

SPE Workshop: Decarbonising the Economy – The Future of Carbon Storage

9 – 11 February 2021 | Virtual [UTC]

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Workshop Programme

Register
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About the Workshop

Carbon Dioxide (CO₂) and its impact on global warming is one of the hottest topics on the planet. This has led to great interest in Carbon Capture, Utilisation and Storage (CCUS). The oil and gas industry has originally developed many CCUS technologies, and today attracts the attention of many companies, policy makers and NGOs.

This workshop will address the entire value chain of CCUS, from storage capacity to infrastructure, regulatory frameworks to social governance, and from commercialising storage to monitoring, measuring and verification. Latest developments, challenges and solutions will be addressed and how the oil and gas industry has an important role to play in enabling CCUS in order to convert it into a safe, sustainable and profitable investment for the future.

Committee

Co-chairs

Femke Perlot-Hoogeveen, **Deloitte & SPE Netherlands Section**
Denis Voskov, **Delft University of Technology**

Committee Members

Tim Bertels, **DAREL**
Nicolas Bouffin, **BP**
Emer Caslin, **Schlumberger**
Johana Dunlop, **SPE Technical Director, HSE & Sustainability**
Mike Gunningham, **SGS**
Joanna Henderson, **Blue Dot**
Michiel Hendrickx, **NOGPA**
Joanna Mainguy, **Microsoft**
Laure Mandrou, **Schlumberger**
Peter James McFadzean, **Equinor**
Filip Neele, **TNO**
Joelle Rekers, **Dutch Ministry of Economic Affairs**
Stijn Santen, **EBN**
Alistair Tucker, **Shell**
Mark Zoback, **Stanford University & SPE Technical Committee**

Why Attend:

- An SPE workshop is a multi-day event that fosters knowledge sharing in an intensive learning experience. It provides brief technical presentations followed by extensive Q&A and discussion.
- The workshop's programme committee members solicit presentations from top industry professionals. This ensures a robust technical program with presentations that are laser focused on critical industry topics.
- Since proceedings are not published, SPE workshops provide an environment for frank, open discussion. Presentations are provided to participants after the workshop, if approved for release.
- Presentations may not have promotional or commercial elements, so the agenda is truly an objective review of the technical topics.
- SPE workshops are highly focused on a given technical topic and provide attendees with an in-depth review in a short amount of time. The agendas include research-based, field-tested industry topics so attendees receive current, relevant technical knowledge.
- Income from this event will be invested back into SPE to support many other Society programmes. When you attend an SPE event, you help provide even more opportunities for industry professionals to enhance their technical and professional competence. Scholarships, certification, the Distinguished Lecturer programme, and SPE's energy education programme Energy4me® are just a few examples of programmes supported by SPE.

Format

Workshops maximise the exchange of ideas among attendees and presenters through brief technical presentations followed by extended Q&A periods. Focused topics attract an informed audience eager to discuss issues critical to advancing both technology and best practices.

Many of the presentations are in the form of case studies, highlighting engineering achievements and lessons learned. In order to stimulate frank discussion, no proceedings are published and members of the press are not invited to attend.

Register Now

Visit go.spe.org/carbon-storage to register for this workshop.

Schedule All times UTC

Tuesday, February 09

14:00 – 14:15

Welcome Address

Moderator(s): Femke Perlot-Hoogveen, **Deloitte & SPE Netherlands Section**; Denis Voskov, **Delft University of Technology**.

Speaker(s): Magali Anderson, **LafargeHolcim**; Syrie Crouch, **Shell**

In the last few years, in particular since the 2018 IPCC Special Report, consensus has grown that we cannot reach the Paris climate goals without CCUS. In this short but not to be missed opening session we speak with Magali Anderson, Chief Sustainability Officer of LafargeHolcim about the role of CCUS as a key enabler of a decarbonised economy.

14:15 – 15:30

Session 1: Subsurface storage: Required scale, capacity and experience

Session Chairpersons: Mark Zoback, **SPE Technical Committee**; Anne Brisset, **Total Corporation**

Speaker(s): Sylvain Thibeau, **Total**; Tip Meckel, **Bureau of Economic Geology University of Texas**; Phil Ringrose, **NTNU & Equinor**

There is a clear need to ramp up the technology required to achieve scale-up from the current capacity level of around 10 Mt/year (CO₂ EOR excluded) to the Gt/year level. CO₂ should be injected at 100 Million tons in a geological storage. It is to highlight that most of the actual CO₂ storage in operation (Sleipner, Snøhvit, Quest, Decatur, Gorgon) are just 1 to 5 million tons of CO₂ per annual. The estimations of CO₂ storage resources must be carefully assessed following international rules, which is not yet the case. This could lead to over-estimated resources in some areas due to the usual confusion between available pore space and effective storage capacity: proper geological and simulation models have to be used following relevant workflows and using appropriate software able reproducing multiscale and multi-physics phenomena over the long-term and large scale. In addition, should we launch exploration programs to improve the probability of CO₂ storage capacity?

15:30 – 16:00

Networking Break

16:00 – 17:30

Session 2: Transport & Storage infrastructure: Robust and systemic planning

Session Chairpersons: Tim Bertels, **DAREL**; Filip Neele, **TNO**

Speaker(s): Ian Phillips, **Pale Blue Dot**; Berend Scheffers, **EBN**; Kjetil Wilhelmsen, **Northern Lights CCS (Equinor, Shell, Total)**

Achieving the scale of CCS operations necessary to meet the Paris targets will require development of (large-scale) CCS hubs and clusters, and efficient and cost-effective CCS operations. This requires systemic planning of CCS roll-out, to make best use of scarce space and existing (offshore) infrastructure. Some countries have started to act on this. This session will illustrate needs, pitfalls, and activities.

