**Minutes from the 4th IGU - Storage Committee Meeting**

Members of our IGU storage committee convened for its next meeting in “city of light” Paris.

The meeting took place from April the 10th to 13th, 2024 and was led by **Mr. Ladislav Barkoci**, Chairman of the Storage Committee.

**Participants:**

**Personal attendance:** Charlotte Roule, Christopher Gavin, Livia Alves de Oliveira, Danielle Carmo, Carlo Busollo, Agneta Kutselim, Richard A. Schultz, Slawomir Skwarczynski, Dariusz Kucel, Nóra Liszkai, Zoltán Nemet, Patrick Egermann, Emmanuel Kermarrec, Ony Rabetsimamanga, Anna Slavkovska, Ladislav Barkoci, Simon Sinsky, Petra Bocmanova, Brian H.W. NG, Carole Chapelotte Le Hénaff, Amer Abdel-Haq, Daniel Golja, Lukas Kopal, Kalle Smit, Radovan Predajna, Lidiann Olie, Galyna Bazhan, Mélisande Duhalde, Eric Lamboley

**Online attendance:** Tetsuya Ikeda, Roman Zavada, Mel Ydreos, Dr. Yang Lei, Wenyu Geng

**Agenda & outcomes**

* Call for Abstracts discussed with Dr. Yang and Wenyu Geng
* Inputs from recently elected interim IGU Secretary General Mel Ydreos
* Presentations from new joiners (Netherlands, Ukraine, Brasil)
* Session dedicated to hydrogen storage operational experience and regulation
* Methane and noise emission reduction experience discussed
* Market outlook for gas storages during the transition era

**First day (April 10, 2024)**

**Mr. Ladislav Barkoci,** Chairman of the Storage Committee, opened the Storage Committee meeting by welcoming all members. Following his welcome, each member introduced themselves.

**Ms. Charlotte Roule** delivered a welcome speech on behalf of Storengy, the host of this event and she emphasized their commitment to international cooperation and the importance of sharing knowledge and experiences for shaping a sustainable and resilient energy future.

**Dr. Yang Lei** Coordination Committee Chair presented inputs from CC and warmly welcomed our members. Information from the Coordination Committee secretary, **Mr. Geng Wenyu**, covered details about WGC 2025 (the 29th World Gas Conference in Beijing), including the call for abstracts,

groups of themes, and the time schedule. He also encouraged members to follow WGC 2025 on social media.

**Ms. Carole Le-Henaff** presented the final status of the publication activity of Study Group 3, which was approached by the IGU to prepare an article on the topic of Security of Supply (SoS). The draft article, titled **"The Fundamental Role of Underground Storage in Ensuring Security of Supply,"** has been reviewed by the members of Study Group 3 and is nearly finalized. It will soon be introduced to the CC secretariat for publication**.**

**Ms. Petra Bocmanova,** the secretary of the Storage Committee, provided a brief update on the status of the collaboration hub, inviting new members to join.

A group photo was taken to commemorate the meeting.

**Ms. Agneta Kucelim** provided an insightful introduction to Ukrainian gas storages, highlighting their significant contribution to Europe's energy security. She emphasized Ukrtransgaz's role in operating these storage facilities, which collectively hold a substantial capacity of 30.95 bcm. Notably, these facilities boast firm Ukrainian export capacities exceeding 200 mcm/day.

Our new members to be **Mr.** **Christhopher Gavin and Ms. Danielle Carmo** introduced the Brazilian company Origem in the demonstrative video.

**Mr. Kalle Smith** presented on security of supply and the role of storages in the Netherlands on behalf of EBN, where the storage market is not regulated. He shared his own experiences from a trader's perspective, particularly regarding the filling of UGS Bergermeer over the past years and outlined the plans for the upcoming years.

The afternoon session, opened by **H2eart for Europe**, Underground Hydrogen Storage Alliance, currently composed of 12 major European Storage System Operators, demonstrated our commitment to delivering Underground Hydrogen Storage (UHS) as a clean energy storage solution capable of unlocking hydrogen as a flexibility vector, showcasing its crucial role in Europe's energy transition by reducing overall energy system costs, supporting short and long-term energy system balancing, and fostering the development of renewable energy sources. The report was presented by **Mr. Eric Lamboley.**

**Mr. Mel Ydreos,** IGU Interim Secretary General, introduced himself and greeted the attendees.

**Mr. Nicolas Gau** presented Defi H2, a Storengy initiative aimed at preparing day-to-day operations with hydrogen. He highlighted the importance for Storengy France, the operator, to efficiently operate and maintain Hypster's facilities (surface installation) with a high level of safety, ensuring the demands of hydrogen cycling in EZ53 and hydrogen production by electrolysis are met.

**Ms Mejda Azabou** presented insights on hydrogen velocity in wells, along with a study focused on surface facilities and thermomechanical analysis.

