

The Solar Manufacturing Accelerator presents:

Si-Fab



Project

Highly efficient solar wafer factory



CO2 avoided

80% CO2 emissions avoided



Resources saved: 90% silicon losses and 70% energy saved, compared with today's standard wafer production process



Jobs created

400 direct jobs



Total investment: Phase 1: €95 million (CAPEX/OPEX); Phase 2: €250 million (CAPEX/OPEX)



Production capacity

15 GW by 2026



Locations:



NexWafe produces highest quality mono-crystalline n-type silicon wafers ("EpiNex[®]" wafers) for high-efficiency solar cell / module production by its proprietary gas-to-wafer process. Based on 20 years R&D with Fraunhofer ISE, EpiNex[®] is a **cutting-edge wafer technology that allows a 75% lower CAPEX, an 80% lower CO2 footprint, and a flexible wafer thickness** from standard 160 μm to 50 μm allowing for higher cell/module performance, higher quality products and thus lower cost of electricity. EpiNex[®] **reduces silicon losses** in manufacturing by 90% as no polysilicon production, crystallization and wire-sawing from crystal ingots into wafers is needed as in today's wafer production processes.

EpiNex is key to a sustainable European solar PV industry. Enabling world-record module efficiencies at commodity cost,

as well as building the basis for future ultra-high efficiency tandem solar architectures, EpiNex[®] wafers will provide the **innovative advantage** European PV urgently requires to stay ahead of foreign competition. Thanks to a secured intellectual property, NexWafe's business model is duly protected.

The Si-Fab project will rapidly move EpiNex[®] production from pilot-line to **large-scale sustainable mass production**. Driven by a dynamic and expanding European solar market reaching 20 GW in 2024, NexWafe targets a share of 15% of the market and 50% of the low-CO2 manufactured silicon wafers market. The Si-Fab will be located in the Chemical Park of Bitterfeld, Germany. From the current 5 MW pilot production line located in Germany, the Si-Fab project will **scale-up production capacity to 400 MW by 2023** in a first phase and expand industrial capacity to 3.2 GW by 2025.