



**FUEL CELLS
AND HYDROGEN**
JOINT UNDERTAKING

#CleanHydrogen

NEWSLETTER May 2020

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Dear reader,

I am excited to introduce our new monthly newsletter, an issue full with interesting information from the FCH JU funded projects and the sector.

The COVID-19 pandemic affects many businesses and our social life and I wish you, your family and colleagues, health and strength in these challenging times. Fortunately, the current situation did not affect our call for proposals, nor the call for expression of interests by the regions for project development assistance. The overwhelming answer to both calls is the best evidence that the sector and the regions are ready to invest in hydrogen.

On 9 May we celebrate Europe Day. The role of a united Europe working together is crucial to realise the ambitious recovery plan, which is under way. This will give us a chance to invest in green technologies, like hydrogen and create the necessary jobs and growth, while contributing to the climate goals. We are actively providing inputs to the Commission requests in this respect.

In this issue we highlight one of our projects, INSPIRE. The consortia achieved world leading fuel cell performance while reducing costs and exceeding the project original targets. Last, but not least, the fact of the month section is about the status of Hydrogen Refueling Stations in Europe, an area where Europe has a leadership.

Enjoy the read,

Bart Biebuyck, FCH JU Executive Director

FCH JU Programme and Projects Updates

71 proposals submitted to the FCH JU Call 2020

Fuel Cells and Hydrogen, 01.05.2020 [\[fr\]](#) [\[de\]](#)

A total of 71 proposals were submitted in response to the FCH JU Call 2020, by the deadline of 29 April. This is the second highest number of proposals received by the FCH JU in the framework of Horizon 2020 programme, corresponding to an increase of 65% when compared with last year's call.

<https://www.fch.europa.eu/news/high-interest-across-europe-fch-ju-call-2020>

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High interest across European regions for FCH JU's Project Development Assistance (PDA) call

Fuel Cells and Hydrogen, 18.03.2020 [\[fr\]](#) [\[de\]](#)

The FCH JU received 38 applications for Project Development Assistance (PDA) from regions across 19 European countries. The initiative attracted applications from all corners of Europe, including from areas with low deployment of hydrogen technologies, such as Central and Eastern Europe.

<https://www.fch.europa.eu/news/high-interest-across-european-regions-fch-ju%E2%80%99s-project-development-assistance-pda-call>

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Launch of the Hydrogen Valley Platform

Fuel Cells and Hydrogen, 22.04.2020 [\[fr\]](#) [\[de\]](#)

The Hydrogen Valley Platform (www.h2v.eu) is a Global Information Sharing Platform, developed by the Fuel Cells and Hydrogen Joint Undertaking to support the Mission Innovation IC8 Member States. Its objective is to promote the emergence and implementation of hydrogen flagship projects ("hydrogen valleys") and raise awareness among policy....

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INSPIRE-ing the European Automotive Industry

User Defined, 04.05.2020

The INSPIRE project shows promising results for the European automotive industry. Building on the achievements of other FCH JU funded projects, INSPIRE managed to make fuel cells more performant, affordable and competitive by integrating the most advanced critical PEMFC (Proton-exchange membrane fuel cells) stack components into a fuel cell.

The results of the INSPIRE project are critically important for advancing fuel cell powertrains on the market:

- Obtained a world leading power density of 5.7 kW/l and over 1.5 W/cm², exceeding the project's original targets and surpassing the available fuel cell cars (which have a power density of approximately 3 to 4 kW/l)
- Fuel cell durability increased beyond 6000 h operation for LDV applications
- Stack production costs potentially reduced in the range of 55 €/kW (excluding PGM)

Projects like INSPIRE are delivering results that enable Europe to be a leader in the fuel cell technology and have a strong impact on the automotive industry and performance, while also strengthening the European workforce. These results will now need to be nurtured and carefully exploited keeping in mind that further research will require closer cooperation with automotive OEMs.

More information about the INSPIRE project available on the [project's website](#) and in the [FCH JU Success Stories brochure](#).

