



**FUTURE
ENERGY
EXPORTS**
Cooperative Research Centre

FEnEx CRC News

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Dear Reader,

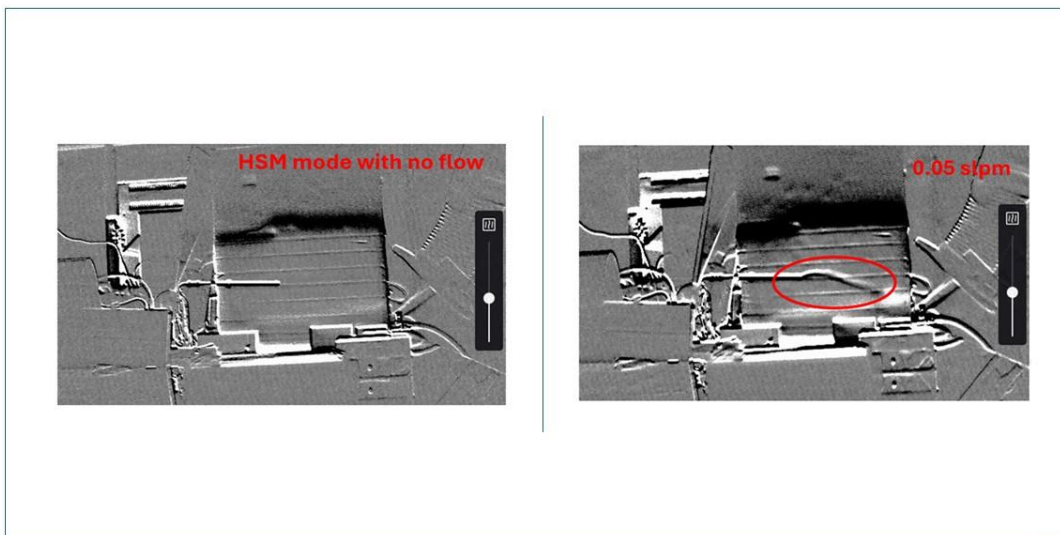
It has been a busy month for Future Energy Exports CRC (FEnEx CRC). It commenced with the CEO, Professor Eric May travelling to Florence to attend the [Baker Hughes Annual Meeting](#) to witness significant progress on decarbonisation technology development. The month closed with:

- the Kwinana Energy Transformation Hub (KETH) obtaining [development approval](#) for the construction of the KETH R&D facilities,
- the release of a public report for the [low pressure, low temperature liquefied CO₂ transportation technology for carbon capture sequestration demonstration](#) project, following a very successful online monthly colloquium presented by Dr Luke McElroy and Daein Cha,
- Foundation Fellow, Dr Saif Al Ghafri's team produced liquid hydrogen for the first time at the UWA laboratories,
- the FEnEx CRC CEO has been appointed to an [expert panel on fugitive methane emissions](#). FEnEx CRC recently released a [fugitive emissions management report](#), and as described below, is developing a methane emission sensor testbed, and
- [a short and long-term options for LNG plant decarbonisation identified, including electrification, emissions capture and offsets report](#).

Register now for the FEnEx CRC Conference in Melbourne, 1 & 2 May. The program, soon to be released, is packed full of the latest information, technology and research outcomes.



Latest Research Outcomes: Test Bed for Fugitive Methane Emissions Sensors



A FEnEx CRC Project between The University of Western Australia and Woodside Energy Ltd has recently undertaken efforts to establish a Test Bed for Fugitive Methane Emissions Sensors.

Reducing greenhouse gas emissions is an ongoing challenge throughout industry, and a particular focus for Australia's energy exporters. It necessitates efforts over the whole value chain, from production to processing and use. In the context of LNG, there is a degree of uncertainty surrounding "fugitive" emissions resulting from incomplete combustion, venting and methane slip. The first step in being able to address such emissions is being able to find them.

There are a number of different technologies and platforms offered commercially by vendors who make claims on their products' efficacies in detecting and quantifying fugitive emissions; the question for any operator is "which of these claims can be trusted, and where do these technologies fit best?". International testing centres do exist to explore this space, but none in the southern hemisphere, let alone Australia. This project has been established as a seed to grow such a capability in direct proximity to Australian industry to whom it will be of use.

The basic premise of this initial testing is to release methane from a well-defined source at a known rate using a set of mass flow controllers to cover a range of leak rates, then compare to the values claimed by a set of test sensors. The project has focussed on scaling up from laboratory release rates at UWA's Crawley Campus to a larger scale outdoor test facility in Shenton Park.

Of particular interest have been the relatively new family of Quantitative Optical Gas Imaging (QOGI) cameras which have been brought to market. Our test bed allows us to understand how the systems behave with varying conditions such as changes in wind speed, background noise and cloud cover. QOGI cameras have thus far shown promise for qualitative detection of leaks, determining whether or not a leak exists, but have shown inferior performance for quantification when compared with more mature high flow samplers.

We intend to continue to expand this test bed for fugitive methane emissions sensors in future, working with vendors who want to prove their technology, and operators with candidate sensors. Expansion of the test facility at Shenton Park, and potentially at the upcoming KETH facility will allow us to broaden the scope of the release system to mimic plant operations and provide training for local industry.

If you're interested in hearing more, please get in touch with the project lead from UWA, Bruce Norris (bruce.norris@uwa.edu.au).

Thank you

We hope to see you all at this year's conference and would like to remind you to complete the [short stakeholder survey](#) by 21 March 2025.

Eric May
FEnEx CRC, CEO

About FEnEx CRC

The Future Energy Exports Cooperative Research Centre (FEnEx CRC) is an Australian non-for-profit organisation established to future-proof energy exports through industrial-scale research and innovation. Australia has a long and very profitable heritage as an energy exporter. Now, our country has the opportunity to harness its world-class renewable energy resources and leverage the know-how, capability, infrastructure and supply chains of its existing LNG industry to cultivate a new, sustainable and competitive export industry and remain a leading provider of energy internationally.

Established in 2020 the FEnEx CRC is working to help Australia deliver on that opportunity by executing cutting-edge, industry-led research, education and training to help decarbonise Australian LNG while also establishing the capacity to produce and use clean hydrogen. This CRC bridges the gap between industry and academia through collaborative research projects, PhD scholarships and testing facilities, provides evidence-based advice to inform government policy development, and helps future-proof Australia's future workforce through its education and training program, and micro-credentials and professional development opportunities.

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