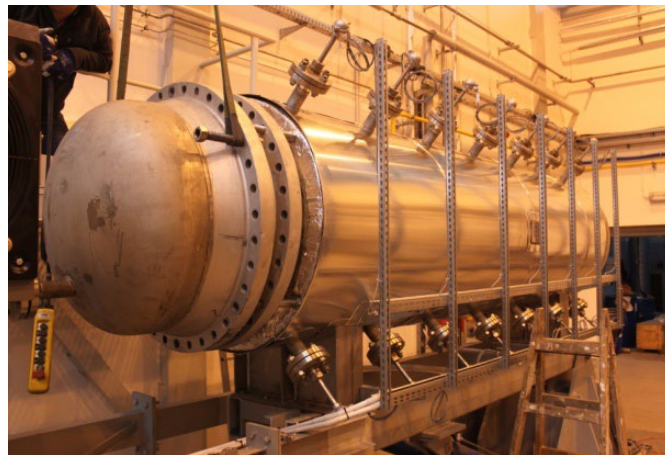


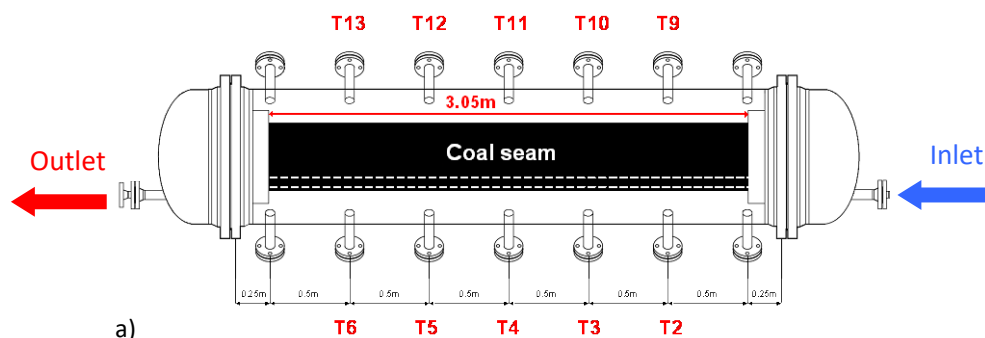
PROJECT FINDINGS

Unique tests on coal gasification using hydrogen - underground coal hydrogasification

Hydrogasification is gasification in a hydrogen-rich environment, often used for the production of synthetic natural gas (SNG) from coal. It is an exothermal reaction between carbon and hydrogen where the reaction product is methane. Two multi-day underground hydrogasification trials (UCHG) were carried out in MEGAPlus project using a GIG's large scale gasification facilities of the Clean Coal Technology Centre located at Experimental Mine "Barbara" in Mikołów. The series of experiments conducted on "Wesoła" hard coal and "Six Feet" semi-anthracite demonstrated that the peak concentrations of methane can exceed even 50%. The hydrogasification process was characterized by high stability and reproducibility of conditions favourable for methane formation in the whole sequence of gasification cycles. Although the feasibility of methane-rich gas production by underground hydrogasification was initially demonstrated, further techno-economic studies are necessary to assess the economic feasibility of methane production through in-situ hydrogasification process.



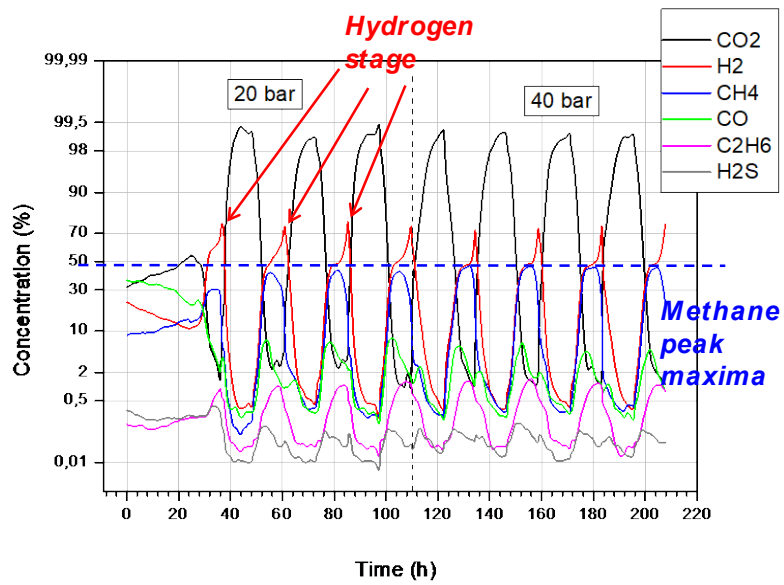
a)



a)

b)

Experimental facility used for the hydrogasification tests: reactor shell, b) side cross-section



Changes in gas composition over the course of UCHG experiment (“Six Feet” semi-anthracite)

Read more at projectmega.eu