

Fuel cells and hydrogen

Joint undertaking

FCH JU 2008-2013:

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Market introduction by joint cooperation and demonstration
Key achievements and successes

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Main challenges and core issues:

- Urgent policy goals:
 - climate protection,
 - energy efficiency and use of renewable energies,
 - emission reduction of pollutants,
 - sustainable mobility,
 - Competitive industry and creation of green jobs

Changing framework conditions:

- Steep increase in fluctuating RES requires energy storage devices (P2G).
- Ambitious regulations for simultaneous reduction of CO₂, pollutants and noise stimulate the development of new technologies in the vehicle industry.



Open questions resulting from current programme:

- Market introduction is expensive. Right balance between basic research, applied R&D and demonstration projects?
- Need for efficient instruments financing
 - refueling infrastructure
 - R&D infrastructure.
- How to substitute scarce venture capital in Europe by public funding and non-monetary support measures ?
- FCH-JU-demos as test bed for European R&D achievements.
- FCH-JU already creates a lot of added value by bringing together complementary partners / demonstrating European competence
- Additional role of FCH-JU catalysing and coordinating the FCH-innovation process in Europe.



Open questions resulting from current programme:

- Right moment to narrow down technology options or avoid inflexibility and wrong choices keeping funding open for bottom-up innovation?
- Different approaches of industry:
 - Basic research nationally and implementation in Europe/globally
 - Precompetitive international cooperation and market introduction nationally or alone

Personal suggestions:

- Emphasise cost reduction (many technical problems already solved but difficulties to meet cost targets still exist).
- Moving to demonstrations/deployment building up on broad and comprehensive R&D results from FCH-JU-phase 1 projects.
- Application and product oriented targets should be emphasized more in the MAIP and AIP.
- Keep nevertheless research funding feeding innovation with new solutions by clustering FCH-JU projects in close cooperation along the innovation cycle.
- Achieve economy of scale by stimulating market demand from private / public users on an European / global perspective.



Personal suggestions:

- Public procurement can support bridging the “death valley” between demonstration and full commercialisation.
- Early markets play a key role for successful commercialisation. Material handling vehicles and portable devices are a good example.
- Secure a complete value chain of supply companies avoiding monopolies by competition among component producers.
- Integrate technical expertise beyond the transport and energy sector for new solutions.
- Education for FCH technologies should reach beyond academic professionals including lower education levels.

Personal suggestions:

- Optimise relationship between national and EU-R&D-funding instruments complementary or reinforcing in nature.
- Establish legal and organisational framework conditions for a strong cooperation between European, national, regional and local policy makers.
- Use abundant expertise all over Europe including Central and Eastern Europe and peripheral member states for a real joint mission and European added value!
- Many FCH-funding programs, platforms and strategies on the regional, national, European and global level are running right now. The exchange of information between these activities should be intensified to avoid duplications and to use synergies.

Personal suggestions:

- Secure alignment with other international technology platforms, initiatives, strategies, research cooperations and R&D-funding programmes:
- IPHE, ERTRAC, STTP, SET-Plan, Horizon 2020 sub-programs, EGVI, Joint Programming, ERA-NETs, KICs, R&D-cooperations of the International Energy Agency...
- Secure involvement and support by all stakeholders (EC, EP, national and regional parliaments and policy makers, mass media, education institutions,...)
- Awareness of FCH JU initiatives and achievements also outside Europe should be increased opening commercial opportunities and facilitating global market introduction.



Personal suggestions:

- Cluster projects with similar scope and continue to stimulate their cooperation and exchange of information.
- Continue sensitising the population for technology changes and achieving acceptance by dissemination.

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