Tender Specifications

for a study assessing the macro socio and economic impacts of fuel cell and hydrogen technologies

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1. Introduction

1.1 The FCH JU activities

The Fuel Cells and Hydrogen Joint Undertaking (**FCH JU)** represents a public-private research partnership at the European level. Its members are the EU represented by the Commission as public representative, the 'Industry Grouping' and the 'Research Grouping'. FCH JU brings public and private interests together in a new, industry-led implementation structure, ensuring that the jointly defined research programme better matches industry's needs and expectations, and accelerates hydrogen and fuel cell technology acquisition and deployment processes. Carried out with the involvement and cooperation of stakeholders from industry (including SMEs), research centres, universities, Member States and regions, the Joint Undertaking builds on the achievements of the European Hydrogen and Fuel Cell Technology Platform and on the results of completed and ongoing EU funded activities. The FCH JU is a Joint Technology Initiative (JTI) within the Seventh Framework Programme 2007 – 2013 (FP7) and has a total budget of approx. EUR 1 billion, with an EU contribution of approx. € 0.5 billion.

Beyond its support to R&D activities, the FCH JU aims at placing Europe at the forefront of fuel cell and hydrogen technologies worldwide and enabling the market breakthrough of fuel cell and hydrogen technologies, thereby allowing market forces to drive the substantial potential public benefits.

It is hoped that the EU authorities will extend the duration of the FCH JU and entrust it with the implementation of a part of the Horizon 2020 budget

1.2 Context

It is well acknowledged that hydrogen (as alternative energy fuel[1]) and fuel cell technologies (as efficient energy converters) have a great potential to contribute to the ongoing decarbonisation of the EU's transport and energy systems[2], while at the same time reducing oil dependency and increasing the use of renewables in the electricity network. It is also well acknowledged that the market deployment of H2 and fuel cell technologies will benefit to the society by entailing positive changes on e.g. GDP, employment, commercial balance, budgetary balance, both at EU and Member State level. Although the assessment of the future effects is very complex and subject to high uncertainties (due to e.g. the model used and the underlying assumptions), this exercise will allow capture the economic and social benefits induced by the underway deployment of these technologies.

2. Requested Services

2.1 Objectives

The purpose of this study is to deliver a quantitative assessment of the macroeconomic impacts associated to the growing use of hydrogen and fuel cell technologies in both the transportation and energy sectors. More specifically this study should assess key economic and sociéal impacts on at least GDP, commercial balance, budgetary balance, industrial activity, trade, employment, economic welfare and health at both EU and MS level.

[1] Along with electricity, biofuel, NG and LPG (see COM(2013) 18 final)
[2] See the 2011 White Paper (COM 2011/144), SET-Plan, etc.

2.2 Tasks

The tenderers should in particular perform the following tasks:

Task 1: Literature review

The macro socio-economic impacts of H2 and fuel cell technologies have been only sparsely covered by literature[3]. The tenderer should first provide a comprehensive overview of the latest studies carried out in this field (e.g. from EU FP projects, peer-reviewed articles, reports). Furthermore, the scope should not be limited to H2 and fuel cell technologies but may include studies assessing the macroeconomic impacts of other emerging transport/energy technologies (e.g. battery electric vehicles).

Task 2: Development of central and alternative hydrogen penetration scenarios

The level of economic impacts highly depends on the expected technological developments and market penetration rate of H2 and fuel cell technologies. It also depends on the H2 production routes and costs, H2 infrastructure deployment and associated investment, H2 supplying capacities, distribution, etc. These parameters also depend on the evolution of other parameters like the price and quantity of petroleum and gas available, the evolution of the purchasing power of families, the demographic trends, etc.

The tenderer should develop a central scenario for hydrogen penetration based on the information collected during the literature review and the additional analysis carried out by the contractor. The starting point of the scenarios should be the Reference scenario for energy and transport until 2050 developed by the European Commission. The contractor should also consider different scenarios. The central scenario on the potential development of H2 and FC technologies that should incorporate the results of recent findings from FCH JU studies[4] and H2 Mobility initiatives launched in several Member States (UK, Germany, France, Denmark, the Netherlands). The contractor should also develop four alternative scenarios that use different assumptions concerning penetration rates, hydrogen production patterns and external developments (including oil price and carbon values).

