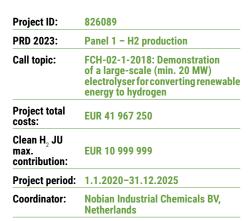
# **Djewels**

## DELFZIJLJOINTDEVELOPMENTOFGREENWATER ELECTROLYSIS AT LARGE SCALE





McPhy Energy Italia SRL

BioMethanol Chemie Nederland BV, McPhy Energy Deutschland GmbH, Industrie De Nora SpA-IDN, Hinicio

SA, McPhy Energy, NV Nederlandse

https://djewels.eu

Beneficiaries:

#### **PROJECT AND OBJECTIVES**

Djewels demonstrates the operational readiness of the 20 MW electrolyser for the production of green fuels (green methanol) in real-life industrial and commercial conditions. It will bring the technology from technology readiness level 7 to 8 and lay the foundation for the next scale-up step: a 100 MW electrolyser at the same site. Djewels will enable the development of the next generation of pressurised alkaline electrolysers by developing more cost-efficient, better-performing high-current-density electrodes, and is preparing for the mass production of the stack and scale-up of the balance-of-plant components.

#### **NON-QUANTITATIVE OBJECTIVES**

**Safety performance.** The design has been finalised and the hazard and operability analysis has been completed.

#### **PROGRESS AND MAIN ACHIEVEMENTS**

- · The Djewels 1 design was finalised.
- · An irrevocable permit was issued.
- Testing of the 1 MW stack has started.

#### **FUTURE STEPS AND PLANS**

- Stack testing and optimisation will be completed.
- The investment decision is expected to be made in Q2 2023.
- Ground breaking is expected to take place in Q3 2023.
- Construction is expected to be completed in 2025.

### **QUANTITATIVE TARGETS AND STATUS**

Target source	Parameter	Unit	Target	Target achieved?
Project's own objectives	System nominal capacity	MW	25	 (화
MAWP addendum (2018–2020)	Energy consumption	kWh/kg	< 52.8	
	Degradation	%/year	0.72	
	Flexibility with degradation below 2 %/year	% of nominal power	3-110	