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MULTIPLHY – Green hydrogen for Renewable products refinery in Rotterdam

bio-based, 21.04.2020 [\[fr\]](#) [\[de\]](#)

The MULTIPLHY project – “Multi-megawatt high-temperature electrolyser to generate green hydrogen for the production of high-quality biofuels” has recently been launched at Neste's renewable products refinery in Rotterdam. The project involves renewable products specialist Neste, world's leading....

<http://news.bio-based.eu/multiplhy-green-hydrogen-for-renewable-products-refinery-in-rotterdam/>

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FLAGSHIPS: Using River Power in River Boats Proves the Value of Hydrogen Fuel-Cells April 2, 2020

FuelCellsWorks, 03.04.2020 [\[fr\]](#) [\[de\]](#)

The EU funded FLAGSHIPS project is supporting the construction of a hydrogen fuel-powered barge push boat in the French city of Lyon, one that will get its clean hydrogen from the Rhone's hydroelectric power in a truly virtuous circle. Expertise from several European countries is working together to....

<https://fuelcellsworks.com/news/using-river-power-in-river-boats-proves-the-value-of-hydrogen-fuel-cells/>

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3EMOTION: The First Fuel Cell Buses in Operation in Denmark!

FuelCellsWorks, 24.03.2020 [\[fr\]](#) [\[de\]](#)

On the 10 th of March 2020, the Region of North Denmark and the Municipality of Aalborg proudly announced the operation of the very first Fuel Cell Bus in Denmark. The bus was quickly followed by the next two fuel cell buses that started their operation on the 16 th of March.

<https://fuelcellsworks.com/news/the-first-fuel-cell-buses-in-operation-in-denmark/>

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JIVE: Solaris Bus & Coach S.A. to Deliver 20 Solaris Urbino 12 Hydrogen Buses to Connexxion in South Holland, Netherlands

FuelCellsWorks, 15.04.2020 [\[fr\]](#) [\[de\]](#)

A contract for the delivery of 20 Solaris Urbino 12 hydrogen buses was signed by representatives of Solaris Bus & Coach S.A. and the operator Connexxion providing transport services for South Holland province. South Holland (Dutch: Zuid-Holland) is the most populous province of The Netherlands,....

<https://fuelcellsworks.com/news/solaris-bus-coach-s-a-to-deliver-20-solaris-urbino-12-hydrogen-buses-to-connexxion-in-south-holland-netherlands/>

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Bart Biebuyck: Hydrogen to energise Europe's Green Deal

H2View, 01.05.2020 [\[fr\]](#) [\[de\]](#)

The European Commission's European Green Deal is a roadmap for transforming the EU into a modern, resource-efficient and competitive low-carbon economy, with net-zero greenhouse gas (GHG) emissions by 2050. Replacing fossil fuels with renewable energy is central to the plan's approach.

<https://www.h2-view.com/story/hydrogen-to-energise-europes-green-deal>

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Pillars of Progress: Power – Hydrogen from renewables, green back-up power

H2View, 16.03.2020 [\[fr\]](#) [\[de\]](#)

Green hydrogen produced by harnessing surplus electricity from wind and solar sources is an important back-up power solution. Using excess electricity from renewables to split water molecules via electrolysis, the resulting green hydrogen can be stored and used in fuel cells to supply power as....

<https://www.h2-view.com/story/pillars-of-progress-power-hydrogen-from-renewables-green-back-up-power>

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Orkney awarded €100K EU Responsible Island Prize

shfca, 01.05.2020 [\[fr\]](#) [\[de\]](#)

The Orkney Islands have just been awarded €100,000 in the first ever EU RESPonsible Island Prize, funded by Horizon 2020, the EU research and innovation programme. Orkney was awarded third prize due to percentage of renewable electricity produced by innovative energy technologies locally,....

