

Borgarráð

Möguleg notkun vetnis og efnarafala í samgöngum í Reykjavík - þátttaka í samevrópskri rannsókn

Lagt er til að borgarráð samþykki þátttöku Reykjavíkurborgar í samevrópskum rannsóknum á mögulegri notkun vetnis og efnarafala í borgarsamgöngum og undirritun viljayfirlýsingar þess efnis sbr. hjálagt bréf samgöngustjóra dags. 27. október 2016. FCH 2 JU (Fuel Cells and Hydrogen 2 Joint Undertaking) óskar eftir þátttöku Reykjavíkurborgar í verkefninu sem krefst ekki beinna fjárframlaga af hálfu borgarinnar en með þátttöku skuldbindur borgin sig til að útvega upplýsingar sem nýtast í rannsókninni, taka þátt í umræðum um lausnir og kynningu á niðurstöðum.

Sigurður Björn Blöndal
e.u.

Hjálagt:

Bréf samgöngustjóra um mögulega notkun vetnis og efnarafala í samgöngum í Reykjavík dags. 27. október 2016.



Reykjavíkurborg

Umhverfis- og skipulagssvið

Reykjavík, 27. október 2016

USK2016100038

5.0

Til borgarráðs

Möguleg notkun vetnis og efnarafala í samgöngum í Reykjavík - þátttaka í samevrópskri rannsókn

Reykjavíkurborg er aðili að alþjóðlegum samþykktum um samdrátt í losun gróðurhúsalofttegunda og sett hafa verið metnaðarfull markmið fyrir borgina. Samgöngur eru lykiluppspretta losunar í borginni. Rafmagn, framleitt með vistvænum hætti, mun gegna mikilvægu hlutverki í vistvænum borgarsamgöngum og það kallar á tæknilausnir í geymslu raforku í farartækjum (rafhlöður eða vetni). FCH 2 JU (*Fuel Cells and Hydrogen 2 Joint Undertaking*) er samevrópskt verkefni opinberra aðila, rannsóknarstofnana og iðnfyrirtækja sem hefur það hlutverk að hraða þróun tæknilausna sem auðvelda upptöku efnarafala (e. fuel cell) og vetnis í borgarsamgöngum. FCH 2 JU verkefnið er að fullu fjármagnað af H2020 rannsóknarsjóði Evrópusambandsins. Borgir og borgarsvæði eru í lykilhlutverki þegar kemur að því að draga úr notkun kolefnis í samgöngum. FCH 2 JU vill því vinna náið með borgum, auka samstarf borga í þessum málaflokki og skilgreina orkuþörf og hlutverk vetnis og efnarafala í orkuskiptum samgangna.

FCH 2 JU óskar eftir að Reykjavíkurborg taki þátt í rannsóknum framundan með undirritun viljayfirlýsingar um að borgin muni skoða innleiðingu sértækra aðgerða sem styðja það að vetni og efnarafalataækni og vörur verði hluti af aðgerðum borgarinnar til að verða kolefnishlutlaus. Þátttaka borgarinnar krefst ekki beinna fjárframlaga en með þátttöku skuldbindur borgin sig til að útvega upplýsingar sem nýtast í rannsókninni, taka þátt í umræðum um lausnir og kynningu á niðurstöðum. Rétt er að benda á að gert er ráð fyrir víðtæku samstarfi borga og borgarsvæða í ofangreindu verkefni og gert ráð fyrir a.m.k. 20 borgir og svæði taki þátt. Íslensk NýOrka, fyrirtæki í eigu ríkisins, OR, Landsvirkjunar, HS Orku, Nýsköpunarmiðstöðvar, Háskóla Íslands o.fl. getur verið, og hefur boðist til að vera tengiliður Reykjavíkurborgar við FCH 2 JU í verkefninu. Íslensk NýOrka er meðlimur í FCH JU.

Óskað er heimildar borgarráðs til undirritunar viljayfirlýsingar milli Reykjavíkurborgar og FCH 2 JU um að borgin verði hluti af „Hydrogen Regions/Cities“ samstarfinu (sjá meðfylgjandi skjal og kynningu).

