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Sofía is a multidisciplinary researcher holding degrees in Industrial Engineering and Social Psychology, a Master's degree in Administration, and a PhD in Process and Environmental Engineering from University of Toulouse. She has been working on the sustainability criteria of hydrogen supply chains since 2011, when she began her doctoral studies at the *Laboratoire de Génie Chimique* of the *Institut National Polytechnique de Toulouse*, focusing on the sustainable prospective design of hydrogen supply chains. The results of her PhD dissertation were selected for presentation at the National Debate on the Energy Transition in 2013 in Toulouse, and her thesis received the Leopold Escande Prize in 2014.

Currently, Sofía is an Associate Professor in the Department of Supply Chain Management at Corvinus University of Budapest, where she leads a nationally funded project focused on cooperation and competition in hydrogen networks. She also teaches courses in Energy Sustainability and Operations Management. Prior to her academic career, Sofía gained valuable industry experience across several sectors, working in both full-time and consultancy roles with a focus on product and process and systems design, as well as supply chain management.

Over the past decade, Sofía has participated in several hydrogen research projects, collaborating with international and multidisciplinary teams to explore sustainable alternatives for hydrogen supply chains. Working within the fields of supply chain management, mathematical optimization, and geographic simulation, she has produced important findings published in reputable journals. Her work notably emphasizes the holistic integration of economic, environmental, and social criteria in hydrogen supply chain design, revealing critical trade-offs that support awareness and informed decision-making.

In pursuit of economic viability, Sofía has integrated metrics such as the levelized cost of hydrogen and total cost of ownership into multi-period optimization models adapted to diverse geographical contexts. For the environmental dimension, she has incorporated criteria such as global warming potential alongside emerging methodologies, including Life Cycle Assessment (LCA).

In collaboration with social scientists, she has also contributed to identifying and characterizing the social dimension of hydrogen technologies by mapping hydrogen-related social aspects, examining safety risks, and conducting social cost–benefit analyses to support technology comparisons and maximize societal benefits. Her work on social sustainability employs mixed methods, including game theory, participatory research, futures studies, Social LCA, and Multi-Criteria Decision Analysis. Beyond her research on the sustainability of hydrogen supply chains, Sofía also investigates their competitiveness, reliability, and scalability.

Sofía has been a member of EH&SCP since its inaugural panel and previously contributed to the Hydrogen Cross-Cutting Issues Task Force.