Task 3: Quantification of macroeconomic impacts

The results of the study should quantify the macroeconomic impacts in the short to medium term (2020-2030) with some indicative projections for the longer term (2040-2050). It should assess the impacts on the economy including (among others) GDP effects, commercial balance, energy dependence, budgetary balance, employment, health and welfare (e.g. reduction of external costs of air pollution, GHG emissions, noise, etc.). The tenderer should also undertake a sensitivity analysis around key variables.

2.4 Deliverables

1. ***Presentation of the intermediate results in the form of***
    a. A set of self-explaining PowerPoint slides (or a PowerPoint presentation + a written report)
    b. Up to 3 oral presentations by the contractor to several audiences.

[3] An assessment was carried out in the frame of the FP6 project HyWays

[4] http://www.fch-ju.eu/page/publications

2. ***Presentation of the final results in the form of***
    a. Up to 3 oral presentations by the contractor to several audiences.
    b. A self-standing written report suitable for publication covering findings, insights and recommendations from the study. The report must deliver consistent and easy to understand messages on the potential of hydrogen in Europe that can be communicated by the FCH JU and its members. The contractor shall deliver 100 copies of the report.
    c. A 4 pages public executive summary or synopsis communicable to a wide audience including 100 paper copies.
    d. A set of self-explaining PowerPoint slides which can be used for presentation by the FCH JU or its members

For all documents, a printable pdf should be provided so that the FCH JU can produce additional copies.

3. Contractual obligations

3.1 General

The contract will be a bilateral contract between the FCH JU and the wining tenderer. In drawing up the tender, the tenderer should bear in mind the provisions of template contract attached to these Specifications.

The contractor must perform this contract to the highest professional standards.

The contractor will have the sole responsibility for complying with all legal obligations incumbent on him, notably those arising from employment law, tax law and social legislation.

The contractor may neither represent the Fuel Cells and Hydrogen Joint Undertaking nor behave in any way that would give such an impression. The contractor must inform third parties that he does not belong to the European public service, but is exercising the tasks on behalf of the Fuel Cells and Hydrogen Joint Undertaking.

3.2 Subcontracting

Sub-contracting is permitted. Certain tasks provided for in the contract, especially the preparation of the final report, may be entrusted to subcontractors,

However, the main contractor retains full responsibility and liability towards FCH JU for the performance of the contract as a whole. Accordingly, FCH JU will treat all contractual matters (e.g. payment) exclusively with the main contractor, whether or not the tasks are performed by a subcontractor. Under no circumstances can the main contractor avoid liability towards the JUs on the grounds that the subcontractor is at fault.

If subcontracting is proposed, the file must include a document mentioning the reasons why subcontracting is proposed; stating clearly the roles, activities and responsibilities of subcontractor(s) and a letter of intent by each subcontractor stating their intention to collaborate with the tenderer if he wins the contract.

During execution of the contract, the contractor will need FCH JU express authorisation to replace a subcontractor with another and/or to subcontract tasks for which subcontracting was not envisaged in the original tender.

Please note that if subcontractors are proposed, the declaration relating to the exclusion criteria and the documents relating to the selection criteria must be provided by each of them.

4. Calendar

Interested applicants have to submit their proposal, by 8 July 2013.

It is expected that the evaluation will take place in the middle of July and that the contract will start in the middle of August.

The work shall start from the signature of the contract. Intermediate results should be available by mid-November 2013 so as to be shown at the FCH JU Stakeholders General Assembly. The final results should be prepared by the end of March of 2014 and will be presented in different meetings and conferences.

5. Volume of the contract and Prices

The maximum amount for this study including all the deliverables is €125.000.

Tenderers shall indicate the total price they propose for carrying out the study.

