ASX ANNOUNCEMENT

ASX: QEM

15 March 2021

QEM to Pursue Green Hydrogen Strategy

- **QEM commits to undertake studies into "green" hydrogen opportunities at Julia Creek**
- **Progression of strategy comes amid buoyant market conditions, supportive policy environment and optimal project location**
- **Hydrogen strategy to underpin the continued development of the Julia Creek vanadium and oil shale project**
- **QEM will commence discussions with the recently appointed Queensland Minister for Energy, Renewables and Hydrogen on the approval process**

QEM Limited (ASX: QEM) **("QEM" or "Company")** is pleased to announce that it has commenced studies into green hydrogen opportunities on site at QEM's flagship 100%-owned Julia Creek vanadium and oil shale project in North Queensland.

The studies will investigate the financial and regulatory requirements of the Company to produce hydrogen on site at Julia Creek using a "green" solar-powered electrolyser. It is envisaged that the hydrogen would initially be used as a support to the energy needs of other resources projects located in the North West Minerals Province of Queensland, but ultimately for the hydrogeneration of the Company's raw oil into transport fuels.

To assist in its assessment of capital and operating costs, the Company has appointed E2C Advisory Pty Ltd ("E2C"). E2C previously assisted the Company with the review of a processing technology utilising a hydrocarbon solution for oil shale extraction (refer to ASX announcement dated 14 April 2020) and have extensive experience in electrolysers used for hydrogen production.

QEM will commence proactive discussions with the Queensland state government on progressing the approval process to access water resources for the potential development. The Company will focus on securing the relevant approvals following the successful completion of the financial studies to be conducted by E2C.

QEM Managing Director Gavin Loyden said the Company was delighted to be working with experts who possess substantial expertise in the hydrogen field.

"The commissioning of these studies will lay the groundwork to advance our green hydrogen strategy at Julia Creek, amid increasingly buoyant market conditions and the project's optimal location and resource profile to produce hydrogen on-site," Mr Loyden said.

"For example, the Queensland state government established a ministry for hydrogen in November 2020, as the state government seeks to encourage investment into the bourgeoning market."

"Crucially, the hydrogen strategy aligns with the broader strategic direction of Julia Creek, as QEM looks to target both the liquid fuels and renewable energy sectors."

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"We remain committed to continuing the development of Julia Creek to unlock the substantial latent value the vanadium and oil shale project possesses."

Julia Creek Project Development

The Julia Creek Project currently contains a globally significant JORC (2012) Vanadium Resource of 2,760Mt (220Mt Indicated and 2,540Mt Inferred) with an average V2O5 content of 0.30%, and a 3C Contingent Oil Resource of 783 MMbbls of Oil (refer to ASX announcement dated 14 October 2019)[1].

Hydrogen is a critical element for the hydrogeneration of oil, and on 21 July 2020, QEM announced that test work utilising a hydrocarbon solution for oil shale extraction at Julia Creek resulted in oil yields up to 181 kg per tonne, which is 218% on those reported under Modified Fischer Assay (MFA).

Pursuing the green hydrogen strategy aligns with QEM's broader strategic direction. The Company does not anticipate any material adverse impacts on the development of the Julia Creek project stemming from the advancement of the hydrogen strategy.

Macroeconomic Strategic Rationale

QEM's advancement of its green hydrogen production strategy comes amid growing investment and interest in the renewable energy source from both the private and public sectors. This is highlighted by the Queensland state government appointing Australia's first dedicated minister for hydrogen in November 2020, with the Queensland government stating that it expects hydrogen to play in a key role in both the local economy and as a major new export opportunity for the state.

The Julia Creek project is conveniently located in the North West Minerals Province in Queensland and also falls within the newly designated Eastern Resource Development Corridor, which is home to numerous other resource projects, providing QEM with significant opportunities to support the energy needs of these companies to develop their projects, as well as QEM's own project. This is particularly relevant as the demand for renewable energy sources grows.

Julia Creek is also positioned in a transport nexus in North Queensland, as road trains and trucks travelling along the Flinders Highway to Townsville typically need to refuel in the Julia Creek area. This presents additional local opportunities to QEM in the longer term if the proliferation of hydrogen-powered vehicles emerges.

About Green Hydrogen

Hydrogen, which is the most abundant element on earth, is a non-toxic colourless gas that can be extracted from other compounds by a chemical process.

The creation of hydrogen is considered green if renewable energy, such as solar panels or solar concentrators, are used to generate electricity for electrolysis of water, which creates no carbon dioxide in the production process and may be used for transport, energy and other industrial purposes.

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This announcement was authorised for release on the ASX by the Board of QEM Limited.

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[1]The information in this announcement that relates to the mineral resource and contingent resource estimates for the Company's Julia Creek Project was first reported by the Company in its IPO prospectus dated 20 August 2018 and supplementary prospectus dated 12 September 2018 (together, the "Prospectus") and the subsequent resource upgrade announcement ("Resource Upgrade") dated 14 October 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the Prospectus and Resource Upgrade, and in the case of estimates of Mineral Resources and Contingent Resources, that all material assumptions and technical parameters underpinning the estimates in the Prospectus and Resource Upgrade continue to apply and have not materially changed.

ABOUT QEM

QEM Limited (ASX:QEM) is a publicly listed company which is focussed on the exploration and development of its flagship Julia Creek Project, covering 250km^2 in the Julia Creek area of North Western Queensland.

The Julia Creek vanadium / oil shale project is a unique world class resource with the potential to deliver innovative energy solutions, through the production of energy fuels and vanadium pentoxide. QEM strives to become a leading producer of liquid fuels and in response to a global vanadium deficit, also aims to become a global supplier of high-quality vanadium pentoxide, to both the nascent energy storage sector and the Australian steel industry.

This globally significant JORC (2012) Mineral Resource of 2,760 Mt @ 0.30% V2O5 is one of the single largest ASX listed vanadium resources and represents a significant opportunity for development.*

The tenements form part of the vast Toolebuc Formation, which is recognised as one of the largest deposits of vanadium and oil shale in the world and located less than 16km east of the township of Julia Creek. In close proximity to all major infrastructure and services, the project is intersected by the main infrastructure corridor of the Flinders Highway and Great Northern Railway, connecting Mt Isa to Townsville.