



Montem Resources

Montem Resources Limited

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ASX Announcement

18 October 2021

Montem transitions Tent Mountain to Renewable Energy Complex aiming to produce Green Hydrogen

HIGHLIGHTS

- The Tent Mountain Renewable Energy Complex (TM-REX) will integrate wind and hydropower to produce green hydrogen at Tent Mountain.
- TM-REX consists of three primary elements:
 - **320 MW Pumped Hydro Energy Storage**
 - **100 MW Green Hydrogen Electrolyser**
 - **100 MW Wind Farm (offsite)**
- Independent expert studies have confirmed Montem's Tent Mountain Project has a high propensity to become a renewable energy complex.
- Alberta has increasing need for PHES to act as battery storage and provide power grid stability as it phases out all coal fired power plants this decade.
- Montem and the Piikani Nation have agreed to explore the mutual benefits of the Tent Mountain Renewable Energy Complex.
- Montem is proceeding with Feasibility studies on TM-REX.
- Montem has applied for C\$5 million in Federal funding from Canada's Clean Fuels Program.

Montem Resources Limited (ASX: MR1) ("**Montem**" or the "**Company**") is pleased to announce plans to transition its Tent Mountain Project in Alberta, Canada to become a renewable energy complex.

Separate independent expert studies by Entura Hydro Tasmania (Entura), Boost Energy Ventures (Boost), GHD and other independent experts in Alberta demonstrate the Project's strong viability to generate renewable energy through combined pumped hydro energy storage ("**PHES**"), offsite wind power generation and onsite green hydrogen production. Studies indicate targeting production of approximately 300 GWh of on-peak power production per year from the PHES. This 100% renewable power can be used to produce hydrogen at Tent Mountain. The production of hydrogen onsite would potentially be Canada's first large-scale green hydrogen production, with the project planned to produce up to 13,000 tonnes of green hydrogen per year.

Montem is progressing development plans for the Project and is working with the Piikani Nation. The Piikani Nation and Montem have agreed to explore the mutual benefits of the Project, and to investigate the development of a wind farm to supply electricity to the Tent Mountain PHES. Montem has applied to Canada's Clean Fuels Program for C\$5 million to help fund the next phase of work, which will include a Feasibility Study.



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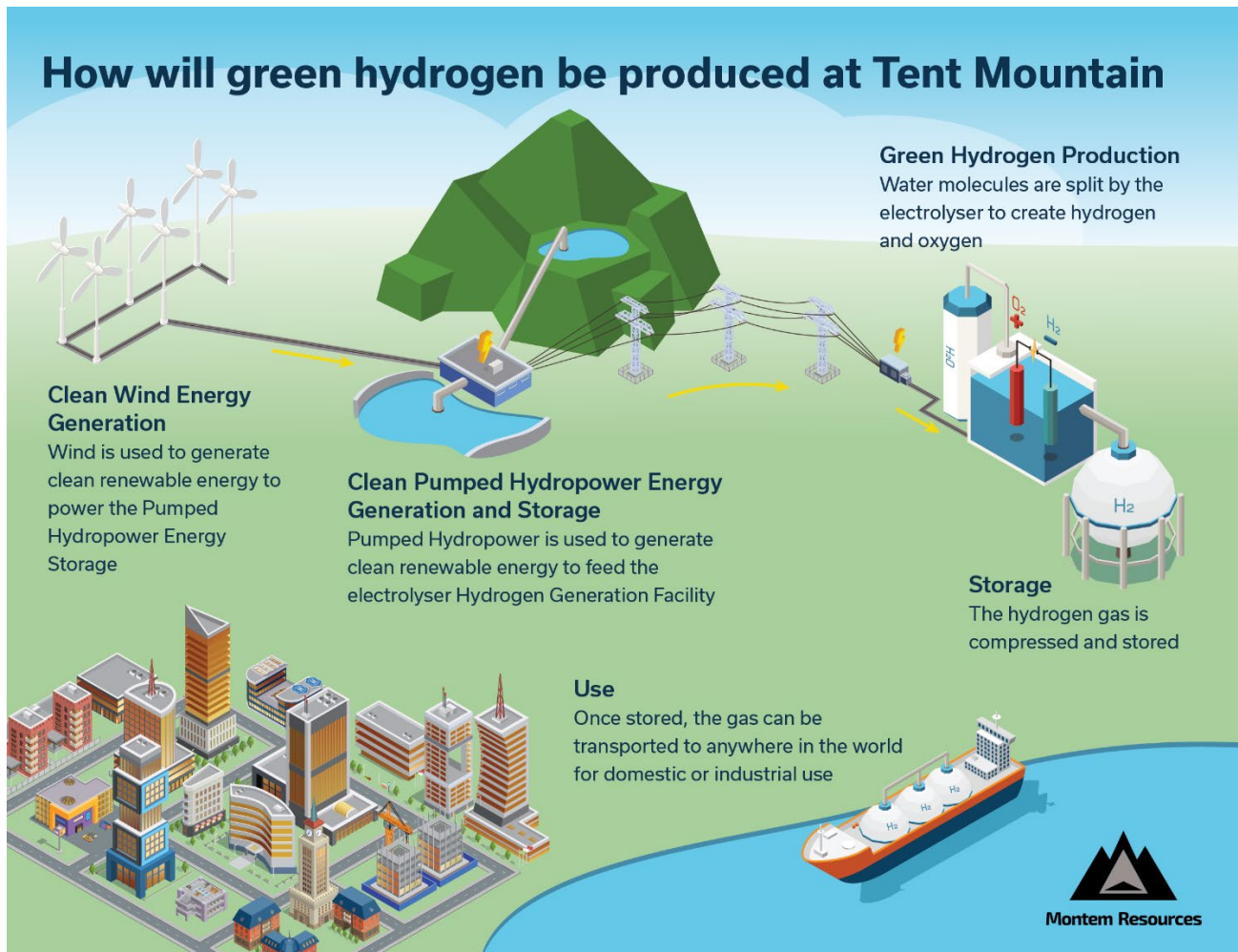
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Montem Resources **Managing Director and CEO Peter Doyle** said: “Developing Tent Mountain as a renewable energy complex could result in the first large scale production of green hydrogen in Canada. Furthermore, the PHES component of the complex will play an important role in filling supply gaps in Alberta’s electricity grid. We are re-purposing our existing assets at Tent Mountain, which include large water reservoirs on land we own, and easy access to infrastructure, including rail, high voltage power lines, gas pipelines, and the interprovincial highway.

