



2<sup>nd</sup> FCH Joint Undertaking Brokerage Event

Breakout session

# Transportation & Refuelling Infrastructure

# Rational

In order to start the mass production of competitive hydrogen vehicles and provision of appropriate hydrogen refuelling infrastructure in the 2015 – 2020 timeframe, **continuation and extension of the large-scale demonstration projects comprising vehicles and hydrogen refuelling stations is essential.**

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# Budget Call 2010

| Application Area                                      | Budget (Million euro) |
|---|-----------------------|
| <b>Transportation &amp; Refuelling Infrastructure</b> | <b>31.6</b>           |
| Hydrogen Production & Distribution                    | 11.0                  |
| Stationary Power Generation & CHP                     | 33.0                  |
| Early Markets   | 11.5                  |
| Cross-cutting Issues                                  | 2.0                   |

5 Topics:

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# Topic 1

| No | Topic  | Description   |
|----|--|---|
| 1  | Large-scale demonstration of road vehicles and refuelling infrastructure III | Demonstration of second generation fuel cell hybrid buses for public transportation, passenger cars and appropriate refuelling infrastructure with improved durability, robustness, reliability and efficiency. The aim is to provide extended operating experience and prove technological readiness. Demonstration trials are supported by activities on public awareness, technological and environmental assessment, safety and certification requirements. |

# Topic 2

| No | Topic   | Description   |
|----|---|---|
| 2  | Next generation European MEAs for transportation applications | Development of catalysts for PEM fuel cells- to further reduce the use of platinum in membrane electrode assemblies (MEAs), increase catalyst performance and electro-chemical stability; development of novel materials for gas diffusion layers (GDLs). Testing of the MEAs. The overall aim is to produce MEAs with significant specific cost reduction (i.e. cost/power). |

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# Topic 3

| No | Topic                                  | Description   |
|----|--|---|
| 3  | Investigation of degradation phenomena | Research and development on critical stack and system operating parameters and conditions. The aim is to establish a solid methodology and develop tools for safe life-time assessments and help improve system and vehicle operating strategies. |

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# Topic 4

| No | Topic          | Description   |
|----|----------------|---|
| 4  | Bipolar Plates | Research and development of cost effective bipolar plate manufacturing technologies including corrosion resistant coatings for stainless steel, demonstration of processability of steel/coating combination in complex configurations, as well as adequate stacking capabilities and long-term stability under fuel cell conditions (anode and cathode side conditions). |

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# Topic 5

| No | Topic   | Description  |
|----|---|--|
| 5  | Auxiliary Power Units for Transportation Applications | Research, development and proof-of-concept demonstration of APU systems for on-board power generation. The project should demonstrate feasibility of using logistic fuels, demonstrate fuel processing technology for logistic fuels and define requirements for fully integrated systems in the specific application. |

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