

Measurement Focus Group Agenda

Welcome to The Measurement Focus Group
Wednesday, 2 December 2026

The Measurement Focus Group is supported by the UK Government's National Measurement System (NMS) and is managed by TÜV SÜD National Engineering Laboratory on its behalf as the UK's Designated Institute for Flow Measurement. The group focuses on flow measurement and flow-related issues in industry.

09:30 **Registration and networking**

10:00 **Chairperson's introduction**
Chris Mills (TÜV SÜD National Engineering Laboratory)

10:05 **The Accuracy of Density Measurements for Liquid and Supercritical CO_2**
Russell Brown (TÜV SÜD National Engineering Laboratory)

- CO_2 is traded in mass for contractual and reporting purposes under ETS
- Accurate knowledge of fluid density will be critical to ensure compliance, especially when volume flow meters are in use
- Experimental tests undertaken at NEL, showed significant errors (>2%) between a Coriolis meter and an equation of state close to the critical point
- Analysis of these errors, their uncertainties and data limitations are presented.

10:25 **Fluid and Phase Versatility: Redefining Ultrasonic Meters for the Energy Transition**
Gregor Brown (SLB)

- CO_2 and H_2 fluid properties and their effects on ultrasonic meters
- Design improvements required and validation in static conditions
- Transfer of calibration across fluids from liquid and gas
- DNV H_2Met JIP Hydrogen test results
- Conclusions/Discussion

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10:50 **Novel Wet Gas Flow Meter for Plunger Lift Operated Wells**
Saketh Mahalingam (Aramco)

- Plunger Lift operation
- Why flow metering?
- Novel "Impulse" flow meter design
- Flow Loop Calibration
- Field Trial results and future work

11:05 **Coffee and networking**

11:35 **H_2 Flow Measurement and Uncertainty**
Nadya Pashnina (Emerson)

- Gas composition uncertainty: normalisation and balance by difference
- Gas composition uncertainty propagation to calculated gas properties
- Comparison of standards and practical takeaways
- H_2 flow meter testing, flow meter performance, and metering system uncertainty

12:00 **Multiphase Measurement in CO_2 Enhanced Oil Recovery**
Alan Parker (M Flow)

- Multiphase metering developed for CO_2 enhanced oil recovery
- Successfully piloted with a North American operator
- Six systems deployed across approximately 15 wells
- Hardware developed for harsh operating conditions
- PVT, gamma and microwave water-cut measurement methods developed

12:25 **Chairperson's closing remarks**
Chris Mills (TÜV SÜD National Engineering Laboratory)

12:30 **Lunch and networking**

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Steering committee members

- Jim Barton (BP)
- Murdo Campbell (TAQA)
- Douglas Griffin (North Sea Transition Authority)
- Alix Mann (Shell)
- Chris Mills (TÜV SÜD National Engineering Laboratory)

Please scan the QR code to provide your thoughts on today's event. Your feedback is greatly appreciated, and will be used to continuously improve the meetings to meet the evolving needs of the industry.

Focus Group Feedback Form

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