Þorsteinn R. Hermannsson, samgöngustjóri

Málsnr.: R16100349
Skjalasafn Ráðhúss
31. okt. 2016

**MEMORANDUM OF
UNDERSTANDING**

BETWEEN

THE REGION/CITY OF XXX

AND THE

**FUEL CELLS AND HYDROGEN 2
JOINT UNDERTAKING (FCH 2 JU)**



2016

1. The **Fuel Cells and Hydrogen 2 Joint Undertaking**, hereinafter referred to as the FCH 2 JU, represented for the purposes of signing this agreement by Mr Bart Biebuyck, Executive Director

And

2. The **Region/City of**, represented for the purpose of signing this agreement by Mr/ Ms, [*please insert function of representative*]

together referred to as “the Parties”

PREAMBLE

There is a clear trend towards setting increasingly ambitious targets for reduction of greenhouse gas emissions and air pollutants in the medium term. Examples include: the global Paris Agreement (within the COP21 Forum) with pledges from signatory countries to curb emissions; the EU 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030, now followed by the European Commission's proposal for the Effort Sharing Regulation with significant GHG emissions cuts for individual Member States; the new Global Covenant of Mayors for Climate & Energy and the C40 Climate Leadership Group and their efforts to lead the fight against man-made climate change and urban pollution. All of these initiatives point to a massive level of penetration of intermittent renewable power sources generating green electricity to form the backbone of a sustainable future. In order to use that green power, energy storage solutions such as the use of batteries and hydrogen will be a clear requirement to power all needs and applications that society now takes for granted, from heating homes and businesses to transporting goods and people. Specifically for hydrogen, a number of products are entering the commercialisation phase, and can start proving their added value in contributing to the environment goals.

The FCH 2 JU is the result of long-standing cooperation between representatives of industry, academia, research organisations, and public authorities, in the field of research, development and deployment strategies for fuel cells and hydrogen energy technologies. The FCH 2 JU is a Public Private Partnership established under Council Regulation (EU) 559/2014 of 6 May 2014¹ between the European Union represented by the European Commission, the industry grouping "Hydrogen Europe" and the research grouping "N.ERGHY". It is mandated, amongst others, to contribute as a funding body, to the implementation of Horizon 2020 (H2020) and to complete the implementation of the actions of the Seventh Framework Programme initiated by the FCH JU under the former regulation (EC) 521/2008. Its mission is to accelerate the commercialisation of hydrogen and fuel cell technologies. It acts as a platform bringing together public and private stakeholders to pool resources around the key priorities, identify the most promising hydrogen and fuel cell applications, and build partnerships with other entities to leverage available funding and financial mechanisms.

Realising that regions and cities are key drivers in the implementation of initiatives to decarbonise their energy and transport systems, the FCH 2 JU considers an enhanced coordination of priorities and activities with European regions and cities as a key step to achieve its goals. An improved alignment of strategic priorities and financing schemes is a common goal of the European Union, the FCH 2 JU and regional and local actors managing European Structural and Investment Funds (ESIF) and other funding schemes.

¹ Official Journal of the European Union of 7.6.2014, L 169/108

This Memorandum of Understanding provides the framework for this improved collaboration amongst the parties.

Having regard to Council Regulation (EU) 559/2014 of 6 May 2014 establishing the FCH 2 JU and in particular recital (24)² thereof;

Whereas

1. the FCH 2 JU plays a strategic role as implementing body in Horizon 2020, the European Union's Framework Programme for Research and Innovation, of activities related to fuel cells and hydrogen technologies;
2. in view of developing close synergies and interactions with other financing programmes, in particular ESIF and other financing mechanisms to support smart specialisation strategies, the FCH 2 JU wishes to establish bilateral relations with the interested regions or municipalities;
3. the Region/City of () is committing to implement policies and measures to meet its environmental goals and places innovation and competitiveness at the heart of its economic development policies over the long term in one or more of the following areas:
 - regional innovation strategy for a smart specialisation
 - regional pattern of economic development
 - regional environmental plans
 - sustainable plan for urban planning and development
 - *(add bullets where applicable)*
4. the Region/City of () considers implementing specific measures, including policy initiatives, aimed at supporting the introduction of hydrogen and fuel cell technologies and products as part of its goals to decarbonise its transport and energy systems;
5. the Region/City of () wishes to promote and support the complementarity and synergies between H2020 and other funding programmes and financing sources in particular in the field of fuel cells and hydrogen technologies;
6. the Parties are determined to establish an active cooperation framework with consideration to their respective legislation,

the Parties have agreed as follows:

