



Update from the Midlands

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British Midlands Hydrogen Forum

- Give a voice to hydrogen, fuel cell and low-carbon stakeholders in the East & West Midland regions
- Co-ordinate activities in the region
- Clearinghouse of information
- Networking forum



- Inter-regional links (within the UK and abroad)
 - Founding members of HyRaMP (JTI)
 - Spearheading efforts to establish a UK-wide hydrogen project (UK-HyNet)
- Funded by Cenex and the Low Carbon and Fuel Cell Technology KTN, EMDA & AWM
 - Funding for a new 3-year plan is currently being negotiated with the RDAs

Commercial Expertise



- Intelligent Energy - PEMFC developers
- Rolls Royce – SOFC developers
- Cenex – Centre of excellence for low-C & FC technologies
- Bryte Energy – energy consultancy (REs-H₂ integration)
- Beacon Energy – energy consultancy (REs-H₂ integration)
- Sustainable Technology Solutions - energy consultancy
- Baxi – domestic FC CHP system developers
- Adelan – SOFC developers
- Valsewood – FC suppliers
- E.ON – utility company
- Microcab – FCV developers
- LIFECar – FC sports car
- River Simple – FCV developers



Academic Expertise

- Loughborough University
 - Automotive FCs & H₂ICEs, Chemical H₂ storage (Rob Thring)
 - Renewables-H₂ integration, electrolysis, smart grids, low-C economy modelling (Simon Watson)
 - H₂ Pipelines (Geoff Hankinson)
 - Electrolysis (Stephen Fletcher)
- University of Nottingham
 - H₂ storage (Gavin Walker, Martyn Poliakoff, Paul Hamley)
 - H₂ (and mixed fuel) internal combustion engines (Stephen Pickering)
- University of Birmingham
 - SOFCs (Kevin Kendall)
 - H₂ storage (Rex Harris/David Book)
 - Biological H₂ production (Lynne McKaskie)
- Coventry University
 - Microcab FCV (John Jostins)
- Warwick University
 - Hybrid vehicles



Achievements So Far

- Established a community of H2 & FC stakeholders
 - Encouraged collaboration within the region, e.g.:
 - Valeswood test of Horizon FC at West Beacon Farm
 - Road tests and refuelling of Nissan X-Trail FCV between Birmingham, Loughborough and Cranfield
 - Encouraged collaboration beyond the region, e.g.:
 - Link EETC, Rotherham with Midlands Hydrogen Ring
 - Hosted 2 workshops for the UK-HyNet project
- Representation with Government (national and regional) and associated bodies
- Established a brand
 - Produced a brochure with capabilities map
 - Website (under KTN)
- Significantly raised the profile of the region on the international stage
 - Grove, Hannover Messe
 - HyRaMP
 - Trade missions: e.g. Scandinavia, Oregon, Chile, Australia, Slovenia, China, etc
- Initiated Midlands Hydrogen Ring project
- Presented 1st Annual Hydrogen and Fuel Cell Future Award in March 2009
 - Jointly awarded to Drs Paul Adcock Phil Mitchell of Intelligent Energy

Midlands Hydrogen Ring

- Cluster of hydrogen refuelling stations
 - Green H₂, other H₂
 - H₂ vehicle field trials (FC & H₂-ICE)
- Operational
 - Loughborough University
 - University of Birmingham
 - Morgan (portable unit for LIFEcar – no longer in use)
- Planned
 - University of Nottingham
 - East Midlands Airport
 - Snibston Discovery Park
 - Vehicle research and testing centres (MIRA, Millbrook)
 - FC forklift trucks at logistics centres
 - 20 H₂ refuelling stations by 2020
- Links to other regions
 - Yorkshire (EETC, Rotherham)
 - S Wales, NE, London, Scotland, etc
 - Abroad (e.g. Germany, Spain, Scandinavia, Italy, etc)



Other Projects

- HARI (Hydrogen and Renewables Integration) Project
 - Renewable energy and hydrogen energy storage system
 - CREST, Loughborough University
 - Moving to Loughborough University hydrogen production and refuelling facility
- SCRATCH (Supply Chain Research Applied To Clean Hydrogen)
 - Universities of Birmingham and Warwick
 - Protium, FC powered canal boat with hydride storage
 - H₂ production (biomass) and storage
 - Infrastructure, part of Midlands H₂ Ring
 - 5 H₂ vehicles (Microcabs)
 - CHP (3 systems + test equipment)
 - Economics
- Black Country Housing Association
 - Domestic FC CHP



Next Steps

- Develop plan for the next 3 years
 - Agree funding with EMDA / AWM (and others?)
 - Consult and agree plan with members
- Midland Hydrogen Ring feasibility study
 - Identify potential sites
 - Assess viability of each site
 - Propose action plan for roll-out
- Continue support for
 - UK-HyNet
 - UK Hydrogen Roadmap
- Further representation with Government
- Further promotion of region
 - Exhibitions
 - Trade missions
 - Update brochure
- Events
 - Members' meetings
 - Building the Hydrogen and Fuel Cell Future Conference
- HyRaMP (and membership of other international H2 & FC bodies?)
- Continued encouragement of collaboration
- Increase membership

