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Industry and research associations' position on EU Institutional Public Private Partnerships in Research and Innovation

Foreword

This paper represents the common position of 5 industry associations and partners (Hydrogen Europe, ASD, BIC, EFPIA and UNIFE) involved in 6 EU institutional Public Private Partnerships (IPPP¹) (under the legal structure known as Joint Undertakings (JUs)), collectively representing 453 companies and 48 national associations, supplemented by 218 RTOs and university associations².

In the context of the H2020 Programme midterm review, the P. Lamy report, the upcoming Bohemia study, and initial reflections around the future European Research and Innovation (R&I) Framework Programme 9 (FP9 from 2021 to 2027), IPPP industry and research association members and partners hereby wish to highlight that EU IPPP programmes demonstrate unmatched value added materialized by high effectivity, attractiveness and competitiveness.

The IPPP instrument effectively structures sectors around strong ecosystems that deliver impactful programmes and innovations leading to European market growth, job creation, enhanced international competitiveness and benefits to society. As a result, we hereby strongly recommend maintaining the IPPP instrument in FP9.

Institutional Public Private Partnership (IPPP): a high value added funding instrument

1. IPPP foster strong and innovative ecosystems

- a. IPPP build strong sectoral ecosystems that bring together a wide range of industry players; from start-ups to large industrial players; covering multiple sectors (transport, energy, bioeconomy, health) representing entire European supply chains. Alongside industry players, EU institutions, academia, end-users, stakeholders and consumer organisations collectively share risks and rewards in R&I technology development. IPPP notably attract many innovative SMEs, RTOs and academia; as high as 35%³.
- b. IPPP ecosystems generate new cross-sectoral and industry-academia collaborations, increased cooperation, confidence and synergies across regions and countries, knowledge creation, dissemination of innovation, technology transfer and increased industrial competitiveness across European markets.

2. IPPP implement long-term strategies with impactful results

- a. IPPP bring together public and private partners who collaborate to align long term public policy delivery objectives and private sector growth imperatives to foster innovation and new business models.
- b. Through long term 10-year sector implementation plans and coherent yearly programme implementation, IPPP deliver impactful programmes spanning entire

¹ Whilst, IPPP share many common characteristics, we would like to emphasise that from one IPPP to the next, attributes may differ in terms of structure and impact.

² As per official membership of IPPP.

³ Commission Staff Working Document, interim evaluation of Horizon 2020, SWD (2017) 221 final, Brussels, 29.5.2017, page 296.

product development cycles, with steady TRL increase, from product research to demonstration.

- c. IPPP demonstrate tangible technological developments that lead to faster product deployment, increased market uptake and scaling-up.
- d. IPPP ultimately benefit society by accelerating access to innovation and answering unmet societal needs.

3. IPPP effectively implement R&I programmes and projects

- a. IPPP produce high quality service to beneficiaries and the general public thanks to IPPP own staff's high dedication, sector expertise and centralised knowledge management. They also play a key role in project results' dissemination through JU websites, scientific publications, annual activity reports, social media and organization of bespoke events and workshops.
- b. IPPP are efficient R&I programme financial managers. Through high transparency, accountability and yearly reporting obligations, IPPP provide strict budgetary planning and adherence to annual and long term 10-year programme budget provisions.
- c. IPPP ensure high timeliness in project delivery and quality through high project accountability (transparency, liability, controllability, and responsibility measured by dedicated KPIs) and ecosystem peer pressure.