ARTICLE 1:

To work together for the identification of synergies amongst programmes, funding schemes and other financing sources through:

² Horizon 2020 should contribute to the closing of the research and innovation divide within the Union by promoting synergies with the European Structural and Investment Funds (ESIF). Therefore the Fuel Cells and Hydrogen 2 Joint Undertaking should seek to develop close interactions with the ESIF, which can specifically help to strengthen local, regional and national research and innovation capabilities in the area of the Fuel Cells and Hydrogen 2 Joint Undertaking and underpin smart specialisation efforts;

- The active participation of the Region/City of () in initiatives launched by the FCH 2 JU for said purpose, including:
 - participation in working groups of common interest, to be decided upon on an *ad hoc* basis, collaborating with members of industry and research
 - identification of those hydrogen and fuel cell applications that are of highest interest to achieve its goals
 - providing information necessary to build attractive business models that may draw additional investments
- Recommendations for specific areas of interest to be included in FCH 2 JU annual calls for proposals stemming from such initiatives referred to herein above, to be considered by the FCH 2 JU stakeholders, notably its industrial members represented by Hydrogen Europe, its research members represented by N.ERGHY and the European Commission. Such recommendations may be made by members of Hydrogen Europe, the Research Grouping, the European Commission or the Programme Office
- Implementation of regional or local co-funding and financing schemes that complement projects funded by the FCH 2 JU

ARTICLE 2:

To establish working arrangements between their respective instruments and frameworks to accompany the fuel cells and hydrogen sector by promoting synergies and complementarities between the European funds managed by FCH 2 JU in the fuel cells and hydrogen sector and other sources of funding/financing, such as the structural and investment funds. In this regard, ESIF programmes may also be designed and implemented to:

- support infrastructural investments to be combined with R&I activities in fuel cells and hydrogen.
- take up and potentially launch calls for proposals for thematic objectives and topics agreed with the FCH 2 JU and provide financing for high quality project proposals for which there is not enough budget available in the respective FCH 2 JU Programme area and FCH 2 JU Calls, but which are important for both the fuel cells and hydrogen sector and the region/city;

ARTICLE 3:

To promote their respective activities and support mechanisms through an outreach and dissemination policy aimed towards economic, industrial and other interested actors through an online update, on the website () managed by the Region/City, of relevant information regarding the launched calls for projects by FCH 2 JU, and by a description on the website of FCH 2 JU of the regional/local policy of () supporting fuel cells and hydrogen;

ARTICLE 4:

The parties will ensure the protection of any sensitive information and the confidentiality of any document and information related to the parties or the participants to the technical activities under the present Memorandum of Understanding.

ARTICLE 5:

This Memorandum may be amended with the consent of the Parties and every amendment or addendum must be done in writing.

ARTICLE 6:

1. This Memorandum shall enter into force on the date of last signature of the Parties.
2. Each Party may terminate this Memorandum by notifying the other Party in writing at least six months before the date of termination.

Done in two originals in the English language.

Signed in Brussels, on _____

Signed in _____, on _____

Mr. Bart BIEBUYCK

Mr./Mrs. _____

Executive Director

Title: _____

Fuel Cells and Hydrogen 2 Joint Undertaking

Region/City of _____



Hydrogen Report

September 2016

Carlos Navas, Strategy & Market Development Manager – FCH JU



<http://www.fch.europa.eu/>

Europe is trying to find the right way to de-carbonise

Many associations, nations, regions and cities are asking themselves how to achieve significant de-carbonisation