“We started looking at an end of mine life pump hydro for Tent Mountain in 2019, undertaking a site assessment and economic analysis. The results were promising, and we continued to progress Tent Mountain as a coal mine re-start. With the current uncertainty surrounding the timeline of the mine re-start, we have bought forward the planning for developing Tent Mountain into a renewable energy complex and are now moving to a Feasibility Study.”

“The Tent Mountain site has inherent advantages for a large renewable energy complex, including a 300m drop between two reservoirs that were formed during previous mining operations, and are on land owned by Montem. The site is within 10km of the Alberta’s high voltage electricity grid, has great existing infrastructure to support development, is adjacent to rail and gas pipelines, and



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has plenty of space to develop a green hydrogen plant that will run off the renewable power we produce.”

“We have applied for a federal grant from the government of Canada to assist in funding the project through the Feasibility stage which is expected to take 12-18 months. The various technical, economic, and social studies we have completed over the past six months show technical viability, and strong returns over a 50+ year project life. The Project will include a 320 MW PHES, a 100 MW green hydrogen electrolyser, and a 100 MW wind farm.”

“We are very excited about the future of this project and look forward to advancing it.”

Studies

A study conducted by Entura Hydro Tasmania (Entura) in 2019 found Montem could use existing water reservoirs from Tent Mountain’s historical coal mining operations to drive a powerful PHES facility. The study demonstrated an energy in storage potential for the Project of 2,560MWh, or enough energy in storage to generate 320MW for eight continuous hours, which is the equivalent of powering approximately 200,000 homes through the night.

The Entura study found the proposed Project had no fatal flaws and recommended progressing to the next step which included, refining the details of the site, identifying any additional risks, and determining mitigation measures, before embarking on a Feasibility Study. This work has now been completed. Over the past six months, Alberta based Boost Energy Ventures (Boost), have conducted various economic, grid connection and permitting studies to complement the initial Entura report. These reports have culminated in the Tent Mountain PHES passing through initial stage gates with it now ready to progress to Feasibility studies.

Power grid analysis by Boost showed the requirement for baseload power replacement in Alberta, and grid firming mechanisms as the system transfers from coal fired power to renewable power. Baseload power for Alberta’s grid has traditionally been produced from coal fired power plants which are in the process of being completely phased out. Whilst natural gas may appear the logical physical replacement for baseload power, the uncertainty around CO₂ taxation schemes and potential carbon capture requirements is causing significant investment uncertainty for power companies in Alberta. Recently the \$1.6B Sundance 7 gas fired power plant was cancelled by TransAlta due to the uncertainty of Canada’s CO₂ tax system.

Alberta’s incumbent power companies are turning to renewables such as wind and solar to supply more power to Alberta’s grid. Wind and solar power’s reliance on weather conditions make both sources of energy inherently intermittent and causes both to rely heavily upon large scale energy storage (batteries). The most cost-effective form of this large-scale energy storage is Pumped Hydro Energy Storage (PHES) which can dispatch renewable energy on demand and provide the required stability to Alberta’s power grid. Lithium-ion batteries provide short-term storage, but there is a material shortage for long duration storage which is the sweet spot for pumped hydro. Given the relatively flat lying topography for the majority of Alberta, Montem’s Tent Mountain Project is a rare opportunity to develop PHES in the Province.