<http://www.shfca.org.uk/news/2020/5/1/orkney-awarded-100k-eu-responsible-island-prize>

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Fact of the Month

198 operational Hydrogen Refuelling Stations (HRS) now in Europe

User Defined, 04.05.2020

- 65 stations founded under the FCH JU programme, spread across 13 European countries, with Germany, France, Denmark and UK being the frontrunners
- 195k refuelling operations recorded in the interval 2016-2018 in the FCH JU funded stations with over 594 tonnes of Hydrogen dispensed
- 225 HRS in the pipeline
- 34 stations in the procurement stage

While the HRS network is growing, hydrogen refuelling corridors are developed to enable the future deployment of light and heavy duty vehicles (LDV and HDV), including coaches.

The Fuel Cells and Hydrogen Joint Undertaking (FCH JU) has funded 65 out of the total 198* HRS (33%) while 34 are in the procurement stage. The remaining HRS have received funds by other private and public programmes including regional, national and EU funds such as the Connecting Europe Facility (CEF).

The technology has matured sufficiently to demonstrate availabilities ranging between 90% and 100%², with the average availability in 2018 being 97%.

For more information please visit <https://h2-map.eu>

*Data deriving from operational years 2016-2018 and including both public and private HRS used for LDV, buses and MHVs refuelling

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Industry and Policy Headlines

Green Deal will be ‘our motor for the recovery’, von der Leyen says

Euractiv (English), 29.04.2020 [fr](#) [de](#)

European Commission President Ursula von der Leyen promised on Tuesday (28 April) to put the European Green Deal at the centre of the EU’s recovery plan, echoing similar statements made by German Chancellor Angela Merkel. “As we now plan to slowly go back to work and to invest billions of euros to....

<https://www.euractiv.com/section/energy-environment/news/green-deal-will-be-our-motor-for-the-recovery-von-der-leyen-says/>

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Focus on innovative clean technologies such as hydrogen: Statement by Commissioner Kadri Simson following the High-Level Videoconference of Energy Ministers

europa nu, 28.04.2020 [fr](#) [de](#)

Finally, we could focus on innovative clean technologies like batteries and electrolyzers for hydrogen production. Europe will be an even stronger leader in renewables if green hydrogen becomes competitive and deployable in the next decade...

https://www.europa-nu.nl/id/vl87he6m9oyz/nieuws/statement_by_commissioner_kadri_simson?ctx=vhsjd8w6pdvc&s0e=vhdubxdwqzrw

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IEA Outlook 2020: Batteries and hydrogen technology: keys for a clean energy future

International Energy Agency, 03.05.2020 [\[fr\]](#) [\[de\]](#)

Electrolyser production is still in its early stages. Europe, the world leader, has a manufacturing capacity of 1.2 gigawatts (GW) per year, enough capacity in theory to power more than half a million fuel cell passenger cars with hydrogen from water. Production capacity is expanding rapidly. The world's largest electrolyser plant, under construction by the United Kingdom's ITM Power, is expected to produce 1 GW per year. In addition...

<https://www.iea.org/articles/batteries-and-hydrogen-technology-keys-for-a-clean-energy-future>

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IRENA: Green hydrogen – the potential energy transition gamechanger

irena, 12.01.2020 [\[fr\]](#) [\[de\]](#)

Green hydrogen is projected to grow rapidly in the coming years. As energy leaders from around the world meet for the 10th Assembly of IRENA, participants of a ministerial roundtable on hydrogen have identified hydrogen produced by renewable energy as potential key accelerator of the energy transition and enabler for a wider global decarbonization.

<https://www.irena.org/newsroom/articles/2020/Jan/Green-hydrogen-the-potential-energy-transition-gamechanger>

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Hydrogen will be 'central' to energy system integration, EU says

Euractiv (English), 08.05.2020 [\[fr\]](#) [\[de\]](#)

(5 May), Simson flagged the upcoming building renovation wave and offshore wind as “the first two areas of work” for the energy sector in the recovery phase from the coronavirus crisis. “But the third area amplifies the impact of both, bringing them together into one connected system. This is Energy System Integration,” she said.

