

HyPowerGT Consortium

Project Newsletter #5



HyPowerGT

*HyPowerGT – Demonstrating a hydrogen-powered gas-turbine engine
fuelled with up to 100% H₂*



Figure 1: Consortium meeting in at SINTEF Energy Research venues in Trondheim, Norway in June 2026

The HyPowerGT consortium held the latest in-person meeting in Trondheim, Norway in June 2026. This provided project partners with the opportunity to review the status of the project and the next actions towards the demonstration at TRL7.

Work Package 1 – Project Management

Following the consortium meeting in June 2026, project partners will focus their efforts for the second periodic reporting, which is due at the beginning of 2027.

Work Package 2 – Modelling assessment of DLE H₂ combustion system

Under *Task 2.2 on “Hydrogen flames thermo-acoustic response from atmospheric to high pressure”*, progress included work on the low-order network model, the FEM calculation of the Baker Hughes NovalT16 combustor geometry, and the flame transfer function measurements. The next steps will include the flame transfer function measurements of the NovalT16 kit 2, the damper tests with grazing flow, and the set-up of the digital twin model.

Work Package 3 – System prototype demonstration at TRL 7

Project partners are currently working towards the achievement of the demonstration at TRL7 (also known as Milestone 5).

The Consortium achieved significant progresses under *Task 3.2 on “Engine test campaign for TRL7”*. Processes for the definition and construction of FIETT (First Instrumented Engine to Test) have been started in the recent months. *Task 3.3 on “Retrofitting guidelines for H₂ DLE technology”* is expected to start after engine test completion.

Work Package 4 – Safety management and risk assessment

Under *Task 4.2 on “De-risking simulations of H₂-operated gas-turbine engines”*, Large Eddy Simulations (LES) of two configurations linked to hydrogen safety scenarios are ongoing at CERFACS. The set-up of the two configurations include the NovalT16 exhaust system in TRL7 test configuration and the NovalT16 hydrogen injection manifold.

Project partners will also advance the work in *Task 4.3 on “Risk analysis and risk management”*. The preparation and

compilation of the safety plan for the TRL7 campaign will be completed in the forthcoming months.

Work Package 5 – Impact assessment, retrofitting, roadmapping, and techno-economic analyses

Under Task 5.1 on “Roadmapping”, project partners are defining the representative scenarios for the development of the hydrogen market, identifying the role of the HyPowerGT technology. The focus of this activity is on the retrofitting of existing equipment and its potential market impact

With reference to *Task 5.2 on “Hydrogen techno-economic analyses”*, the consortium submitted the second techno-economic models, focusing on the application of the HyPowerGT technology in an industrial case study. As a next action, project partners will proceed with the characterisation of the three techno-economic models in the next months.

Task 5.3 on “Life Cycle Sustainability Analyses” held its kick-off meeting in July 2026.

Task 5.4 on “Simulation of H2 gas turbine equipped for cogeneration” is advancing, with partners working on simulations of hydrogen

gas turbine operations in CHP configuration with a digital twin.

Work Package 6 – Communication, dissemination, and exploitation

HyPowerGT was featured at [ETN Global's Annual General Meeting & Workshop](#) in Malmö, Sweden in March 2026, as well as at other international conferences such as [H2science](#) (organised by SINTEF) in Trondheim, Norway and [ASME Turbo Expo](#) in Milan, Italy in June 2026.

SINTEF also presented a paper on HyPowerGT – titled “Enabling Dry Low Emission Hydrogen Combustion in an Existing Combined Heat and Power Plant: A Preliminary Risk Assessment” – at [ESREL Conference](#) in Braga Portugal in June 2026.

Upcoming dissemination activities include a joint clustering events with other sister projects at the [ETN Global October Workshop](#) in Siena, Italy in October 2026.

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