17:30 – 18:00

Networking Break

Wednesday, February 10

14:00 – 15:30

Session 3: Enabling carbon storage: Creating the right legal and regulatory framework

Session Chairpersons: Joelle Rekers, **Dutch Ministry of Economic Affairs and Climate Policy**; Stijn Santen, **EBN**

Speaker(s): Filip Raeymaekers, **OCI Nitrogen**; Bruno Gerrits, **GCCSi**; Jan Theulen, **Heidelberg Cement**; Fabian Levihn, **Stockholm Exergi**

Derisking the full CCS value chain is essential for all parties in the chain (emitters, transporters, storage operators) as well as regulators, investors and the society as a whole from the viewpoint of safety and cost-effectiveness. This requires CO₂ shipping to be part of EU-ETS, policies and financial instruments to mitigate counterparty risk between emitters and transport & storage operators. In addition long term CO₂ storage liabilities need to be managed on a portfolio level. This session will address these issues and demonstrate possible solutions for large scale CCS projects.

15:30 – 16:00

Networking Break

Schedule All times UTC

16:00 – 17:30

Session 4: Incentivising and commercialising carbon storage

Session Chairpersons: Alistair Tucker, **Shell**; Mike Gunningham, **SGS**
Speaker(s): Mark Sisouw de Zilwa, **ING Bank**; Margriet Kuijper, **MKC Tynaio**

The world is racing towards Net Zero ambitions with over 50% of the GDP contributors announcing voluntary Net Zero Ambitions or in countries that have announced Net Zero Ambitions. Net Zero is only achievable if the world embraces CCUS in significant amounts, whichever energy transition scenario we follow.

The challenge is how do we make CCUS both affordable and commercial as while Government subsidies may be vital to kick start this industry to be sustainable and reach the potential, we require it will need to become both investible and commercial.

17:30 – 18:00

Networking Break

Thursday, February 11

14:00 – 15:30

Session 5: The role of society: Social governance in an evolving world

Session Chairpersons: Emer Caslin, **Schlumberger**;
Joanna Henderson, **Blue Dot**

Speaker(s): Laurent Jammes, **CNRS**; Denise Horan, **CRH**;
Joanna Henderson, **Blue Dot**

Carbon capture and storage technology has an important role in the energy transition however projects often face strong opposition. It is becoming increasingly clear that traditional techniques of communication with local stakeholders are no longer sufficient. In our changing society the perimeter of a project is no longer fixed and the range of stakeholders involved in the definition of a project should reflect the full diversity of concerns, locally and globally. Social engagement must be a dynamic and two-way process throughout the project lifecycle. This interactive participatory session aims to raise awareness of the importance of social governance and stakeholder engagement and to illustrate the collective nature of the challenge ahead. Current best practices will be identified and examples of social governance in action on high profile projects will be presented. Experts from the social sciences will explain the theoretical foundation of social engagement and discuss ongoing research and innovation.

15:30 – 16:00

Networking Break

16:00 – 17:15

Session 6: Securing storage: Monitoring, measurement, and verification of CO₂ sequestration

Session Chairpersons: Peter McFadzean, **Equinor**; Nicolas Bouffin, **BP**
Speaker(s): Anne-Kari Furre, **Equinor**; Erik Nickel, **Aquistore MMV**;
Nicholas Thompson, **Equinor**

Monitoring, Measurement, and Verification (MMV) plan is one of the central parts of the CCS storage operations by providing an important communication tool with authorities, public, internal and external stakeholders. It consists of ensuring that CO₂ storage is carried out safely in a saline aquifer or depleted hydrocarbon field by demonstrating absence of leakage throughout the project cycle (pre-, during, and post-injection). Emphasis should be put on linking the MMV plan to project/storage risks with associated corrective measures for contingencies in place. The session aim it to provide an overview of current practices from a series of CCS projects.

17:15 – 17:30

Workshop wrap-up

Moderator(s): Femke Perlot-Hoogveen, **Deloitte & SPE Netherlands Section**; Denis Voskov, **Delft University of Technology**

Speaker(s): Kimberly Lein-Mathisen, **Microsoft**; Per Sandberg, **Equinor**

At the end of our workshop which offers participants insights along the entire CCUS value chain, from storage capacity to infrastructure, from the regulatory framework to social governance and from commercializing storage to monitoring, measuring and verification of storage, we will wrap up with a guest panelist and summarise key takeaways.

Sponsorship Opportunities

Workshops offer sponsors unique access to a focused group of key decision-makers in the oil and gas industry. While SPE prohibits any type of commercialism within the workshop itself, it recognises that sponsoring companies offer valuable information to attendees. Sponsorships help offset the cost of producing workshops and allow SPE to keep the workshop fee as low as possible for the target audience.

More Information

To discuss sponsorship opportunities available please contact Irowland@spe.org

Further details on the technical programme and registration can be found on our website: go.spe.org/carbon-storage

Benefits of Sponsoring a Virtual Workshop?

- A global audience with no financial or scheduling barriers to delegate attendance
- Significantly higher attendance than in-person events gaining you more exposure
- Cost and time savings for sponsors and attendees alike
- Online events provide the immediacy of content customisation and enhanced live user interaction
- Attend at your convenience with a full technical programme and live interactive elements including a Q&A Workshop.



Society of Petroleum Engineers

About the Society of Petroleum Engineers

The Society of Petroleum Engineers (SPE) is a not-for-profit professional association whose more than 153,000 members in 143 countries are engaged in oil and gas exploration and production. SPE is a key resource for technical knowledge providing publications, events, training courses, and online resources at www.spe.org.

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