In addition, the tenderers shall give an indicative repartition of this price between different categories of costs (staff, travel including accommodation and per diem costs, publication costs, etc.) and the tasks/roles of the various staff members involved in the project.

The price for the tender must be quoted in euro. Tenderers from countries outside the euro zone have to quote their prices in euro. The price quoted may not be revised in line with exchange rate movements.

Prices should be fixed amounts.

Prices should be quoted free of all duties, taxes and other charges, including VAT, as the FCH JU is exempt from such charges under Articles 3 and 4 of the Protocol on the privileges and immunities of the EU; the amount of VAT should be shown separately.

6. Legal Situation of the Tenderer: Exclusion Criteria

Tenderers shall be excluded from participation in the present procurement procedure if:

a) they are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;

b) they have been convicted of an offence concerning their professional conduct by a judgement which has the force of res judicata;
c) they have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;
d) they have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;
e) they have been the subject of a judgement which has the force of res judicata for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities financial interests;
f) Following another procurement procedure or grant award procedure financed by the Community budget, they have been declared to be in serious breach of contract for failure to comply with their contractual obligations.

Tenderers shall be excluded from awarding if during the present procurement procedure:
g) they are subject to a conflict of interest;
h) they are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the contract procedure or fail to supply this information.

In their tenders, tenderers shall provide a declaration on their honour (based on the Model attached), duly signed and dated, stating that they are not in one of the situations listed above.

The FCH JU has the right to verify all information contained in the declaration by requiring further the documents. The tenderer is also aware of the possible consequences that may arise from any false declaration in providing the information required by the awarding authority in order to take part in the contract.

7. Selection Criteria

The tenderer has to have the necessary technical, professional, economic and financial capacity to execute the contract.
This invitation is being sent to a range of potential applicants that are regarded as suitably qualified. In order to confirm this preliminary assessment of their technical and professional capacity, tenderers shall provide:

- Details of no more than five previous assignments, in no more than 5 pages, demonstrating capacity to undertake the work required. For illustration, the tenderer may attach to its tender a few deliverables of these previous assignments.
- CV of the staff proposed for this contract with particular reference to the principal person proposed by the tenderer to liaise with FCH JU in the performance of the contract.

8. Award Criteria and Award of the Contract

The ranking of the proposals that passed the exclusion and selection stages will be based on the quality/price ratio where quality and price will have a 60/40 weighting. The following formula shall be used:

Score for proposal X = Cheapest price / Price of candidate X x 40 + Quality candidate / Quality of best candidate x 60

The technical evaluation of tenders will be evaluated on the basis of the following award criteria. The tenderers shall provide in their proposal the information necessary to assess such criteria.

The tenderers should in particular explain in detail the methodology, i.e. the type of model(s) used for this assessment. The tenderers should clearly explain the strengths and limitations of the selected model(s) in terms of e.g. inputs/outputs, coverage, capabilities, uncertainties and provide the list of key variables that should be carefully analysed.

As regards the alternative scenarios to be studied, the tenderers should provide an initial design of the scenarios which will include the main assumptions that will be different from the central scenario.

	Award criteria	Marks
1	**Understanding of the objectives of the study and proposed organisation** • The proposal shows how providing the analysis required will help to serve the objective of the FCH JU and its stakeholders. • Adds own aspects/views - has put in unexpected elements that are meaningful to achieve success • Time line and resource allocation is realistic and at the right level of details	/20
2	**Methodology** • Quality of the overall methodology • Ability of models/ methodologies used to reflect the role of hydrogen in the society • Design of scenarios • Degree of coverage of macroeconomic impacts • Level of geographic and sectoral detail of the approach and the results • Potential replicability of the approach	/60
3	**The proposal, the CVs of the proposed team shows and the list of past assignments demonstrate** • Capacity to carry out complex prospective studies • Expertise in the energy and transport sectors • Capacity to deliver consistent and easy to understand messages on the impact of fuel cells and hydrogen technologies in Europe.	/20
	Total	**/100**