<https://www.euractiv.com/section/energy-environment/news/hydrogen-will-be-central-to-energy-system-integration-eu-says>

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Dutch outline clean hydrogen 'vision', aim at global market

Euractiv (English), 02.04.2020 [\[fr\]](#) [\[de\]](#)

Hydrogen trade. In his letter, Wiebes repeatedly underlines the “unique starting position” of the Netherlands, referring to the country's experience in “safely and responsibly” handling hydrogen, its extensive gas network, and its geographical location at the heart of Europe's industrial north.

<https://www.euractiv.com/section/energy-environment/news/dutch-outline-clean-hydrogen-vision-aim-at-global-market/>

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Opinion Making the business case for clean hydrogen

Foresight DK, 01.04.2020 [\[fr\]](#) [\[de\]](#)

With the goal of climate neutrality by 2050, there is growing interest in renewable hydrogen as one of the only options to decarbonise high-temperature processes and feedstocks. The European Commission's landmark Green Deal that will set the EU on track to climate neutrality by mid-century is great news for hydrogen.

<https://foresightdk.com/making-the-business-case-for-clean-hydrogen/>

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German Ministry of Transport Releases Millions in Funding for Purchase of Hydrogen Buses with Fuel Cell Technology

FuelCellsWorks, 08.04.2020 [\[fr\]](#) [\[de\]](#)

WSW mobil GmbH receives around 2.3 million euros in funding from the state for the purchase of 10 buses; The Oberbergische Verkehrsgesellschaft (OVAG) receives 1.23 million euros for the procurement of a bus powered by a fuel cell, plus a hydrogen storage unit.

<https://fuelcellsworks.com/news/german-ministry-of-transport-releases-millions-in-funding-for-purchase-of-hydrogen-buses-with-fuel-cell-technology/>

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Hydrogen mobility: Iv vessels (Mobilité hydrogène : des VL aux bateaux)

Green innovation, 14.04.2020 [\[de\]](#)

To develop the new hydrogen mobility, we need a network of stores, a range of vehicles adapted and collectivités or private companies spearhead. The three are meeting today in France. Overview of development announced.

Original text: Pour développer la nouvelle mobilité hydrogène, il faut un réseau d'avitaillement, une gamme de véhicules adaptés et des collectivités ou des sociétés privées fer de lance. Les trois sont réunis aujourd'hui en France. Tour d'horizon du développement annoncé.

<https://www.innovation24.news/2020/03/12/mobilite-hydrogene-des-vl-aux-bateaux/>

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Scotland leads green fuel push as first central belt public hydrogen station opens

Herald Scotland, 14.04.2020 [\[fr\]](#) [\[de\]](#)

is driving the green fuel revolution with a push towards hydrogen refuelling hubs for buses, commercial vehicles and cars. However, Mark Griffin, of BOC, the Guildford-headquartered gases company that operates the highest performing hydrogen bus refuelling station in Europe in Aberdeen, said councils and central government needed to act quickly.

https://www.heraldscotland.com/business_hq/18377056.scotland-leads-green-fuel-push-public-hydrogen-station-opened/?ref=rss

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Daimler And Volvo To Jointly Develop And Build Hydrogen Trucks, Buses

motor1, 22.04.2020 [\[fr\]](#) [\[de\]](#)

Daimler Truck AG and the Volvo Group share the vision of sustainable transport solutions. Successful commercialization of fuel cell technology is a key area to achieve CO2-neutral transport. 50/50 joint venture for development and large-scale production of fuel cells for applications in heavy-duty vehicles and other use cases.

https://www.motor1.com/news/411780/daimler-volvo-hydrogen-trucks-development/?utm_source=RSS&utm_medium=referral&utm_campaign=RSS-all-news

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BMW reaffirms its commitment to hydrogen fuel cell technology

Renewable Energy Magazine, 30.03.2020 [\[fr\]](#) [\[de\]](#)

As part of this strategy, developing alternative powertrain technologies is a top priority for the group. Its approach also includes careful consideration of differing market and customer requirements as part of the company's Power of Choice strategy. "We are convinced that various alternative....

