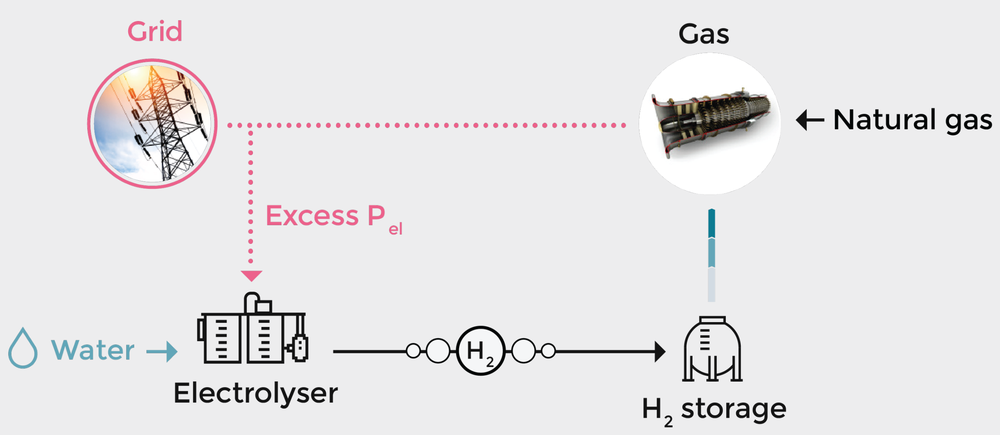
FLEXibilize combined cycle power plant through Power-to-X solutions using non-CONventional FUels

4-year R&D project 2020-2024

CONCEPT

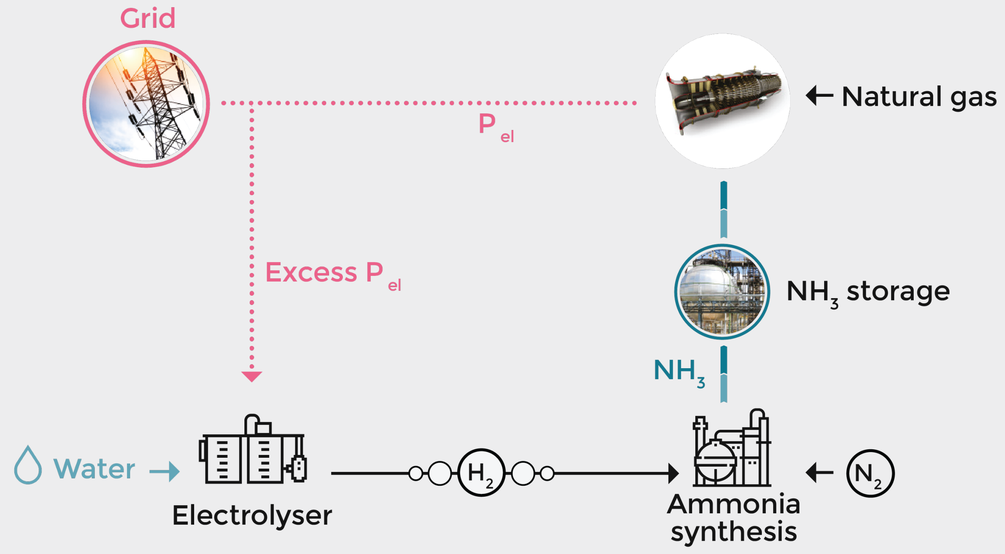
The main goal of the FLEXnCONFU is to develop and demonstrate in a combined cycle (CC) power plant an innovative, economically viable and replicable power-to-X-to-power solutions.

OBJECTIVES



POWER-TO-HYDROGEN-TO-POWER

Target: 1000 operating hours for the Power-to-Hydrogen solution connected with the combined cycle power plant.



POWER-TO-AMMONIA-TO-POWER

Target: Power-to-Ammonia system working at T<300°C and p<35bar.

GAS TURBINE FUEL FLEXIBILITY

Target:
30%H_2 and 100%NH_3 in combustion test for representative heavy duty gas turbines; 100% NH_3 in modified micro gas turbine.

ADVANCED CONTROL SYSTEM

Target:
computational duration reduction up to 25%.

ECONOMIC, SAFETY AND ENVIRONMENTAL SUSTAINABILITY

Target:
GHG reduction up to 20% – Pay Back Period up to 8 years – 3 Feasibility studies performed.

Shaping tomorrow's energy generation with flexible, carbon-free and efficient Power-to-X-to-Power solutions

www.flexnconfu.eu

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