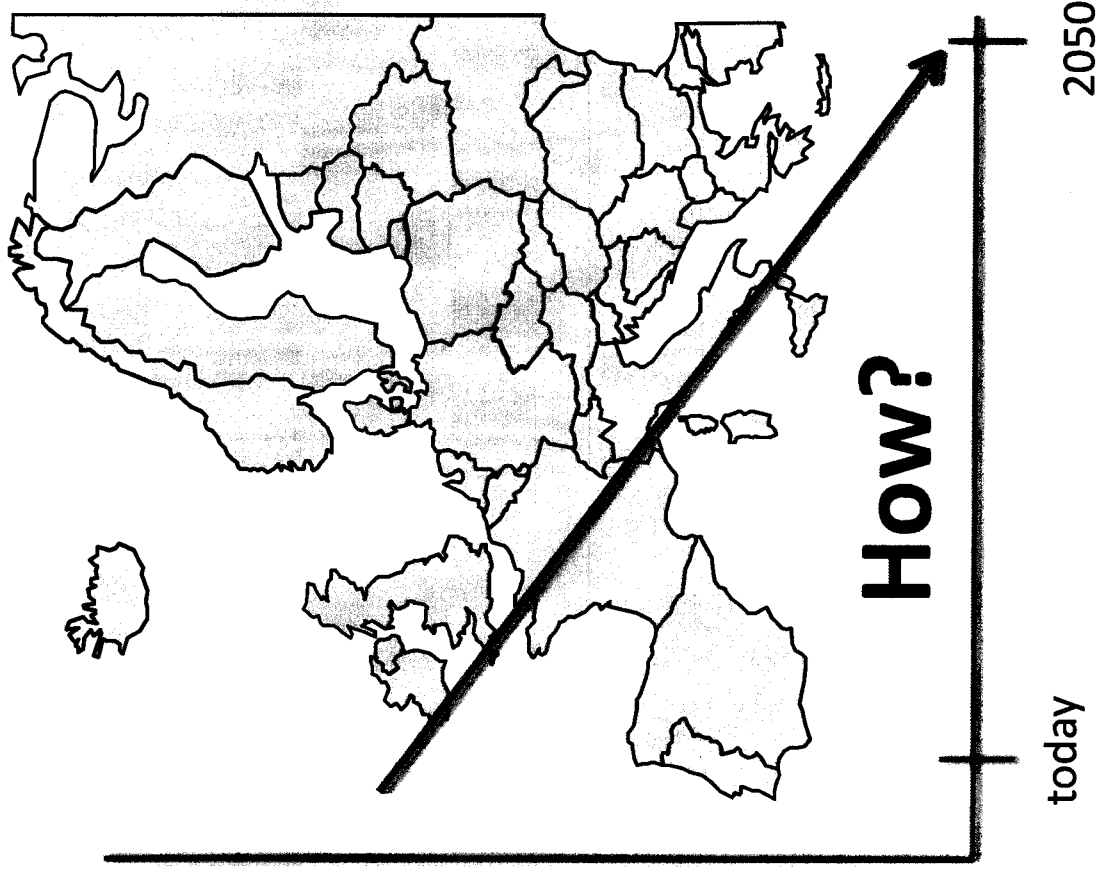
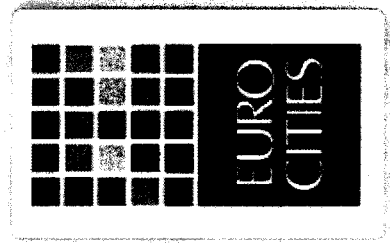
Air Pollution
&
CO₂
emissions



