

This is your invitation to attend and support the  
**Annual Sir Frank Ledger Breakfast 2024**

- When:** Wednesday, 20<sup>th</sup> November, 2024  
**Where:** Frasers Function Centre, 60 Fraser Avenue, Kings Park, Perth  
**Time:** Door Opens 7:00 am; Full Breakfast 7:30 am  
Presentation 7:45 am; Finish before 9:00 am  
**Cost:** Members: \$75.00/person  
Group of Six (One Table) or more: \$70/person  
Non-Members: \$85.00/person  
**RSVP:** Wednesday, 13th November, 2024  
**Parking:** Parking available behind the venue  
**Book Here:** All bookings to be lodged using [Trybooking](#)  
Enquiries to: [WA@Materialsaustralia.com.au](mailto:WA@Materialsaustralia.com.au)

**“Design, Construction and Operation of Hydrogen Pipelines”**

**Olivier Royet, DNV**

**Sofia Hazarabedian, DNV**

The future of energy is leaning towards hydrogen as a significant carrier. This presentation delves into the pivotal role of pipelines in this transition. Pipelines have emerged as the most cost-effective solution for large-scale hydrogen transportation. However, the existing hydrogen pipelines are limited, predominantly onshore, short-distance, with small diameters (below 20 inches), and operate at low pressure.

The future envisions large-diameter hydrogen pipelines that can withstand high and cyclic pressures, cover large distances, both onshore and offshore. These pipelines are also expected to be used as a hydrogen storage method. However, designing these pipelines comes with its share of risks and uncertainties, such as the effect of hydrogen on toughness and ductility, static, monotonic increasing, and cyclic loading, and the resulting defect tolerances.

In response to these challenges, DNV has launched the H2Pipe Joint Industry Project (JIP), aiming to develop a guideline for the design and potential re-purposing of pipelines for hydrogen transport. The findings of the JIP will be consolidated in the recommendation practice DNV-RP-F123, expected to be released in October 2024, and will be a supplement to the existing offshore pipeline standard, DNV-ST-F101.

This presentation will summarise the status of the recommendation practice and present results from Phase 1 of the JIP. The insights shared will pave the way for the successful implementation of hydrogen pipelines, marking a significant stride towards a sustainable energy future.



## The Company

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analysing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.

## The Presenters



### Olivier Royet

*Head of Section, Offshore Infrastructure*

22 years international experience in the design, analysis and certification of steel structures and pipelines for all phases (in-place, earthquake, fatigue, transportation, lifting, load-out) covering subsea structures as well as jackets, floating production unit, drilling jack-up and semi-submersible. Knowledge in material and welding technology and design requirements for pipeline and structure. Australian experience in the design verification/fabrication/installation for offshore and onshore pipelines. Member of the AS 2885.3, AS 2885.4 code writing committee. Technical Lead / Project sponsor for Subsea and pipeline aspect for hydrocarbon, CO<sub>2</sub> and hydrogen. Author of JIP Design and Operation of Hydrogen Pipeline (H<sub>2</sub>Pipe JIP), CO<sub>2</sub> Safepipe JIP, JIP Replace and JIP STABLEepipe guidelines and reports. Carried out independent investigation following operation, commissioning, and lifting incident.



### Sofia Hazarabedian

*Hydrogen Engineer*

Sofia is a Hydrogen Engineer in the ANZ Hydrogen and CCUS team at DNV. She is a materials engineer by background and holds a PhD focused on mitigating hydrogen embrittlement within the oil and gas sector. Sofia focuses on delivering advisory studies for hard-to-abate industries, including large-scale green hydrogen and ammonia production, hydrogen pipelines, sustainable aviation fuels and green metals.

***This breakfast will provide CPD points so please help your organisers by booking via the link as early as possible. Hope to see you there!***

**NB: CANCELLATIONS:** Cancellations before the 13th of November will be subject to a cancellation fee of \$40 per person. No refund will be given for subsequent cancellations. Only written cancellations will be accepted. Substitutions may be made at any time. This event is subject to cancellation if sufficient attendees are not obtained. Official notification will be given to participants 7 days prior to the scheduled date and Materials Australia will refund fees received.