



MANUFACTURING OF COMPONENTS
FOR RENEWABLE ENERGY

INNOVATION FUND

Deploying innovative net-zero technologies for climate neutrality

MOD4PV: GIGAWATT SCALE ASSEMBLY PLANT OF DISRUPTIVE TECHNOLOGY PV MODULES

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

| Project Factsheet

MOD4PV aims to set new solar photovoltaic (PV) module production standards with an innovative PV module assembly plant in Extremadura, Spain. Targeting an annual production capacity of over 1.5 Gwp, the project will rely on advanced heterojunction technology (HJT), which features higher efficiencies and energy yields than conventional PV technologies. The modern facility will have two dedicated production lines optimised to ensure high yield and consistent quality. This will allow MOD4PV to meet the growing demand for locally produced, high-quality, affordable PV modules. The project will deliver a relative greenhouse gas (GHG) emission avoidance of 100% compared to the reference scenario.

The project will apply a novel technology platform developed by TRINA to assemble competitive PV modules. The platform covers the entire assembly process, from cell cutting to better frame designs, and will integrate HJT coupled with an advanced solar cell silicon design (182x210mm). By optimising

COORDINATOR

TRINA SOLAR (GERMANY) GMBH

LOCATION

Spain

CATEGORY

Renewable Energy (RES)

SECTOR

Manufacturing of components for renewable energy

AMOUNT OF INNOVATION FUND GRANT

EUR 87,774,046

EXPECTED GHG EMISSIONS AVOIDANCE

11,862,842 tonnes CO₂ equivalent

STARTING DATE

01 January, 2025

ENTRY INTO OPERATION DATE

31 December, 2026

FINANCIAL CLOSE DATE

30 June, 2025

** Calculated vs. the 2021-2025 ETS benchmark of 6.84 tCO₂e/tH₂, not taking into account additional carbon abatement due to substitution effects in the H₂ end use application, i.e. conservative estimate.*

material use and lowering logistics costs, the project could achieve economies of scale and thus reach a high level of efficiency with lower costs. With a capacity factor of 19.40% for utility installations and 16.55% for non-utility applications, the project can generate over 2 800 GWh of renewable electricity annually, equivalent to powering nearly one million average households in Spain. Focusing on renewable energy, high-yield solar generation, and circular design, the project has significant cross-industry applications, particularly for sectors seeking to reduce emissions through electrification.

In line with European energy policies and net-zero targets, MOD4PV strengthens the PV industry by reducing energy dependency and contributing to renewable energy targets. By combining Trina's established manufacturing expertise with its

customer network, the project will enable an accelerated deployment of PV integration, promoting low-emission energy solutions and thus supporting the European Green Deal. With the current worldwide disparity in solar production levels, large-scale GW production facilities such as the one proposed by MOD4PV contribute to increasing Europe's competitiveness and improving its energy security.

The project will significantly impact the local and regional economy by supporting the expansion of PV industry clusters and strengthening the entire PV value chain. MOD4PV's plant will also benefit raw material suppliers and related industries by fostering local production of PV components such as glass and aluminium. The plant is expected to create around 250 indirect jobs during construction and another 560 during operational phases.

| Participants

TRINA SOLAR (GERMANY) GMBH

Germany

TRINA SOLAR (LUXEMBOURG) HOLDINGS

Luxembourg