<https://www.renewableenergymagazine.com/miscellaneous/bmw-reaffirms-its-commitment-to-hydrogen-fuel-20200330>

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Wärtsilä bunker-tests ammonia

Baltic Transport Journal, 02.04.2020 [\[fr\]](#) [\[de\]](#)

The Finnish technology group has carried out combustion trials using ammonia to assess its potential to serve as ship fuel in the near future. In detail, ammonia has been injected into a combustion research unit to better understand its properties. Based on initial results, the tests will be....

<http://baltictransportjournal.com/index.php?id=1072>

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Nel ASA: Enters Into Framework Agreement for Delivery of Electrolysers in France April 21, 2020

FuelCellsWorks, 22.04.2020 [\[fr\]](#) [\[de\]](#)

Oslo– Nel Hydrogen Electrolyser AS, a subsidiary of Nel ASA (Nel, OSE:NEL) has entered into a framework agreement for the delivery of up to 60 megawatt of electrolysers to Lhyfe Labs SAS (Lhyfe) in France. "We are proud to be the choice of preference for Lhyfe.

<https://fuelcellworks.com/news/nel-asa-enters-into-framework-agreement-for-delivery-of-electrolysers-in-france/>

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Optare launches H2 fuel cell double-decker bus

electrive, 29.04.2020 [\[fr\]](#) [\[de\]](#)

Optare, the English subsidiary of the Indian commercial vehicle manufacturer Ashok Leyland, is launching a fuel cell double-decker bus on the market in cooperation with Arcola Energy. The first Optare Metrodecker H2 buses are already scheduled to go into service in 2021.

<https://www.electrive.com/2020/04/29/optare-launches-h2-fuel-cell-double-decker-bus/>

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Hydrogen Europe publishes Annual Activity Report

H2View, 24.04.2020 [\[fr\]](#) [\[de\]](#)

European hydrogen and fuel cell association, Hydrogen Europe, has released its Annual Activity Report 2019. Released today, the report highlights the associations 2019 achievements in mobility, energy, industrial policy, maritime, financing and funding, intelligence, and more.

<https://www.h2-view.com/story/hydrogen-europe-publishes-annual-activity-report>

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Green hydrogen's time has come, say advocates eying post-pandemic world

migration NGO - News Now, 08.05.2020 [\[fr\]](#) [\[de\]](#)

Green hydrogen was pushed to the fore last week when Fatih Birol, head of the International Energy Agency, said the technology was “ready for the big time” and urged governments to channel investments into the fuel. Some countries, including the Netherlands, Australia and Portugal, have already begun investing in the technology.

<https://uk.reuters.com/article/uk-health-coronavirus-hydrogen-analysis/green-hydrogens-time-has-come-say-advocates-eying-post-pandemic-world-idUKKBN22...>

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The outlook for Powerfuels in aviation, shipping

EnergyPost, 16.04.2020 [\[fr\]](#) [\[de\]](#)

The development and commercialisation of powerfuels is in its very early stages. Powerfuels are synthetic gaseous and liquid fuels produced from green electricity . The plan is to use them when there is no viable alternative, like aviation and shipping .

<https://energypost.eu/the-outlook-for-powerfuels-in-aviation-shipping/>

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Can engineers make hydrogen fuel the world? 13.03.2020 | 04:26 mins. The EU wants to reduce greenhouse gases. In Germany, hydrogen is powering buses and the steel industry is using it to neutralize its CO2 emissions. Is the most abundant substance in the universe the fuel of the future?

Deutsche Welle (english), 13.03.2020 [\[fr\]](#) [\[de\]](#)

Eco Africa Can engineers make hydrogen fuel the world? The EU wants to reduce greenhouse gases. In Germany, hydrogen is powering buses and the steel industry is using it to neutralize its CO2 emissions. Is the most abundant substance in the universe the fuel of the future?