**Mr. Richard A. Schultz** presented on renewable energy storage developments in the USA in 2024, discussing what has happened in the US since the 2023 Brno conference, highlighting swings in the national mood, and emphasizing that the Energy the Energy Transition is itself in transition.

**Mr. Daniel Golja** introduced the underground gas storage development in Croatia, with a focus on the utilization of the Krk LNG Terminal. He also provided details about existing Underground Gas Storage (UGS) facilities totaling 4.77 TWh WGV, as well as the upcoming development of the new storage facility, UGS Grubišno Polje, with a planned total storage capacity of up to 100 million cubic meters, scheduled for completion in 2027.

Last session of the day focused on working in study groups, where each group continued with own agenda.

**Second day (April 11, 2024)**

Exploring **'Well Integrity Management in the Digital Era'** by **Mr. Carlo Busollo**, the importance of well integrity is emphasized. Using digital data to model wells leads to reduced risk and costs. Furthermore, well integrity is crucial for repurposing wells to accommodate NG/H2 blend, highlighting its significance across various operational aspects.

**Mr. Lukas Kopal's** **presentation** focused on EU methane emissions legislation and Gas Storage CZ's operational insights. He provided detailed accounts of measurement, reporting, and verification procedures. The plan prioritizes environmental efficiency, including the implementation of an LDAR (Leak Detection and Repair) program following internal guidelines. This involves utilizing OGI (Optical Gas Imaging) FLIR cameras and conducting high-flow sampler surveys to detect and repair as many fugitive leaks as possible. Additionally, efforts are directed towards decreasing vented emissions and minimizing emissions from piston compressors, with plans to phase out gas-driven pneumatic armature drives.

Gas emissions: Storengy approach presented by **Mohamed Chihi and Elise Marchal**

**Slawomir Skwarczynski's presentation** focused on noise emission reduction, primarily achieved through the installation of multiple sound attenuation measures at UGS Kosakowo.

**Mr. Radovan Predajňa** presented on the Commercial Dispatching Service Sharing within the NAFTA group. He introduced software designed to manage four storage sites across four different countries, collectively representing 5% of the EU's storage capacity.

**Ms. Mélisande Duhalde** highlighted recent European developments in storage regulation, focusing on key messages such as the pivotal role of gas storage in mitigating crises during winter and consumption peaks, as well as in balancing the market and addressing price fluctuations. She underscored the importance of gas storage regulation in achieving EU filling targets of 90% of 1st November and 15% of annual gas consumption for MS with no storage capacity, and stressed the necessity for a more forward-looking, long-term EU policy regarding gas storage.

The presentation on the Underground Storage Market in Germany addressed challenges from a service provider perspective, outlined by **Dr. Amer Abdel-Haq.** These challenges encompassed issues such as COVID-19-related work restrictions and expenses, hurdles in implementing hydrogen projects including feasibility studies and infrastructure needs, and broader concerns including armed conflicts in regions like Ukraine and the Middle East, political upheavals in North America, and the imperative of addressing global warming and climate change.

**Mr. Šimon Šinský** introduced the Gas Flexibility Demand Model from 2023 to 2040, emphasizing various assumptions regarding the persistence of gas flexibility demand until 2040.

**Mr. Darius Kucel** presented the significant step forward in Gas Storage Poland's acquisition by TSO GAZ-SYSTEM, which occurred on March 14, 2024. GAZ-SYSTEM signed a conditional sale agreement with ORLEN, paving the way for acquiring Gas Storage Poland, the operator of Poland's natural gas storage system (SSO), by purchasing 100% of its share capital.

**Afternoon part of the meeting was reserved for the individual sub-group meetings, after which each study group presented its progress.**

**SG1 Gas Storage Database – work progress**

Produce and present Triennium db report:

* IGU gas storage database update in progress
* Approx 1/3 of storages updated, another 1/3 waiting for update validation
* Next step - start of final report drafting
* First draft of Final report to be prepared for autumn meeting
* Hydrogen storage projects in Europe and North America identified
* Final report - new chapters - H2 storage and LNG storage

**SG2 – Best Practices in UGS Design, Operations, and Maintenance – work progress Study on technical and geological challenges of H2-storage:**

* Final report drafting initialized
* Two parts of report:

 a) Up to date experience with hydrogen storage

 b) Methan emissions prevention techniques and operational experience

**SG3 – UGS to Todays Markets and Environment – work progress**

* Final report drafting started
* Two parts of final report:

 a) Security of supply value of storage

 b) Gas storage during energy transition

**Last day (April 12, 2024)**

The members visited the Well Intervention Group (GIP) base, which nicely concluded the 4th Storage Committee meeting.

The minutes of the Storage Committee meeting were prepared by the secretary of the Storage Committee. All presentations from this meeting have been uploaded to the collaboration hub.