



YASHAR HAJIMOLANA

Lead Energy Systems Integration Research Group, University of Twente

Email: s.hajimolana@utwente.nl
Phone: 0031682355110

Dr. ir. Yashar Hajimolana is an Assistant Professor in Energy Systems Integration at the University of Twente, where he leads the Energy Systems Integration research theme within the Thermal and Fluid Engineering Department. His work focuses on the design and optimization of integrated hydrogen energy systems, enabling the effective coupling of electricity, heat, gas and fuels to support a flexible and low-carbon energy transition.

His research explores the role of hydrogen in multi-energy systems, energy hubs, and Power-to-X applications, with emphasis on system flexibility, efficiency, and large-scale integration. By combining system modelling and digital twin, Life Cycle Assessment (LCA), and techno-economic analysis, he develops approaches to evaluate and optimize hydrogen deployment within complex energy infrastructures.

A key aspect of his work is the integration of sustainability and circularity into hydrogen system design, including eco-design strategies, end-of-life considerations, and the assessment of critical raw materials across the value chain. He leads and contributes to several EU and national projects, advancing methodologies for system-level sustainability assessment and circular hydrogen solutions.

Through the development of digital twins and dynamic models, Dr. Hajimolana supports data-driven decision-making for hydrogen integration at industrial and regional scales, bridging research and practical implementation in the energy transition.