



Hydrogen and decarbonization mission Torino- July 1° 2022

Gruppo Iren



In collaboration with

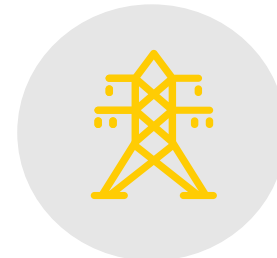


And in collaboration with the Regional
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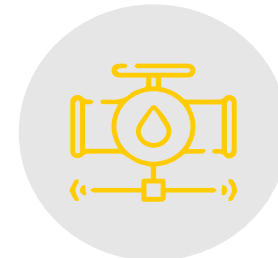
Networks



Power



Gas



Water



District Heating

Environment

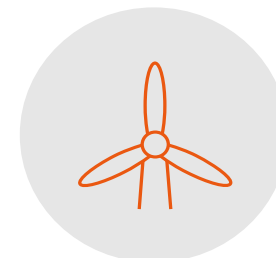


Collection



Management

Energy



Renewables and Storage

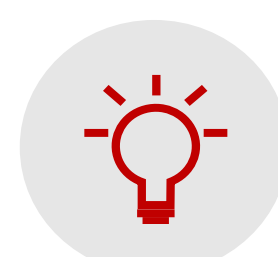


Thermoelectric and CHP

Market



Commodity (Gas)

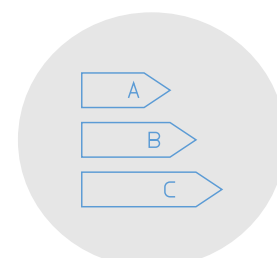


Commodity (power)

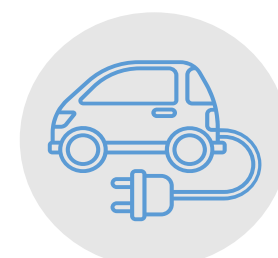


Iren Plus

Smart solutions



Energy Efficiency



E-mobility



Infrastructural services for
local communities





Iren's assets and skills about hydrogen and decarbonization

- Iren owns and operates **electric renewable energy plants** (run-of-the-river hydropower, PV, waste-to-energy) that can be coupled with systems to produce green hydrogen.
 - Iren is one of the partners of the project proposal «**Torino Hydrogen Valley**» that aims to realize an integrated value chain of mobility hydrogen produced with electrolyzers fed by PV installed on landfills.
- Iren manages **waste incinerators** and plants for the **upgrade of biogas** (from OFMSW or sewage sludge). A relevant flow rate of CO_2 can be easily combined with H_2 in methanation systems.
 - **Technology scouting and detailed pre-feasibility studies** were carried out with universities/research centers for application of commercial/innovative technologies for decarbonization of Iren's assets.
- Iren manages **large gas-fired plants** that can be fed (also) with H_2 and gas networks that can receive H_2 .
 - Techno-economic assessment and planned **demonstration of the blending** in gas turbine of hydrogen produced via a chemical process.
- Iren manages vehicle fleets (e.g., fleets for waste collection) and other assets that can be converted to or supported by **hydrogen fuel cells**.
 - **EverywH2ere H2020 Project**. Demonstration of a "plug and play" fuel cell generator unit, easy to transport at an urban level for temporary power supply in various sectors (e.g., construction sites, festivals, temporary events, exhibition centers).
- Iren is active in the **energy efficiency and electrical balancing sectors**, in which the small-scale storage of hydrogen combined with PV/wind can play an important role.

What are we looking for

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■ Why is Iren here?

- Broaden our overview on initiatives and opportunities about hydrogen and decarbonization in Italy and abroad through conversations and presentations.
- Meet new partners for current and future projects on hydrogen and decarbonization (other companies, research centers, startups).
- Match suppliers of innovative technologies and services to create new collaborations.



■ Projects/initiatives we are interested in

- European projects funded by organizations focused on hydrogen (e.g., FCHJU, Hydrogen Europe, Hydrogen Europe Research).
- Project calls in Italy (e.g., Ministero della Transizione Ecologica, regional calls) for the development of hydrogen-based local systems (e.g., hydrogen valleys).



■ New projects

- Development, deployment and demonstration of a small-scale hydrogen valley in the city of Arezzo (Italy) with the production of renewable hydrogen for supply in several end-use sectors (industry, mobility etc.).
- Iren aims to enlarge its business and provide **integrated solutions and systems for the large-to-small/scale production of hydrogen** and its possible reuse in combination with other chemical species (e.g., CO₂). Reliable suppliers of commercial technologies are looked for the definition of valuable supply chains in several applications and sectors.



■ Our experience

- Development of **business models and pre-feasibility studies** of innovative systems for hydrogen production and use.
- **Design, engineering and construction services** for the installation of renewable electricity production plants.
- **Supply of renewable or certified renewable electricity**, also through the installation of dedicated production plants.
- **Technical, financial and legal support** to the development of innovative ideas and projects in cleantech sector.





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