



INNOVATION FUND

Deployment of net-zero and innovative technologies

SunRISE: NorSun AS: Resource efficient and highly innovative n-type mono-Silicon wafers for Europe.

The Innovation Fund is 100% funded by the EU Emissions Trading System

| Project Factsheet

The project aims to build a new manufacturing factory with an ingot and wafer production capacity of 3 gigawatt (GW). NorSun's n-type wafers are used in highly efficient solar photovoltaic (PV) cells to produce renewable electricity, contributing to the reshoring of the European PV value chain in line with EU policy objectives.

By deploying innovative and state-of-the art technology including high levels of automation and artificial intelligence (AI), the project will reduce manufacturing costs by more than 50% compared with the existing plant in Norway. Ingot pulling will be optimised to increase the yield and productivity while producing the market leading M10 and G12 wafer formats. Progressive reductions in diamond saw wire thickness allow for thinner wafers (up to 100µm) and reduce the loss of silicon by 20%. Furthermore, renewable sources (hydroelectric) are used to supply energy to the production processes.

COORDINATOR

NORSUN AS

LOCATION

Norway

CATEGORY

Renewable Energy (RES)

SECTOR

Manufacturing of components for production of renewable energy or energy storage

AMOUNT OF INNOVATION FUND GRANT

EUR 53,600,000

EXPECTED GHG EMISSIONS AVOIDANCE

4,936,138 tonnes CO2 equivalent

STARTING DATE

01 April, 2023

ENTRY INTO OPERATION DATE

31 December, 2025

FINANCIAL CLOSE DATE

30 June, 2024

Through these measures, the CO2 equivalent intensity per wafer is reduced by more than 50% compared with the current Chinese average. The project enables the deployment of PV modules to produce renewable electricity, which replaces fossil energy sources. Under conservative estimations, the project will thus reduce emissions by a minimum of 4.9 million tonnes CO2 equivalent over the first ten years of operation, which is more than what 630 000 average EU households emit in a year (according to data from the German greenhouse gas (GHG) Registry).

By producing ingots and wafers, the project covers critical elements in the PV supply chain that will be relocated to the EU. Hence, SunRISE advances climate action and helps to secure European energy independence amid increased geopolitical risks to the current supply chains.

NorSun has a mature business case and strategic customer partnerships; the 3 gigawatt (GW) production output is already committed with letters of intent with two leading European cell and module manufacturers. The project will create around 300 additional jobs and help contribute to the broader rebuilding of the European solar supply chain and labour upskilling, including sourcing increasingly from European partners over time. By continuously improving the ingot pulling and wafer cutting processes, NorSun expects to achieve even greater levels of efficiency, reducing production costs and environmental impacts while improving its competitiveness. The experience gathered during large-scale industrial manufacturing will be built upon in further expansion plans and by the wider industry, helping to create a mature PV value chain in Europe and a more sustainable future.

| Participants

NORSUN AS Norway