

Green hydrogen










EDP Renewables is a global leader in wind, solar, and battery storage development and operations, and is on track to meet highly ambitious goals for further growth. With 14 GW of renewables brought online to-date, and a commitment to being carbon-free by 2030, we are turning our attention to renewable hydrogen.

Green hydrogen's role

Hydrogen, the most abundant element in the universe, is a versatile energy carrier that is expected to play a key role in the decarbonization of sectors where electrification is not technically feasible or economically viable, namely energy intensive industries and long-haul transport.

Although the vast majority of today's hydrogen is produced from natural gas, significantly contributing to global CO₂ emissions, it is possible to do better. Hydrogen can also be produced by separating water into hydrogen and oxygen. The water molecules are split through a process called electrolysis, involving opposite-charged electrodes sending direct current through water.

Renewable hydrogen is produced when renewable electricity, such as wind or solar, powers electrolyzers, resulting in a clean gas that can provide heat to industrial processes, power vehicles, store energy or be transformed in other renewable fuels.

 REFINERIES	 AMMONIA	 METHANOL
 STEEL	 CEMENT	 GLASS
 JET FUEL	 BACK-UP POWER	 LONG-HAUL TRANSPORT

H2 at EDPR

We are powering forward with renewable hydrogen to achieve a global target of 1.5 GW of electrolyzers by 2030:

- Dedicated hydrogen technical center with more than 40 years of experience developing utility-scale energy infrastructure.
- Proven success in meeting client needs through tailored pricing and technical solutions that allow for sustainable, competitive growth.
- Bringing new technologies to market is in our DNA. We were at the forefront of onshore wind development 15+ years ago and leaders in floating offshore wind development 10+ years ago.



EDPR Project archetypes

Renewable hydrogen hubs

100+ MW

Repurpose existing, obsolete infrastructure, such as decommissioned coal plants, to develop large-scale hydrogen hubs, leveraging local industries and ports.

Co-location with renewable assets

20 – 100 MW

Harness surplus capacity at new and existing wind and solar projects to power hydrogen production, boosting project efficiency and decreasing hydrogen production cost.

Industrial & mobility offtaker support

1 – 10 MW

Develop small-scale units sized to meet the needs of individual offtakers to seamlessly integrate into their existing activities and needs.

Research & development

~1MW

Push innovation forward with pilot projects that assess and refine the viability of next-generation technologies and accelerate their scaling.

Project examples

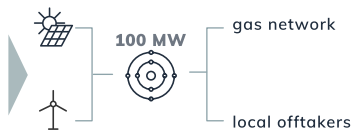
GreenH2Atlantic | 100 MW

 Sines, Portugal

 Q4 2025 - anticipated COD

The GreenH2Atlantic project will be developed by a consortium of 13 entities including EDP to transform a former coal-fired power plant into an innovative 100 MW green hydrogen plant to further the European Union's decarbonization efforts.

GreenH2Atlantic is one of the three projects to be selected by the European Commission's Horizon 2020 – Green Deal Call to demonstrate the viability of green hydrogen production on an unprecedented scale, and received a €30 million grant to do so.



FLEXnCONFU | 1.4 MW

 Ribatejo, Portugal

 Q2 2023 - anticipated COD

FLEXnCONFU aims to flexibilize combined cycle power plants to serve as a backup option to intermittent renewable energy sources by powering electrolyzers for hydrogen and ammonia fuels in an efficient, economical way.

FLEXnCONFU centers around a “Power-to-X-to-Power” solution that takes the excess power generated by existing fossil fuel power plants to create carbon-free hydrogen and ammonia fuels. These stored fuels can then be used to compensate for fluctuations in renewable energy availability.

EDP is part of a consortium of 21 European entities optimizing power-to-X solutions that will allow for significantly greater expansion of renewable energy while maintaining grid security.

Pecém H2V Pilot | 1.25 MW

 Pecém, Brazil

 Q4 2022 - anticipated COD

Using a dedicated 3 MW PV solar park, the Pecém pilot project aims to produce 100% green hydrogen that will be used in EDP's existing coal-fired power plant.

This pilot project will aid in the development of a road map for green hydrogen scalability scenarios and serve as a “living laboratory” for the growing green hydrogen economy. It will also demonstrate one avenue for enhancing the efficiency of existing fossil fuel infrastructure.

The initial pilot project is anticipated to achieve commercial operations by December 2022.

About EDP Renewables North America

EDP Renewables North America LLC (EDPR NA), its affiliates, and its subsidiaries develop, construct, own, and operate wind farms and solar parks throughout North America. Headquartered in Houston, Texas, with 61 wind farms, 18 solar parks, and eight regional offices across North America, EDPR NA has developed more than 11,200 megawatts (MW) and operates more than 10,200 MW of onshore utility-scale renewable energy projects. With more than 1,000 employees, EDPR NA's highly qualified team has a proven capacity to execute projects across the continent.

EDPR NA is a wholly owned subsidiary of EDP Renewables (Euronext: EDPR), a global leader in the renewable energy sector. EDPR is the fourth largest renewable energy producer worldwide with a presence in 28 markets across Europe, North America, South America, and Asia Pacific. EDPR has a robust development portfolio with first-class assets and a market-leading operational capability in renewables. These include wind onshore, utility scale and distributed solar, wind offshore (through its 50/50 JV – OW), and technologies complementary to renewables such as batteries and green hydrogen.

EDPR is a division of EDP (Euronext: EDP), a leader in the energy transition with a focus on decarbonization. EDP – EDPR's main shareholder – has been listed on the Dow Jones Index for 14 consecutive years, recently being named the most sustainable electricity company on the Index.

For more information, visit www.edpr.com/north-america.

Jason Stevens

H2 Development & Execution

Jason.Stevens@edp.com | 346.353.4589

Antonio Fayad

H2 Strategy & Origination

Antonio.Fayad@edp.com | 832.387.0580

