



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

Breakout session

# Stationary Power Generation & CHP

# Budget Call 2010

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

6 Topics:

DRAFT

# Topic 1

No	Topic	Description
12	Materials development for cells, stacks and balance of plant (BoP)	Development of materials to improve performance of single cells stacks and BoP components, in terms of longer lifetime and lower degradation as well as improved mechanical, thermal and electro-chemical stability. Investigation on material production techniques need to be considered as well. Open to all fuel cell technologies.

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# Topic 2

No	Topic	Description
13	Next generation cell and stack designs	Long-term and break-through oriented research on novel architectures for cell and stack design to provide step change improvements over existing technology in terms of performance, endurance, robustness and cost targets for relevant applications. Efficiency, cost, reliability (and power density) are main drivers. The call is open to all solutions or operating ranges, geometries or materials. The project proposals should lead to a proof of concept.

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# Topic 3

No	Topic	Description
14	Component improvement for stationary power applications	Development activities to improve a) The performance of individual components of fuel cell systems (e.g. fuel cell units, reformer, heat exchangers, fuel management and power electronics); b) The understanding and optimization of interaction between BoP components and mature stacks. The objective is to meet relevant performance targets, including durability and cost. Open to all fuel cell technologies.

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# Topic 4

No	Topic	Description
15	Proof-of-concept and validation of integrated fuel cell systems	<p>This topic will support the development, construction and validation of fully integrated proof of concept fuel cell systems for any stationary application. These integrated systems must be proven to be technologically and economically viable, prior to any large scale demonstration.</p> <p>Proof of concept systems will be constructed that show interaction with other devices as required for the target application, including fuel supplies utilising any necessary processing technology, if necessary.</p> <p>For fully integrated systems manufacturing routes need to be also identified to establish a sustainable approach towards commercialisation.</p>

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# Topic 5

No	Topic	Description
16	Field demonstration of stationary fuel cell systems	Demonstration of FC-based integrated generator systems in real application environment which includes interfaces with the infrastructure for power, heat, CCS, renewable sources and fuel/oxidant processing as necessary.

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# Topic 6

No	Topic	Description
17	Pre-normative research on power grid integration and management of fuel cells for residential CHP, commercial and industrial applications	Pre-normative research on power grid integration and management of fuel cells for residential CHP, commercial and industrial applications. After a thorough review of previous RCS activities, the projects shall produce proposals and recommendations on background procedures and methodologies for RCS as well as for further development of RCS. Dissemination to research and industry shall be included.