

SWITCH: the innovative project for the production of green hydrogen receives award from IEA

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The SWITCH European project, coordinated by Fondazione Bruno Kessler, has won the Hydrogen TCP Award of Excellence 2024, the prestigious prize from the International Energy Agency, the supranational intergovernmental organization leading the global dialogue on energy, for its important contribution toward a clean hydrogen economy and a more sustainable future.

The [SWITCH](#) (Smart Ways for In-Situ Totally Integrated and Continuous Multisource Generation of Hydrogen) European project, **coordinated by Fondazione Bruno Kessler**, has been awarded the [Hydrogen TCP Award of Excellence 2024](#), the prestigious award that recognizes excellence in the collaboration, research, development and application of new technologies for hydrogen production, from the International Energy Agency, the supranational intergovernmental organization leading the global dialogue on energy.

SWITCH is a green, cost-effective technology that can ensure an **uninterrupted supply of hydrogen**, regardless of the availability of renewable energy sources, designed for fueling stations, for mobility, for industrial stakeholders interested in decarbonizing their processes while ensuring their continuity, and for all sectors that need a sustainable and reliable hydrogen supply.

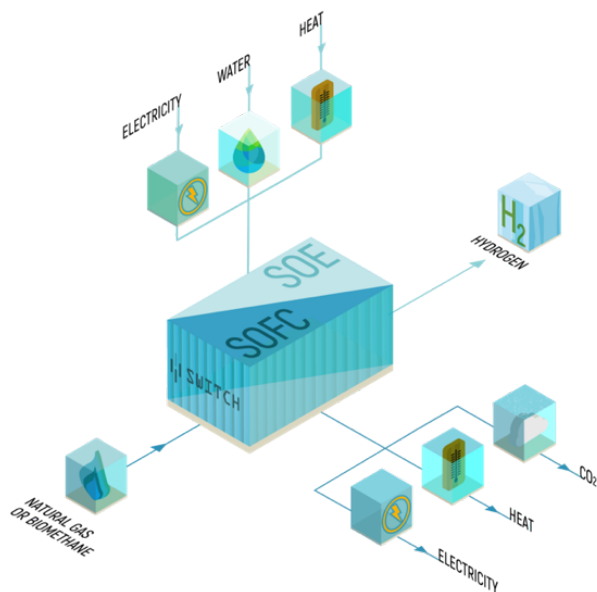
*“SWITCH heralds a potential revolution in the way hydrogen is produced and used: it outperforms, in fact, traditional methods in terms of efficiency, cost-effectiveness and environmental friendliness,” said **Matteo Testi**, project coordinator and head with the HyRES unit at Fondazione Bruno Kessler’s [Center for Sustainable Energy](#). “It represents an important step toward a clean hydrogen economy, which promises reduced emissions, greater energy reliability and a more sustainable future,” the researcher added.*

The SWITCH consortium, funded by the [Clean Hydrogen Partnership](#) and supported by the Horizon 2020 research and innovation program, is composed of seven highly interdisciplinary European partners: Fondazione Bruno Kessler, project coordinator, DLR – German Aerospace Center, EPFL – École polytechnique fédérale de Lausanne, European companies HyGear and Solyd Era, consulting firm SWECO, and multinational corporation Shell.

SWITCH at a glance: how it works

The SWITCH project involved the development of an **innovative hydrogen production system** based on **reversible solid oxide cell technology** that can operate as both an electrolyzer and a fuel cell.

In solid oxide electrolysis (SOE) mode, SWITCH uses electricity generated from renewable sources to generate **green hydrogen** by splitting water into hydrogen, precisely, and oxygen. When the renewable source is not available, the system-fueled by natural gas or biomethane – reverses the cycle to “solid oxide fuel cell” (SOFC) mode, a mode in which the incoming gas is converted into hydrogen, also generating electricity and heat, with low CO₂ emissions. In this way, a highly reliable supply of hydrogen can be achieved, allowing its origin to be **decarbonized** as more renewable energy becomes available.



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