4. IPPP demonstrate high socio-economic impact and global competitiveness

- a. Through demonstration and flagship projects, IPPP not only support product deployment but also keep investments in Europe and some IPPP also attract investments in innovation from outside the EU.
- b. IPPP programmes often spill over by attracting new players to value chains who provide additional knowledge and resources. This leads to new market growth but also concrete business opportunities by bringing together manufacturers and suppliers with potential end-users.
- c. By building innovative European products and value chains, IPPP create EU sectoral competitive advantages which lead to increased exports, market shares and global competitiveness; thus positioning the EU as an R&I centre of excellence and a global market leader.
- d. High industry participation and investment in IPPP projects leads to high economic leverage. IPPP yield high return on public investments by pooling assets and attracting unmatched investments in EU projects with high in-kind additional activities and investments⁴ to the sector. Private investments currently exceed legal obligations set by IPPP regulations with a cumulative amount of €8 billion⁵ (for €5.8 billion euros of EU funding) translating an average cumulative 1.4⁶ leverage effect.
- e. Whilst our sectors cumulatively represent 6.2 million employees, IPPP contribute to European industry resilience, by retaining jobs and creating new jobs. They therefore contribute to the Juncker Commission's first priority designed to increase jobs, growth and investment, and also go beyond this by contributing to many other macro-economic, health and social policy priorities including: the digital single market; energy union and climate; the internal market; as well as making the EU a stronger global actor.

⁴ Private additional investments outside the scope of the IPPP programme, which contribute to its objective.

⁵ Commission Staff Working Document, interim evaluation of Horizon 2020, SWD (2017) 221 final, Brussels, 29.5.2017, page 308.

⁶ *ibidem*

FCH JU IPPP factsheet

Fostering strong and innovative ecosystems

As an industry and research-led PPP, the FCH JU has been successful in bringing in new actors and supporting SMEs:

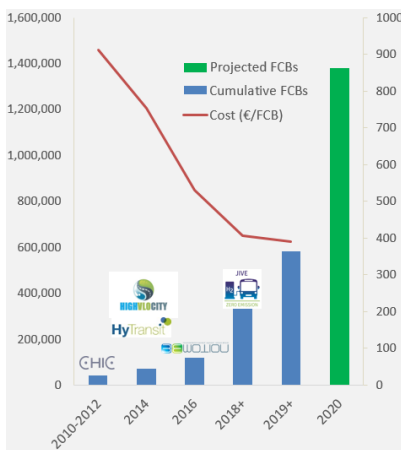
- Membership in Hydrogen Europe has increased from 53 in 2008 to 112 today, while at the same time the Research Grouping has increased its members from 42 to 66.
- In H2020 calls, a total of 413 unique participants receive funding; about 2/3 of those are not members of the FCH JU (through the industry or research associations)
- 27.5% of the funding goes to SMEs, up from 26% in the FP7 programme, and compared to the H2020 target of 20%.

In addition, the FCH JU recently launched an initiative to engage more directly with regions and cities across Europe. To date, 84 European regions and cities have signed up to participate through the signature of a Memorandum of Understanding, accounting for 28% of the European population and GDP⁷. The FCH JU works with these public authorities and industry players to look at relevant business cases for a broad range of applications. It further helps them with funding and financing mechanisms to implement future projects.

Implementing long-term strategies with impactful results

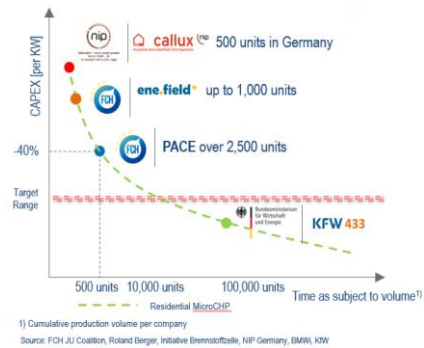
The ability of the FCH JU to have a significant impact can best be shown by two illustrative examples, dealing with different applications: buses and residential micro-cogeneration.

1. In 2010, when the FCH JU was starting its operations, there were only a few fuel cell buses in operation and the technology had yet to address the main question of whether it could become commercial. Following a string of FCH JU-funded projects (CHIC, High V.LO-City, HyTransit, 3Emotion, and JIVE – all except CHIC still active today), the overall fleet of buses in everyday operations should surpass 200 in Europe. Currently, these buses are proving their technical readiness to serve as drop-in replacements for diesel buses and have exhibited a sharp decline in their production and purchase costs. To trigger a true degree of market entry, the FCH JU formed a coalition of 84 bus operators, OEMs (suppliers of buses and hydrogen) and technology providers to aggregate demand and agree on a common roadmap. As a result, the current level of appetite identified from European bus operators is close to reaching 1000 buses until 2020. To put this in context, the figure represents a total projected investment of over 2B€, triggered by an original investment of 93.5M€ from the FCH JU.