<https://www.dw.com/en/can-engineers-make-hydrogen-fuel-the-world/av-52744742>

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Upcoming Events

14/05/2020 FCH JU participation: All Energy Webinar. Scaling Up Hydrogen & Fuel Cells

Fuel Cells and Hydrogen, 29.04.2020 [\[fr\]](#) [\[de\]](#)

Scotland has set a target for Net Zero by 2045, with hydrogen featuring in plans for rapid decarbonisation of heat, industry, and heavy duty transport. The webinar will outline progress of transport fuel cell applications and hydrogen for heat. This will be complemented by insights from Mirela....

<https://www.fch.europa.eu/event/all-energy-webinar-scaling-hydrogen-fuel-cells>

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19/05/2020 FCH JU Participation: Webinar World Energy Council Finland. The Future of Hydrogen

Fuel Cells and Hydrogen, 06.05.2020 [\[fr\]](#) [\[de\]](#)

10:00 Brussels Time. Opening words. Helena Kivi-Koskinen , World Energy Council Finland. New Hydrogen Economy – Hype or Hope? Pauline Blanc , Manager, Energy Transition Insights, World Energy Council. 11:15. Financing The New Hydrogen Economy. Bart Biebuyck , Executive Director, Fuel Cells and Hydrogen Joint Undertaking (FCH-JU) 11:45.

<https://www.fch.europa.eu/event/webinar-world-energy-council-finland-future-hydrogen>

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19/05/2020 FCH JU participation: RENPOWER H2 Sub-Saharan Africa 2020 – Online Conference

Fuel Cells and Hydrogen, 18.04.2020 [\[fr\]](#) [\[de\]](#)

RENPOWER H2 Sub-Saharan Africa 2020 hosted by Euroconvention Global is part of a Renpower online series of events, scheduled to take place virtually on 19 and 20 May 2020, from 10:00-13:00 South Africa Time Zone. This unique live stream event will provide two days (3 hours each day) of expert panel....

<https://www.fch.europa.eu/event/renpower-h2-sub-saharan-africa-2020-%E2%80%93-online-conference>

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9/05/2020 Europe Day

European Commission, 06.05.2020 [\[fr\]](#) [\[de\]](#)

held on 9 May every year celebrates peace and unity in Europe. The date marks the anniversary of the historic ' Schuman declaration '. At a speech in Paris in 1950, Robert Schuman, the then French foreign minister, set out his idea for a new form of political cooperation in Europe, which would make war between Europe's nations unthinkable.

https://europa.eu/european-union/about-eu/symbols/europe-day_en

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12/05/2020 Webinar: Industrial Decarbonisation Research & Innovation Centre (IDRIC). Overview and Next Steps

Fuel Cells and Hydrogen, 23.04.2020 [\[fr\]](#) [\[de\]](#)

This webinar will provide a briefing on the progress and activities of the Industrial Decarbonisation Research & Innovation Centre (IDRIC) so far and outline the next steps and opportunities for engagement. IDRIC is currently developing a £20M multidisciplinary research and innovation programme to be submitted to UKRI in summer 2020.

<https://www.fch.europa.eu/event/webinar-industrial-decarbonisation-research-innovation-centre-idric-overview-and-next-steps>

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20/05/2020 Webinar: Green Hydrogen at Industrial Scale for a Zero Carbon Future

Fuel Cells and Hydrogen, 09.04.2020 [\[fr\]](#) [\[de\]](#)

This webinar event on Green Hydrogen at Industrial Scale for a Zero Carbon Future is organised by the Central European Office of Scottish Development International, the international business development agency of the Scottish Government. It will showcase the Scotland's potential to produce green....

<https://www.fch.europa.eu/event/webinar-green-hydrogen-industrial-scale-zero-carbon-future>

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Update Stakeholder Forum 2020: new date and location

Fuel Cells and Hydrogen, 08.04.2020 [\[fr\]](#) [\[de\]](#)

Please note that this year's Stakeholder Forum will take place on 26 November 2020 , not on 10 December 2020, like initially announced. The Programme Review Days will precede the Forum, on 24-25 November 2020. Event location: Charlemagne building , Rue de la Loi 170, 1000 Brussels.

<https://www.fch.europa.eu/news/update-stakeholder-forum-2020-new-date-and-location>

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