PARIS2015
CONFERENCE OF THE PARTIES
COP21-CMP11



Covenant
of Mayors
Committed to local
sustainable energy



De-carbonisation implies an aggressive transition to zero emission technologies

Zero Emissions

Large introduction of Renewable Electricity



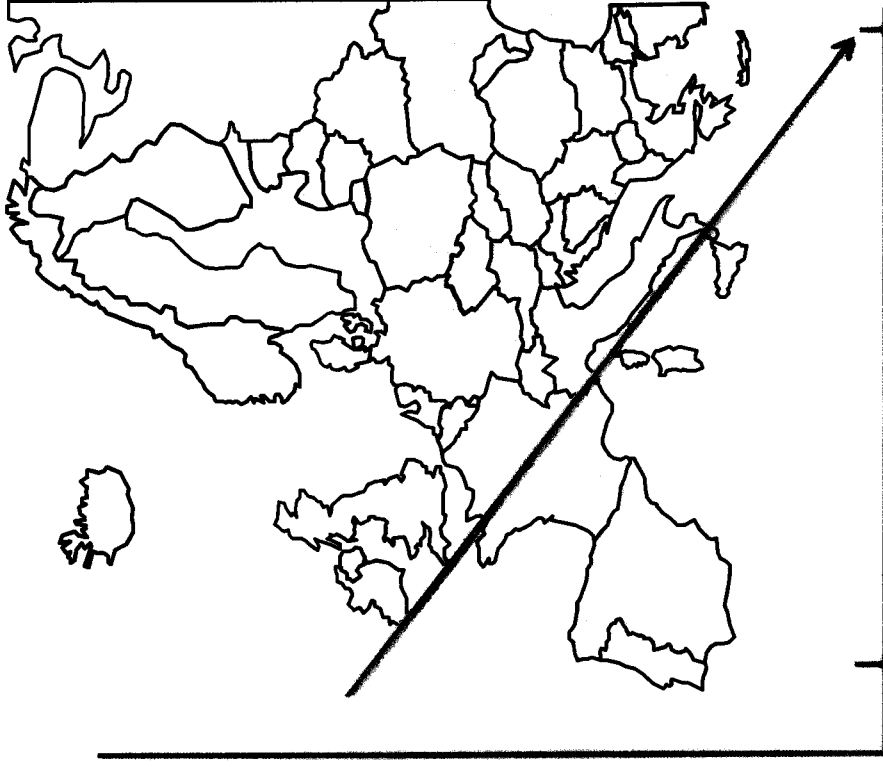
Batteries

+



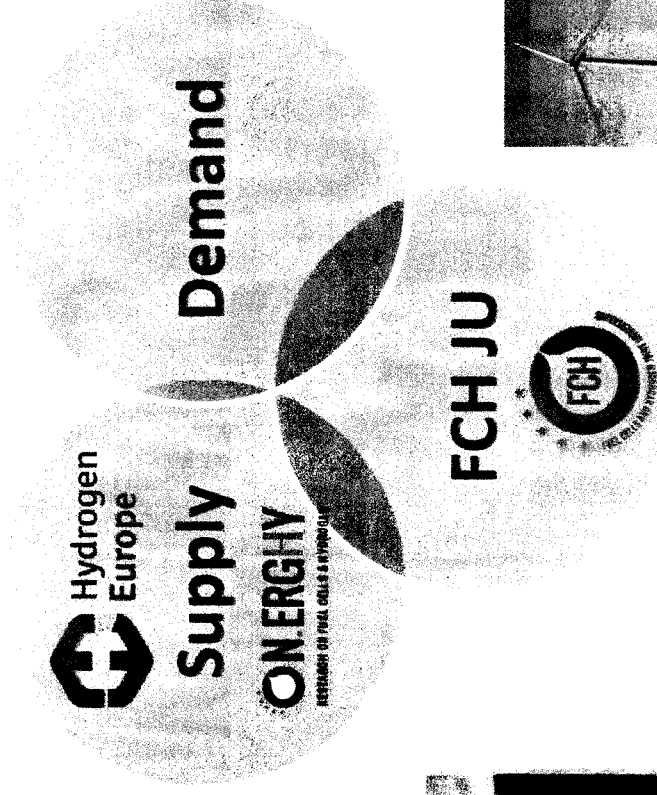
Hydrogen

Air Pollution & CO₂ emissions



The FCH JU brings together supply and demand to develop market opportunities for FCH applications

