



Paper ID: 181

Paper title: Water Implications of Low-carbon Hydrogen Scale-up in Great Britain under Technology and Water-Source Transitions

Bio:

Dr Saeed Harati is a Research Fellow at University of Birmingham. His research sits at the intersection of hydrogen, energy storage, and energy-system planning. He is interested in a fairly simple question with a complicated answer: how can we produce, store and move hydrogen at the scale needed for future low-carbon energy systems? A particular focus of his work is large-scale, long-duration underground hydrogen storage and how it can support system flexibility and resilience. He looks at this problem from both below and above ground. His work connects the physics and engineering of subsurface storage with whole-energy-system modelling, geospatial analysis and techno-economic assessment. This allows him to examine the links between hydrogen production, storage, transport infrastructure and demand, as well as the policy and regulatory conditions that shape where and how these systems can be deployed. He leads several externally funded research projects, with a focus on long-duration energy storage, and works with government, industry and national infrastructure organisations to use technical evidence to inform energy systems planning and policy.