



Co-Director: S.Walker.
Co-I: Meysam Qadrdan
Synergies: Hydrogen for home heating



Co-Director : J.Wu
Synergies: Hydrogen for storage
(joint project)



Joint Co-I: D.Flynn
Synergies: Hydrogen for transport



Joint Co-I: K.Henwood
Synergies: Hydrogen for Industrial decarbonisation
SAB member J.Howe also in IDRIC

HI-ACT

Hydrogen Integration for Accelerated Energy Transitions



Co-Director : J.Wu
Synergies: Hydrogen networks



Synergies: green molecules



Synergies: Hydrogen from offshore renewables



Joint Co-I: P.Dodds
Synergies: Hydrogen technologies
Joint SAB, overlapping stakeholders

UKRI investment	Why HI-ACT is complementary	Shared staff/projects
Energy Demand Research Centre (EDRC)	HI-ACT explicitly studies hydrogen's role in whole energy systems, including how end-use demand evolves and interacts with infrastructure and markets. EDRC focuses on future energy demand pathways, consumer behaviour, place-based solutions and policy, many of which are critical assumptions in HI-ACT's system modelling and integration work. Strongest overlaps are in consideration of hydrogen's role in home heating, which is a HI-ACT WP1 use case.	EDRC and HI-ACT are co-directed by Prof. Sara Walker. Prof. Meysam Qadrdan is a Co-I of both projects working on whole system modelling.
UK Energy Research Centre (UKERC)	UKERC is the UK's core whole-energy-system coordination and synthesis body. It overlaps conceptually in energy system pathways, policy evaluation, and industrial decarbonisation. UKERC's work on industrial decarbonisation has overlap with HI-ACT's modelling of industrial hydrogen demand. We are delivering a joint project with UKERC on Long Duration Energy Storage.	Prof. Jianzhong Wu is Co-Director of HI-ACT and UKERC. Prof. Sara Walker is on UKERC Advisory Board. UKERC and HI-ACT have a joint project.
National Hub for Decarbonised, Adaptable, and Resilient Transport Infrastructures (DARe)	DARe has a focus on a decarbonised transport system that is resilient and adaptive to the changing climate. Synergies occur where DARe considers hydrogen as a transport energy vector, where infrastructure choices (electric vs hydrogen vs hybrid) affect system performance, and where transition pathways must be tested against uncertainty. HI-ACT has two transport use cases as part of our WP1 activity.	Prof. David Flynn is Co-Director of HI-ACT and DARe.
Industrial Decarbonisation Research and Innovation Centre (IDRIC)	IDRIC focuses on industrial use of hydrogen, one of HI-ACT's core end-use domains. Both centres adopt whole-system, place-based approaches. Overlap is particularly strong in hydrogen infrastructure planning, industrial cluster transitions and place/cluster focused hydrogen development, and market frameworks.	Prof. Karen Henwood is Co-Investigator for HI-ACT and IDRIC. HI-ACT SAB member Prof Joe Howe is a Co-Investigator on IDRIC.
Supergen Energy Networks Hub (SENHub)	HI-ACT examines integration of hydrogen into national and local energy networks, including interactions with power systems. Supergen Energy Networks focuses on how distribution and transmission systems evolve, considering the energy transition, which is where hydrogen blending, electrolyzers, storage and flexibility come into play. Both address multi-vector coordination (electricity, gas, hydrogen). HI-ACT considers more than the network, and therefore undertakes more detailed assessment of hydrogen production and end use, as well as non-network transportation and storage, and hydrogen-based alternative liquid fuels.	Prof. Jianzhong Wu is Co-Director of HI-ACT and SENHub. Prof Sara Walker was Co-I of SENHub in phase 1 of the Hub. We co-developed the South Wales Use Case.

UKRI investment	Why it overlaps	Shared staff/projects
Supergen Bioenergy Hub	The Supergen Bioenergy Hub explicitly develops and assesses hydrogen from biomass gasification, negative-emissions hydrogen via biomass + CCS, trade-offs between hydrogen, biomethane and other bio-derived vectors. This is relevant to HI-ACT when we consider whether and how hydrogen at scale integrates into the wider energy system, the sources of hydrogen, and the need for hydrogen transportation networks (which has synergies with network/transport infrastructure needs for bio-methane).	Joint workshop on the future of gas networks: HI-ACT-Bioenergy-workshop-summary-statement -1.pdf
Supergen Offshore Renewable Energy Hub (Supergen ORE)	Offshore renewables are increasingly linked to offshore hydrogen production (power-to-hydrogen). HI-ACT covers hydrogen supply chains and system integration, including emerging production routes linked to renewables. Overlap is strongest where offshore generation connects to hydrogen rather than direct grid reinforcement. HI-ACT has undertaken analysis of hydrogen from offshore renewables as part of WP2.	
UK-HyRES	UK-HyRES is technology-defining, and HI-ACT is system-validating. UK-HyRES asks what technical advances and research priorities are needed or possible. HI-ACT asks what happens when those options are deployed at scale within a constrained, multi-vector energy system. This creates conceptual complementarity, and strong synergies. HI-ACT depends on credible assumptions about technology readiness, performance envelopes, feasible deployment rates. We evaluate these through activities such as our Technology Roadmap (WP1), but in addition these are the kinds of insights UK-HyRES is designed to generate. Collaboration is facilitated via regular meetings with the Operations Team, with the two Directors, and via a joint Strategic Advisory Board (SAB).	Prof. Paul Dodds is Co-Investigator for HI-ACT and UK-HyRES. Recently, HI-ACT Co-Investigator Prof. Dawei Wu received flexible funding from UK-HyRES and joined the Hub. Joint report on future research needs: UK-HyRES-HI-ACT-joint-report-2.pdf