- Industrial Partners
- Developing products
- Seeking business opportunities



- Regions/Cities
- Strong drive to decarbonise
- Seeking zero emission products

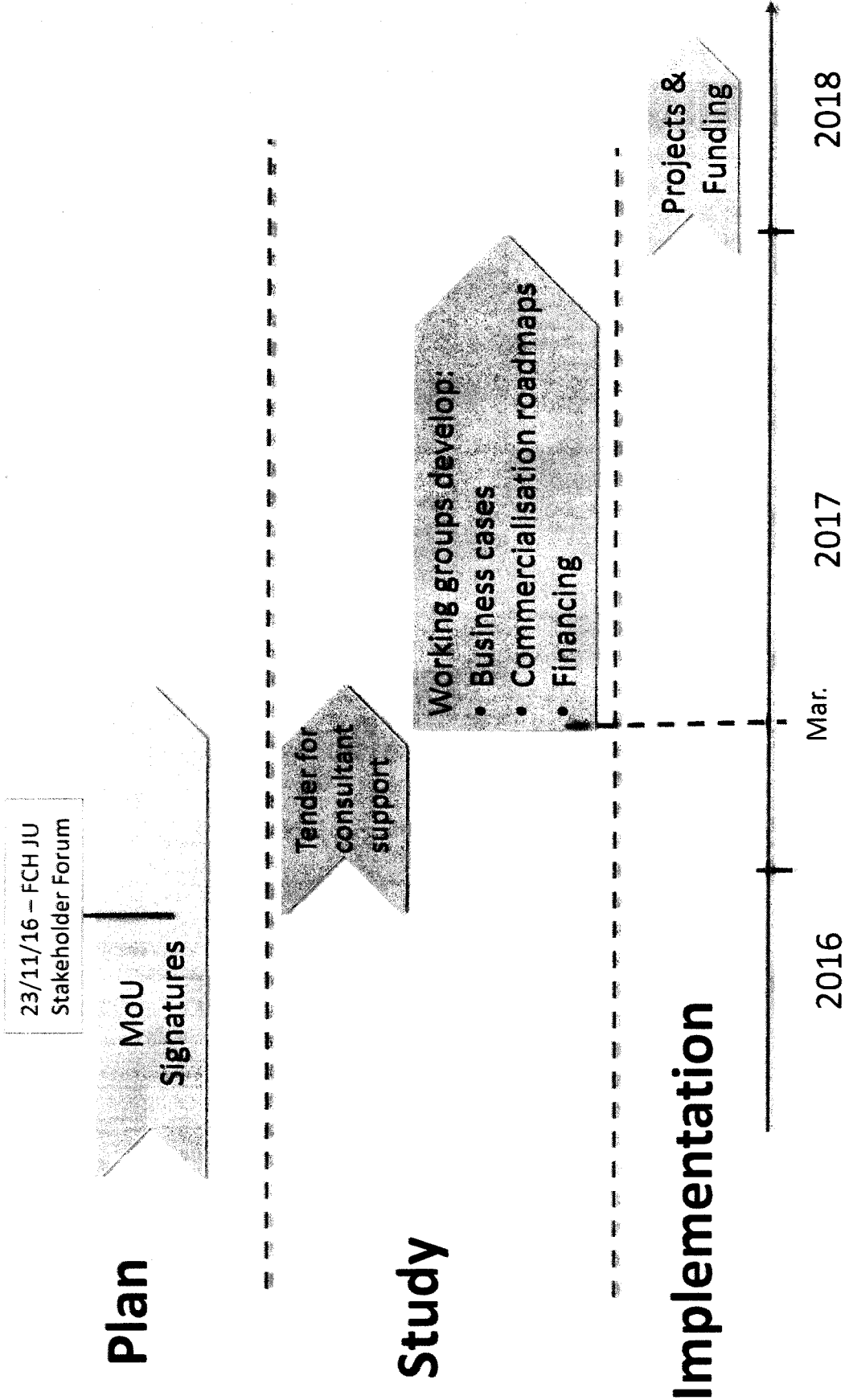


- Public-Private Partnership funding FCH commercialisation under H2020
- Brings together necessary ingredients to develop markets and facilitate commercialisation

The FCH JU is launching an initiative to engage Regions/Cities and Industry to develop FCH Markets

- The FCH JU is launching a large, ambitious study to develop markets, enable solutions and coordinate funding
- We need active collaborations with interested regions/cities in which they:
 - Define product needs
 - Provide input to define business cases for these products
 - Engage directly with a broad spectrum of industry players who can supply the products
 - Help coordinate and maximise funding/financing sources to implement solutions
- We offer:
 - Our commitment to work with you
 - Cover 100% of the costs of external support (consultants)
- We request:
 - Your commitment to provide input and engage actively in the study and beyond in the rollout
 - A vision to include hydrogen-based technologies in the portfolio of solutions to be supported in your community
- As a first step, we are asking interested communities to sign a Memorandum of Understanding (MoU)
 - There will be a symbolic signing ceremony held on November 23 at the FCH JU annual Stakeholder Forum in Brussels

Indicative Planning



Summary

- We offer you the opportunity to participate in a large study that
 - Defines business cases for the hydrogen and fuel cell-based products you are seeking
 - Puts you directly in touch with industry
 - Helps you find the best financing schemes to implement it
- At no cost to you (other than your own time and travel costs)

Contact Us

Contact info:

- Carlos Navas - Strategy and Market Development Manager
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-

Further info:

- FCH JU: <http://www.fch.europa.eu>
- HYDROGEN EUROPE: <http://hydrogeneurope.eu>
- N.ERGHY: <http://www.nerghy.eu>