

The role of the valleys for coupling production and use of green Hydrogen

The archetypes underlying the Hydrogen Valley concept will be the basis of the next hydrogen-based economy: further developments can be designed to enhance synergies between all stakeholders, whether they are residential or industrial, combining different solutions and characteristics to achieve the highest goals in terms of sustainability gaining efficiency and economical advantages. Among these, mention will be made of the side-effects that can be obtained from the optimization and management of oxygen as a by-product in the production of hydrogen but also of the subsequent transformations of hydrogen itself to obtain energy carriers that are also compatible with consolidated technologies. Furthermore, the identification of promising off-takers is at the basis of the Hydrogen Valleys concept, both in the industrial and mobility fields; in this regard mention will be made of under development projects coordinated by RINA - such as the Th2icino project - or supported by RINA in the construction and conception phase, with particular focus on the aspects of scalability and feasibility, and with particular regard to the infrastructures for the transport of energy carriers and the conversion of processes for the transformation of energy.

Nonetheless, among the aspects that will be addressed, due to the multiplicity of interested parties - intrinsic factor of H₂ valleys - attention will be paid to risk management, training for safety and skills required by the hydrogen-based economy.