press release
Modena, 12 December 2023

Modena's Hydrogen Valley takes off: signed the memorandum of understanding centred around the IdrogeMO project of Hera Group and Snam

With this agreement, Modena will become a European capital of renewable hydrogen. The goal is to contribute to Emilia-Romagna's carbon neutrality in an area with a strong entrepreneurial presence, and the greatest benefits will be seen in the mobility sector, local public transport and industry.

Modena's Hydrogen Valley, one of the first and most significant renewable hydrogen development projects designed to contribute to the energy transition in Italy, has been launched.

A memorandum of understanding for creating a hydrogen production hub was signed today in Modena's Town Hall by the Hera Group and Snam, aimed at accelerating the decarbonisation of Emilia-Romagna region. The development of a supply chain for this renewable energy vector, furthermore, will have significant and positive environmental, social and economic impacts in a region with a strong entrepreneurial presence.

The document was signed by the Municipality of Modena, the Hera Group, Snam, Seta, Unimore, the Agency for Energy and Sustainable Development (AESS), the Productive Areas Consortium (CAP), the National Agency for New Technologies, Energy and Sustainable Development (ENEA), the Democenter Sipe Foundation and the Modena Chamber of Commerce. Almost all their representatives were present at the signing.

The core of Modena's Hydrogen Valley will be IdrogeMO, the Hera Group and Snam project aimed at building a production hub capable of producing up to 400 tonnes of renewable hydrogen every year, with possible future expansion to increase production. Overall, the planned investment amounts to 20.8 million euro.

Considering its significance for the energy transition and decarbonisation, the partnership between the Hera Group, Herambiente and Snam was given a 19.5 million euro grant last April from the Emilia-Romagna Region, allocated under the National Recovery and Resilience Plan (NRRP).

The potential of Modena's Hydrogen Valley has already been recognised by the mobility sector, with public transport companies Seta and Tper planning to convert part of their fleet to hydrogen-powered vehicles. Similarly, attention towards developing a green hydrogen supply chain has also been shown by the local industrial sector, in particular automotive and hard-to-abate ceramics companies, for the decarbonisation of their production processes. In this context, the Democenter Sipe Foundation will be responsible for getting the market segments in question involved, the Chamber of Commerce will promote projects for proposals and strategic lines of development, and the Productive Areas Consortium will contribute to an analysis of the areas in question. Meanwhile, Unimore, with a pool of researchers, will develop a specialised interdepartmental centre dedicated to hydrogen (H2 MO.RE)

The IdrogeMO project promoted by Hera, as lead partner, and Snam will be the core of Modena's Hydrogen Valley

Within IdrogeMO, the companies will have distinct but interconnected roles. Hera S.p.A. will be the lead partner, Group subsidiary Herambiente will be responsible for constructing the photovoltaic plant, and Snam will be in charge of constructing the hydrogen production plant.

In particular, the 6-megawatt photovoltaic park, with an innovative solar panel system floating on a stretch of water, will be built at the Municipality of Modena's depleted landfill, under concession to Herambiente, therefore with no useful land consumption, in line with circular economy principles. The photovoltaic system will power an electrolyser – a device that extracts hydrogen from water through electrolysis – installed in a disused industrial area in Modena. To allow the electrolyser, which has a capacity of 2.5 megawatts, to function even without sunlight and at night, a battery has been designed to store the electricity. Snam will be responsible for building the hydrogen production plant, a vector that this company is developing on several fronts, in line with the EU objectives set out in the Repower EU Plan and relying on its strategic plan to 2026, which includes 1 billion euro dedicated to decarbonisation initiatives.

The plant will be managed by a "Special Purpose Vehicle" (SPV), i.e. an ad hoc company controlled by the Hera Group and partially owned by Snam, which will not only produce but also market green hydrogen.

The result will be a totally green hydrogen production centre, whose design phase is currently being finalised, while work on the plant is scheduled to begin within 2024. The photovoltaic plant will be completed in 2025 and the hydrogen hub will be ready in 2026. Tenders are currently being launched for awarding supply and works contracts.

Contribution to sustainable mobility: the first hydrogen buses will soon arrive

The hydrogen produced by the Modena plant will also be sufficient to supply the public transport company Seta, which with NRRP funds has already initiated procedures for purchasing 12 buses, amounting to roughly 50 tonnes per year, fuelling 660 thousand kilometres of routes and consequently a CO2 saving coming to 737 tonnes/year (compared to diesel-powered buses).

The possibility of using hydrogen to fuel some buses in Seta and Tper's fleet in the provinces of Bologna, Ferrara and Modena responds to the need to make mobility increasingly sustainable.

It is no coincidence that these local public transport companies have already made commitments to converting part of their fleet to hydrogen. The latter, compared to electricity, offers higher autonomy and is thus considered more suitable for fuelling long-distance vehicles having daily routes, especially suburban buses. The time required to refuel these vehicles is also comparable to the amount for vehicles powered by conventional fuels.