⁷ They account for 143 million people and a combined GDP of €4.5 trillion

2. Stationary fuel cells, which can use natural gas much more efficiently than conventional alternatives and produce both heat and power, have undergone a tremendous period of growth, largely due to the activities of the FCH JU. Supported by a portfolio of R&D and especially demonstration projects such as ene.field and PACE (a total of over 3500 units throughout Europe are being deployed), the technical readiness of micro-cogeneration (mCHP) units for the supply of residential heat and electricity is now proven. Beyond the impact of these projects, the FCH JU further commissioned studies supporting a coalition of dedicated OEMs in finding a suitable pathway to commercialisation of these products. Following these efforts, a number of national programmes (notably in Germany, UK and France) supporting commercial sales of mCHP are being implemented. The goal is to deploy around 100,000 in the coming years, representing an investment of 1B€.



Effective implementation of R&I programme and projects

A large body of evidence supports the idea that the FCH JU is an effective agent in the implementation of the R&I programme and related projects:

- According to the recently published ‘Interim evaluation of the Fuel Cells and Hydrogen 2 Joint Undertaking (2014-2016) operating under Horizon 2020,’⁸ the FCH 2 JU continues to demonstrate strengths and remains relevant as funding instrument, ensuring good alignment with policy and industrial initiatives.
- On several key indicators regarding the implementation of the programme, the FCH JU is meeting its targets, as shown in the table below.

KPI	Target	Average Value
Time to Grant (TTG)	245 days	237 days
Time to Pay (TTP)	Pre-financing: 30 days	16 days
	Administrative: 30 days	20 days
	Cost claims: 90 days	73 days

- Within the coordinator survey performed by the EC in 2017, the positive replies in relation to the capability and commitment of the project office are very high (more than 90% of positive replies) as well as with the perception that the JU strives to provide excellent programme management and high quality service (more than 85% positive replies).
- These levels of efficiency and satisfaction have been achieved with a committed staff and an efficient structure. As an example, each of the operational staff members of the FCH JU manages eighteen projects and a budget of over 41M€.

High socio-economic impact and global competitiveness

The FCH JU attracts high levels of investments, positioning EU industry in a favourable position as its products start to enter the marketplace:

- The total leverage for the period 2014-2017 is currently estimated at 1.72 (private investments/EC contribution). These estimated private investments reach 688M€ (vs. 380M€ stated as target in the Council Regulation and an overall EC contribution of 665M€). Both of these indicators strongly indicate that the JU is aligned with industrial

⁸ Available at: http://www.fch.europa.eu/sites/default/files/Interim_Evaluation_FCH2JU.pdf

priorities and a confirmation of the commitment from industry to invest in this partnership.

- A recent internal study by the FCH JU identified over 150 companies active in the EU in hydrogen and fuel cell technologies, As the table below shows, these companies are well placed to take advantage of significant market opportunities, as they hold largely advantageous positions with respect to other world regions, mainly the US and Japan.

Each score is out of 15, so the highest could be 30.

A score of 9 for either factor denotes that Europe is on par with the most advanced regions, a score of 10 or above means that Europe is ahead.

	Fuel cell cars (FCEV)	Fuel cell buses	Fuel cell forklifts	Micro CHP	Large fuel cell CHP and Primary Power	Fuel cell APUs for trucks	Electrolysers	Hydrogen storage	Hydrogen Refuelling Stations
Strength	9	10	7	9	8	8	13	9	11
Growth	10	12	8	9	7	11	11	11	9
Overall	19	22	15	18	15	19	24	20	20