

PROJECT

CÔA H₂ Project – Renewable Hydrogen Production Plant Based on Water Electrolysis

Beneficiary

SMARTENERGY 1826, Unipessoal Lda

Investment

€10,402,521

PROJECT DESCRIPTION

The **Côa H₂ Project** is funded under Portugal's **Recovery and Resilience Plan (PRR)** through the **TC-C14-i01 – Support for Renewable Hydrogen and Other Renewable Gases Production** programme.

The project aims to produce renewable hydrogen in the municipality of Guarda, supporting the decarbonisation of the public gas network, industry and transport by replacing fossil fuels with renewable energy.

The plant will include a **5 MW Alkaline or PEM water electrolyser**, capable of producing approximately **295 tonnes of renewable hydrogen per year** (11.6 GWh/year). It will also integrate hydrogen purification, compression and storage systems, injection into the public gas grid, a hydrogen refuelling station for road transport, and all supporting infrastructure required for safe, efficient and environmentally compliant operation.

Start Date

7 February 2023

Completion Date

31 December 2027

OBJECTIVES

The Côa H₂ Project will develop a renewable hydrogen production plant in **Guarda, Portugal** using **Alkaline or PEM Water Electrolysis**.

Powered primarily by a dedicated solar photovoltaic plant, complemented by renewable electricity from the grid, the facility will produce green hydrogen for:

- injection into the public gas network;
- supply to a hydrogen refuelling station;
- distribution to local industrial consumers by pipeline or road transport.

The project contributes directly to Portugal's energy transition and climate neutrality goals, while supporting the objectives of the **Recovery and Resilience Plan (PRR)** and the **European Green Deal**.

EXPECTED RESULTS (by 2028)

Indicator	Target
Renewable hydrogen production capacity	5 MW
Renewable hydrogen production	295 tonnes/year
Renewable gas energy production	11,610 MWh/year
Renewable energy storage capacity	35 MWh
Estimated annual GHG emissions reduction	2,368 tCO₂eq/year
Hydrogen refuelling stations	1