Fuel cells and hydrogen

Joint undertaking

Cross-Cutting Topics
2014 Call for Proposals

New Energy World JU

fuel cells & hydrogen for sustainability

http://www.fch-ju.eu/

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Cross-Cutting

TOPIC	TYPE OF ACTION	BUDGET
FCH-04.1-2014: Educational initiatives	Coordination and Support (CSA)	4.5 million EUR
FCH-04.2-2014: Develop strategies to raise public awareness of fuel cell and hydrogen technologies	Coordination and Support (CSA)	
FCH-04.3-2014: Pre-normative research on vented deflagrations in containers and enclosures for hydrogen energy applications	Research & Innovation (RIA)	

Cross-Cutting

FCH-04.1-2014: Educational initiatives

Challenge

- Establish a **network of academic, and other relevant institutions** for education and training in fuel cell and hydrogen.
- Develop and make available **high-quality** and **harmonized** teaching and experimental **materials**.

Scope

- **Graduate and post-graduate** teaching and the equivalent level of vocational training - **continuous professional development**.
- Building on **previous and on-going projects**: TrainHy, HyProfessionals, HyFacts, HyResponse, KnowHy, and others (e.g. US DoE).
- Access to **research and industrial infrastructures** in order to allow practical training in real environments.

Impact

- **Network of universities** and other relevant organizations, and development of **joint degree programmes** (when of interest).
- **Training materials** with focus on learning outcomes for students and trainers, by **developing further existing materials** (previous and on-going projects).
- Coverage of a **reasonable number of EU languages.**
- **Mutual recognition** using **European Credit Transfer System** (ECTS).
- **Web-site** and **e-learning platform** for hosting teaching materials.
- Delivery of **pilot courses during the project duration** (e.g. in existing curricula, new courses, summer schools, etc.).

FCH-04.1-2014: Educational initiatives

Type of Action

- Coordination and Support action.

Other information

- Indicative budget: **EUR 1 to 1.5 million** *(Nonetheless, this does not preclude submission and selection of proposals requesting other amounts).*
- A maximum of **1 one project** may be funded under this topic.
- Expected duration: maximum of **4 years**.

Cross-Cutting

FCH-04.2-2014: Develop strategies to raise public awareness of fuel cell and hydrogen technologies

Challenge

- **Make the public (and other stakeholders) aware** of the potential of Fuel Cell and Hydrogen technologies in order to prepare a **commercial market entry**.

Scope

- Increase **public awareness** of fuel cell and hydrogen technologies (in particular to future potential clients).
- Consortium to include **energy transition**, **marketing** and **communication** experts, and **web communication agency**.
- Develop and use of an **internet platform**, **innovative communication tools** and the **social media** to communicate fuel cell and hydrogen technology to targeted audiences.

Cross-Cutting

FCH-04.2-2014: Develop strategies to raise public awareness of fuel cell and hydrogen technologies

Impact

- **Overview study** on potential long-term macro benefits in terms of innovation, job creation, energy security and balance, and health in the EU.
- Dissemination of the results of the study through a well-defined **media strategy** reaching out to **policy makers at European and national levels**.
- Supply a **one-stop-shop for information** on hydrogen and fuel cells via **internet communication strategy** and **specialised web portal**.
- Improved public information by supply of **technical content suitable for the general public** to platforms such as Wikipedia and others.
- Supply of **demonstrational items** (other than vehicles) for exhibitions, fairs and other events.
- Organisation of **public debates** in different Member States.

Cross-Cutting

FCH-04.2-2014: Develop strategies to raise public awareness of fuel cell and hydrogen technologies

Type of Action

- Coordination and Support Action.

Other information

- The project is expected to be active in a **minimum of ten Member States**, with preferably different languages.
- Indicative EU funding: **EUR 2 million** *(Nonetheless, this does not preclude submission and selection of proposals requesting other amounts).*
- Number of projects: a maximum of **1 project** may be funded under this topic.
- Expected duration: **3 years**

Cross-Cutting

FCH-04.3-2014: PNR on vented deflagrations in containers and enclosures for hydrogen energy applications

Challenge

- **Hydrogen-energy systems and applications** are commonly designed and integrated into **containers and/or small enclosures**.
- Specific attention where best to apply safety barriers in order to **ensure the highest level of safety for hydrogen energy applications**.

Scope

- Conduct **pre-normative research** on hydrogen-air vented deflagrations in real-scale containers to prepare an **International Standard on "hydrogen explosion venting mitigation systems".**
- Performing **experiments in real-life industrial enclosures** and further develop **analytic and CFD modelling tools**.
- Improve the understanding of the **structural response of containers** exposed to a vented explosion.

FCH-04.3-2014: PNR on vented deflagrations in containers and enclosures for hydrogen energy applications

Impact

- **Input to an International Standard** on “hydrogen explosion venting mitigation systems”.
- Safe and successful introduction of hydrogen-energy systems into the market by definition of **harmonised and standardised hydrogen vent sizing requirements** for installations in enclosures.
- Prediction of **hydrogen explosion effects** for certification and planning purposes by developing, verifying and validating analytical and CFD predictive models.
- **Verification of models by performance of real-life hydrogen-air vented deflagrations** in industry-representative hydrogen-energy enclosures and containers.

Cross-Cutting

FCH-04.3-2014: PNR on vented deflagrations in containers and enclosures for hydrogen energy applications

Type of Action

- Research & Innovation Action.

Other information

- Indicative funding: **EUR 1.5 million** *(Nonetheless, this does not preclude submission and selection of proposals requesting other amounts).*
- Number of projects: a maximum of **1 project** may be funded under this topic.
- Expected duration: **3 years**