

flexnconfu News

April – November 2020 || Issue 01

What's new?

Six months passed since the FLEXnCONFU Kick-off Meeting and the Consortium has made **important progress** in the different **technical work packages**.

During the first six months, work has been mostly devoted to **evaluate and define the technical layout of P2X systems**, both at general level, as well as tailored for the two demo sites: P2H for EDPP Ribatejo power plant and P2A for University of Genoa laboratory.

Partners are currently discussing to define layout and operating conditions of the two systems. Aim is **to determine the best solutions to be integrated in real demo** taking into account local constraints (available space for the installation, safety and health requirements, permitting). In parallel, there have been efforts to define generic layout for power plant considering different scenarios.

In connection with layout definition, work has been focused on **combustion analysis**. Impact on CC performance and life is currently under evaluation considering different blends, while **preliminary analysis have been performed to re-adapt combustion chamber for ammonia combustion**.

For the Power-to-Ammonia system, first steps are being taken towards the **design of the small-scale ammonia reactor**, identifying promising catalyst to work and low pressure and temperature for having a compact and modular system.

Last but not least, several updates from the Dissemination and communications aspects:

- **FLEXnCONFU website** is now online (www.flexnconfu.eu).
- The project's **leaflet, poster, roll-up banner and public presentations are also completed and available on the website** (<https://flexnconfu.eu/documentation/promotional-materials/>).
- In the next months, the **stakeholders' engagement will start**...stay tuned if you are interest to join our stakeholders' group and help FLEXnCONFU project to achieve its objectives!



This Project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under Grant Agreement N. 884157

FLEXNCONFU NEWSLETTER N.1

FLEXnCONFU: behind the scenes

FLEXnCONFU - FLEXibilize combined cycle power plant through Power-to-X solutions using non-CONventional fuels - An overview

Interview with Dr. Alessandra Cuneo, RINA Consulting



To achieve the energy transition towards a carbon neutral society at which Europe is aiming, an increased share of Renewable Energy Sources (RES) should be complemented with other energy sources able to compensate for their intermittency. If made flexible enough, the thermal power generation sector could feed the grid when RES are low. This is the first challenge FLEXnCONFU aims to respond to: help power plants shift their role from providing base-load power to providing fluctuating back-up power. At the same time, the power-to-X solutions currently explored by FLEXnCONFU could help the CCs to level their



load, reducing its environmental impact while increasing Europe's energy security.

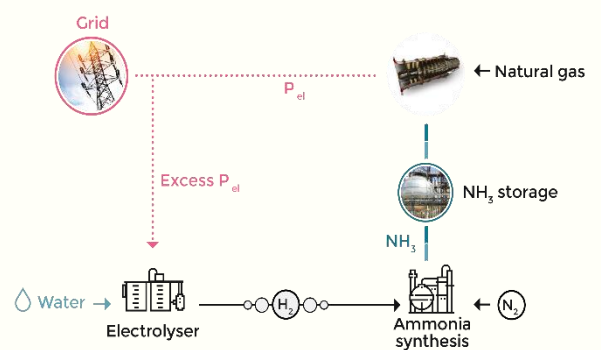
ETN (project dissemination partner) interviewed Dr. Alessandra Cuneo, FLEXnCONFU's Project Coordinator to learn more about the project, its goals and expected impacts.

Click [HERE](#) for the full interview! (pp. 6-7)

FLEXnCONFU and Power-to-Ammonia solutions

Interview with Professor Renzo Di Felice, University of Genoa

Power-to-X-to-Power (P2X2P) solutions could help stabilise the grid, compensating for RES intermittency. Thanks to the specific qualities of some alternative fuels, the environmental impact of centralized power generation could be reduced drastically. For this reason, FLEXnCONFU aims to demonstrate the applicability of two different carbon-free alternative fuels, hydrogen and ammonia. The latter is less known for its qualities as energy carrier. In order to increase our knowledge on power-to-ammonia-to-power (P2A2P), a P2A2P solution developed by PROTON and ICI will be demonstrated in a properly modified micro gas turbine operating in a UNIGE laboratory within the Savona Smart Microgrid (TRL6). Read our interview with Professor Renzo di Felice, University of Genoa, to discover more about ammonia in the FLEXnCONFU project!



Click [HERE](#) for the full interview! (pp. 6-7)



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FLEXnCONFU featured in ETN's webinar on Flexible Power Generation!

On 3 November 2020, a panel composed by the representatives of four different partners (RINA Consulting, EDP, Hydrogenics and University of Darmstadt) presented FLEXnCONFU at ETN Global's webinar on Flexible Power Generation.

The one-hour long webinar offered the chance to showcase the project and its goals, while also discussing the technologies and the innovative solutions in development. Power-to-hydrogen solutions, power-to-ammonia solutions and the installation of those technologies in a real-life CCGT like EDP's Ribatejo plant in Portugal were the main topics covered.



If you missed the event, find a summary and the slides presented by the speakers in our latest article [here!](#)

The full video-recording of the webinar is available on our [youtube channel](#), check it out now [here!](#)

Click [HERE](#) for the article and the slides!

STAY IN TOUCH!

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