

Executive Leadership Panel: ENSURING SAFETY IN TRANSITION: NAVIGATING PIPELINE INTEGRITY IN AN EVOLVING ENERGY LANDSCAPE

Climate and energy security are among the most pressing challenges of the 21st century. As global populations grow and economic development continues, energy demand is projected to increase through 2050. The critical question is how this rising demand will be met. Renewable energy sources, such as wind and solar, are expected to play a growing role, alongside low-emission technologies like biofuels, carbon capture, hydrogen, and nuclear. Oil and coal are predicted to decline, while natural gas is set to increase due to its reliability and relatively lower emissions. By mid-century, the energy mix is expected to shift from the current 80% fossil fuels to a balanced 50:50 split with non-fossil fuels.

The oil and gas (O&G) industry remains central to meeting energy needs and climate goals, but it faces increasing pressure to decarbonize. According to a 2023 Deloitte survey, O&G companies are focusing on improving operational efficiency, reducing emissions, and investing in cleaner alternatives. Despite efforts toward sustainability, the industry must balance demands from regulators, investors, and the public to reduce emissions, ensure affordable energy, and maintain profitability.

Pipelines play a crucial role in both current and future energy systems, enabling the transport of oil, gas, and emerging fuels like hydrogen and CO₂. The pipeline industry has long worked to improve safety and sustainability, yet incidents still occur. To mitigate risks, pipeline integrity management is key, focusing on safety, reliability, and environmental responsibility. As the energy landscape evolves, existing pipelines may need to transport new types of energy, such as hydrogen or decarbonized products, requiring upgrades and new infrastructure.

The future of energy transportation will depend on adapting to these changes, with a focus on reducing pipeline failures and enhancing safety practices. Collaboration and transparency across the industry will be critical to navigating the challenges and opportunities of a changing energy future.

During the panel we will have a discussion about the following topics:

- The public, government regulators, and investors demand further (and faster) progress in emissions reduction from the O&G industry, whilst keeping energy affordable for the consumer or end-user, maintaining reliability, security of supply, and high returns for shareholders.
- Across pipeline systems and operators, open and transparent exchange of information requires mutual cooperation and trust that can be challenging to achieve in a traditional, enforcement-focused regulatory model.
- Achieving further reduction in the number of pipeline failures in a changing energy future may very well require substantial changes to the established patterns and integrity management practices of the industry.

Panelist are:

- Joe Zhou, TC Energy
- Steve Elliott, Enbridge
- Tracy Sletto, CER
- Tristan Brown, PHMSA
- Abdullah M. Al-Ajmi, Saudi Aramco

Moderator:

- Jan Frowijn, Chief Operating Officer (COO) with the ROSEN Group for North & Central America.