integrated solar module producers. The German-based company has produced modules of more than 200 MWp at their production facilities. The company claims its polycrystalline silicon PV modules achieve the lowest carbon footprint among comparable products and says its highly-automated production process creates multiple benefits from which its customers, as well as the environment, benefit. The patented STRING RIBBON wafers it produces are a result of a procedure that is balanced both economically and ecologically. "This is how we sustainably conserve our environment. We achieve outstanding module performance linked to a high degree of efficiency in production and the shortest energy payback among competitive products worldwide," spokesman Stefan Heyn said.

For more information, please visit:
www.sovello.com