



# **JRC DIRECTOR GENERAL Stephen QUEST**

---

## **MEETING WITH MR BART BIEBUYCK EXECUTIVE DIRECTOR OF THE FUEL CELLS AND HYDROGEN JOINT UNDERTAKING (FCH JU)**

**3 July 2020, 14.00**

### **TABLE OF CONTENT**

1. Agenda
2. Scene setter
3. Objectives
4. Speaking points
5. Defensives
6. Background

Feedback on briefing:

☐ Excellent

☐ Fit for purpose

☐ Improvable

Comments:

Feedback on event:

## AGENDA

No specific agenda. Mr. BIEBUYCK would like to meet you to introduce himself and the FCH JU institution in view of further cooperation with the JRC.

## SCENE SETTER

- On 3 **July 2020**, you will meet remotely with **Mr Bart Biebuyck**, Executive Director of the Fuel Cells and Hydrogen Joint Undertaking (FCH JU). The meeting will be an opportunity for Mr Biebuyck to introduce FCH JU program to you and discuss the future cooperation with the JRC.
- **Mr Bart Biebuyck** is the Executive Director in charge of the day-to-day management of FCH JU, the legal representative of the FCH JU and responsible for the implementation of the Joint Undertaking programme, in accordance with the decisions of the Governing Board. He holds the position since May 2016.
- The **Fuel Cell and Hydrogen Joint Undertaking** (FCH JU)<sup>1</sup> is a public-private partnership set up in 2008 under Art. 187 TFEU. It supports research, technological development and demonstration activities in fuel cell and hydrogen energy technologies in Europe. Its aim is to accelerate the market introduction of such technologies and exploit their potential in achieving a carbon-lean energy system. Among the work carried out, there are efforts to align European research and industry to a common research agenda; deploy fuel cell cars and buses; and establish European leadership for technologies like electrolyzers. The **three partners of the FCH JU** are the European Commission, fuel cell and hydrogen industries represented by Hydrogen Europe<sup>2</sup> and the research community represented by the Research Grouping NERGHY<sup>3</sup>. In particular, the European Commission DG R&I is in the steering board whereas MOVE and ENER hold seats.

## OBJECTIVES

- **Exchange** with Mr. BIEBUYCK on further cooperation with the JRC
- **Understand** FCH JU's views on possible future collaboration under Horizon Europe

---

<sup>1</sup> [www.fch.europa.eu](http://www.fch.europa.eu)

<sup>2</sup> <http://hydrogeneurope.eu>

<sup>3</sup> <http://www.nerghy.eu>

## SPEAKING POINTS / SPEECH

- **Highlight** that there is good collaboration with the JRC, with commonly achieved objectives.
- **Emphasise** that this collaboration and the topic of hydrogen are important for the JRC, and that we would like to continue closely following progress of a potential Clean Hydrogen Partnership developed under Horizon Europe.
- **Invite** FCH JU to continue discussions on possible future collaboration under Horizon Europe. However, **note** that the possible scope of work and the resources the JRC would commit in a potential new framework contract should be better defined, and brought in line with the needs and requests of the Commission.
- **Point out** that JRC activities should benefit all stakeholders. Some of the JRC work for the FCH JU cannot be published, as projects' outputs are confidential. This should be addressed in the future, so that JRC work can have more impact and visibility.

## DEFENSIVES

- Mr Biebuyck may suggest for the **JRC to be involved in a “knowledge hub” on hydrogen**. To increase the role of hydrogen in reaching the climate goals and corresponding public support for these technologies, Mr Biebuyck floated with Commissioner Gabriel the need for a knowledge hub on hydrogen to monitor all relevant funded activities at European level, in which the JRC would have a role.
  - **JRC involvement** in such knowledge hub **would entail a broad monitoring of activities** for hydrogen technologies for all hydrogen related activities (such as Important Project of Common European Interest - IPCEI or other Horizon Europe Public-Private Partnerships) and it would **require additional resources** at the JRC. *See also last point of JRC collaboration with FCHJU.*
- In Oct 2017, **FCH JU requested the JRC to extend the Green-Driving Tool to Fuel Cell (FC) vehicles**. The Green Driving Tool is a JRC-developed, publicly available platform for estimating fuel consumption, CO<sub>2</sub> emissions and fuel costs for cars, using different propulsion systems. In a meeting held in Brussels in Oct 2017,

representatives of the FCH JU and two vehicle manufacturers agreed to provide data and a Fuel Cell vehicle to the JRC in order to perform testing using the JRC Vehicles Emissions Laboratories (VELA facilities in Ispra). The JRC has so far received some data; however, **validation has not been possible** without the availability of a FC vehicle.

- The **JRC is willing to perform the agreed testing** whenever the right tools (data and Fuel Cell vehicle) are provided and include Fuel Cell vehicles in the Green Driving Tools.

