

WORKSHOP ON UNDERGROUND HYDROGEN STORAGE

July 1st, 2021 – ENSG, Nancy (France)

Workshop program and schedule

8h45 – 9h00 : Welcome of participants

9h00-9h50: Opening Session: H2 markets : context, needs and potential for geological storage in France and Europe for the coming years

Session moderators: Christophe Rigollet or Marie Gastine (Géodénergies) / Faouzi Hadj-Hassen (Mines Paris Tech)

9h-9h10 : Louis Londe (Chairman of the Géodénergies' Executive Committee) – *Introduction speech online*

9h10-9h30 : Christelle Werquin (General Manager of France Hydrogène) – *The future of Hydrogen Economy in France*

9h30-9h50 : Simon Jallais (Air Liquide) – *The challenges of Hydrogen Underground Storage : An industrial viewpoint*

9h50 - 12h15: Session 2 - Main outcomes of the ROSTOCK-H project

Session moderators : Simon Jallais (Air Liquide) / Fabrice Golfier (GeoRessources, Univ. Lorraine)

9h50 – 9h55 : Simon Jallais (Air Liquide) and Fabrice Golfier (GeoRessources, Univ. Lorraine) - *The ROSTOCK-H project : An Overview*

9h55 – 10h15 : Christophe Coquelet (Mines ParisTech) and Laurent Truche (ISTerre, Univ. Grenoble Alpes) *Thermodynamic behavior of H2 and well cement alteration*

10h15 – 10h35 : Jérôme Corvisier (Mines ParisTech), Frederick Jorand (LCPME, Univ. Lorraine)- *Hydrogen reactivity: geochemical modeling and bacterial activity*

10h35 – 10h55 : *Coffee Break*

10h55 – 11h15 : Dragan Grgic (GeoRessources) and Faouzi Hadj-Hassen (Mines Paris Tech) - *Hydromechanical behavior of rock salt – hydrogen storage modeling in salt cavern*

11h15 – 11h35 : Murad Abuaisha (Mines Paris Tech) *A laboratory pilot of hydrogen storage in salt cavern – injection and withdrawal tests*

11h35 - 11h55 : Philippe Gombert (INERIS) - *Simulation and monitoring of hydrogen leakage in shallow aquifer.*

11h55 – 12h15 : Simon Jallais (Air Liquide) and Marie-France Agnoletti (PERSEUS, Univ. Lorraine)- *Hydrogen storage in salt cavern : economical assessment and social acceptability*

12h15 – 14h : *Lunch break (buffet)*

14h00 - 15h20: Session 3 - H2 storage in salt caverns : feedback from facility operators and new projects under development

Session moderators : Grégoire Hévin (Storengy) / Mehdi Karimi-Jafari (Geostock)

14h00 – 14h20 : Grégoire Hévin (Storengy) – *STOPIL-H2 : meeting the challenges of hydrogen storage in salt caverns*

14h20 – 14h40 : Simon Jallais (Air Liquide) and Faouzi Hadj-Hassen (Mines Paris Tech) – *Hydrogen storage in salt cavern : Feedback from Spindletop project*

14h40 – 15h : William Rahein (TEREGA) - *Underground Hydrogen Storage : Most Valuable Player in the Renewable Hydrogen Value Chain? Example of HyGéo and Lacq Hydrogen projects*

15h – 15h20 : Aurélien Soubeyran (Air Liquide) – *Operational experience of helium storage in salt cavern*

15h20 – 15h35 : *Coffee Break*

15h35 - 17h00: Session 4 - Which alternatives to salt caverns ? Hydrogen storage in aquifers, depleted reservoirs and mined caverns

Session moderators : Christophe Coquelet (Mines ParisTech) / Philippe Gombert (INERIS)

15h35 – 15h55 : Sébastien Dupraz (BRGM) - *Storing hydrogen in aquifers: is it a good bad idea?*

15h55 – 16h15 : Arnaud Réveillère (GeoStock) - *Hystories project: technical developments and deployment outlooks for pure hydrogen storage in depleted fields and aquifers*

16h15 – 16h35 : Karin Fazeni-Fraisl (Univ. Johannes Kepler de Linz) - *Large-scale hydrogen storage in depleted gas reservoirs - the case of Underground Sun Storage*

16h35 – 16h55 : Grégoire Hévin (Storengy) & Faouzi Hadj Hassen (Mines ParisTech) – *Gas storage in lined rock cavern (LRC) : perspectives for hydrogen*

16h55 – 17h15 : Stuart Haszeldine (Univ. Edimburgh) - *Massive inter seasonal storage of hydrogen for the UK Energy Transition (subject to confirmation)*

17h30 – *Closure of the Workshop*