## BACKGROUND

### JRC Collaboration with FCH JU

- The **JRC supports the FCH JU on two main areas:**
  - I. hydrogen and fuel cell research and technology monitoring and assessment
  - II. vehicle testing - independently of the FCH JU, **the JRC also carries out its own research** on performance of fuel cells vehicles under laboratory and real world driving conditions.
- In Feb 2016, the **JRC signed a Framework Contract (FWC)** with FCH JU for the duration of H2020 with a total budget of 7 million Euro. The contract will end on 31/12/2022. In line with the JRC mission, these support activities primarily contribute to formulation and implementation of the FCH JU strategy and activities in the areas of Regulations, Codes, and Standards (RCS), safety, technology monitoring and assessment. The JRC units involved are C.1 and I.3, with D.3 also starting activities under the contract from next year. JRC support activities under the FWC are agreed annually between JRC and the FCH JU, with involvement of representatives of Hydrogen Europe and Hydrogen Europe Research. Specifically the JRC provides to the FCH JU the following activities:
  - Pre-normative and underpinning research for harmonisation of performance characterisation and assessment methodologies;
  - Support to formulation and implementation of RCS;
  - Contribution to programme and technology monitoring and assessment;
  - Contribution to safety dimension and safety awareness, including continued operation of the European hydrogen incidents/accidents database
- This FWC, which is up to 1 million Euro per year, constitutes the highest share of the contractual income of JRC unit C.1, which is in the lead of the FWC. In terms of resources, C.1 is committing 4.5 - 5 FTE to this work per year, until the end of 2022.
- In the preparation of Horizon Europe, a continuation of the FWC is under discussion. **JRC Directorate C is willing to continue support FCH JU**; in particular the FWC signed for H2020 has given the directorate the **possibility to**

finance temporary positions which it could continue to finance should the FWC be continued under Horizon Europe. Alternatively, having more institutional resources allocated to unit C.1 would reduce pressure to seek contractual staff (financed under a continued FWC) and **would allow staff resources to focus on additional activities more directly supporting the new Commission Hydrogen Strategy**. However, this would require Directorate C to reprioritise its other institutional human resources to allow for this.

### **General Background on FCH JU and Hydrogen Strategy**

- Fuel cells, as an efficient conversion technology, and hydrogen, as a clean energy carrier, have a great potential to contribute to addressing energy challenges facing Europe. They will allow renewable energy technology to be applied to transport, facilitate distributed power generation, and help Europe cope with the intermittent character of renewables such as wind power.
- There is a **new momentum on hydrogen research and development** at EC level. While electrification and energy efficiency are the most important tools, selective deployment of hydrogen, especially in heavy transport and industry, has an essential role to play as renewable energy source for decarbonising the economy.
- EU policy on the subject is under development and a European **Hydrogen Strategy** is being drafted in the context of the forthcoming communication on smart sectoral integration, and will be **presented by VP Timmermans in the college meeting of 8 July**. This strategy, although highlighting the importance of research and development, heralds a new focus on large scale deployment. It should inform priority-setting for the important Project of Common European Interest for the hydrogen value chain (planned to come after batteries), Horizon Europe and – within Horizon Europe – the Institutional Partnership that is intended to succeed the present Joint Undertaking (the Clean Hydrogen partnership).
- The **FCH 2 JU had a positive impact on the fuel cell and hydrogen sector**. For example, it has substantially improved electrolyser technology and brought down costs, but further upscaling is needed, including building up sufficient manufacturing capacities. Apart from improving the performance of end-use applications (such as fuel cells), transport and distribution of hydrogen remains a key challenge for enabling large-scale industrial use of hydrogen.
- An institutionalised Private-Public Partnership has been **proposed under Horizon Europe<sup>4</sup>, the Clean Hydrogen partnership**. It would support R&I for hydrogen production, distribution and storage, and potentially hydrogen use in some end-use sectors. **The Partnership would build on the achievements of the current FCH 2 JU**, adapting further to the policy needs.

---

<sup>4</sup> [https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility\\_en](https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme/european-partnerships-horizon-europe/candidates-climate-energy-and-mobility_en)

- The new **Industrial Strategy** for a globally competitive, green and digital Europe also announced the launch of a **European Clean Hydrogen Alliance** bringing investors together with governmental, institutional and industrial partners. This is necessary as current events have made it clear that a strong European industry and supply chain is crucial for the European economy. Hydrogen technologies, which are able to help accomplish the European climate goals, can help in greening energy-intensive productions such as steel making and fertilisers and if produced and deployed in Europe, will in turn strengthen the competitiveness of European industry.
- The Strategic Forum for **Important Projects of Common European Interest** (IPCEIs - projects which fulfil common European objectives, in particular Europe 2020 objective) has also identified hydrogen technologies and systems as a strategic key European industrial value chain appropriate for receiving support from member states. This choice will enable new joint investments for innovative initiatives, which will have the potential to increase hydrogen technologies deployment and uptake across Europe. Several member states have already launched calls for expression of interest. **JRC is supporting DG GROW in focussing the development of the hydrogen IPCEI proposal**, through an assessment of the costs, efficiency and feasibility of different ways of transporting hydrogen. It is set to support DG COMP for the evaluation of project proposals for the IPCEI.