In addition to the work completed to understand the potential of the Tent Mountain PHES, earlier in 2021 Montem commissioned GHD to investigate the potential for green hydrogen production at



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Tent Mountain. GHD's examination found Tent Mountain presented a sound opportunity to produce green hydrogen on-site, leveraging specific advantages Tent Mountain has, including green power produced via the PHES, readily available access to market via road, rail and pipeline, and a relatively short distance to potential hydrogen users. GHD's investigation identified potential markets for Montem's green hydrogen, as well as sites suitable at Tent Mountain for the plant, and suggested technology to employ to produce the green hydrogen. GHD have defined a logical development pathway through the Feasibility stage, a pilot plant, and commercial production for green hydrogen at Tent Mountain.

Canada's aim of "Net-Zero by 2050" brought into legislation last year with the Canadian Net-Zero Emissions Accountability Act can only be met with a range of new renewable energy projects. The production of green hydrogen is a key component of meeting this goal. By including modern electrolyser technology to produce green hydrogen as a component of the Tent Mountain Renewable Energy Complex, we capitalize on reliable cheap green energy, and access to a growing market via adjacent rail and gas pipelines.

With the renewable energy transition gathering pace in Alberta, Montem believes we have a unique opportunity to transition Tent Mountain from an idled historical coal mine to a clean renewable energy complex. We are working closely with the Piikani Nation whose traditional territories we operate on, and we have agreed to explore the mutual benefits of the Tent Mountain Renewable Energy Complex. The Piikani Nation's reserve lands lie in the heart of southern Alberta's wind power generating region, and we look forward to investigating the potential to power the PHES with wind power produced locally.

The rapidly emerging hydrogen economy has significant investor and policy support. Canada has legislated support for developing green hydrogen, and Montem recently applied to the Clean Fuels Program for C\$5 million in grants to undertake the next phase of study into the Tent Mountain Renewable Energy Complex. This grant program has been designed to accelerate development of green fuels, including hydrogen. Montem expects to be successful in this grant application, with grants awarded in Q1 2022 after a 3-4 month selection process. In the meantime, Montem will progress with Feasibility planning for this exciting new prospect.

Please refer to our Investor Presentation "**Tent Mountain Renewable Energy Complex, 18 October, 2021**", released in conjunction with this announcement.



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Chinook Hard Coking Coal Project & Coal Policy Review

Montem remains committed to further defining and developing the Chinook Hard Coking Coal Project in the Crowsnest Pass.

By developing two different elements of our business in the same region, we have the potential to offset risk for ourselves, and investors. Furthermore, by investing in potentially competing raw materials for steelmaking (hard coking coal and green hydrogen), we are providing exposure for investors to a long-value-chain in steelmaking raw materials.

Montem is awaiting the outcome of the government of Alberta's review of the 1976 Coal Policy before conducting any additional exploration at the Chinook Project. Earlier this year the Alberta Government announced the forming of an independent committee to review the 1976 Coal Policy. In July Montem presented to the Committee, and later hosted the Committee at Tent Mountain. The site visit was a good opportunity for Committee members to see first hand the disturbed nature of Category 4 lands at Tent Mountain (and also on Montem's private land).

Our presentation to the Committee included the following key points:

- From a land use perspective, the 1976 Coal Policy recognized coal mining, including surface, underground, and insitu, may be considered "...subject to proper assurances respecting protection of the environment and reclamation of disturbed lands."
- Since the Coal Policy adoption, all new and expansion coal mining projects were located within Category 4 lands (predominantly surface mining)
- The cessation of issuing coal exploration permits during the review process only covered Category 2 land and did not affect Category 4
- International investments were made in the Alberta coal industry in Category 4 assets on the basis of their treatment within the Coal Policy
 - » Any significant change to the treatment of these lands will fundamentally undermine the basis on which these investments were made in the Alberta economy
- Montem asks that in the future Coal Policy, the treatment of Category 4 lands reflect their existing treatment under the existing Coal Policy

Montem continues to participate in the Coal Policy review, and look forward to the Committee findings, expected in November 2021.

For further information on the Company, our assets and development plans, please visit our website: www.montem-resources.com

This ASX release was authorised on behalf of the Board of Directors by Peter Doyle, Managing Director and CEO.

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About Montem Resources

Montem Resources (ASX: MR1) is a steelmaking coal development company that owns and leases coal tenements in the Canadian provinces of Alberta and British Columbia. The Company's primary objective is to become the operator of steelmaking coal mines, by developing its properties in the Crowsnest Pass, and acquiring operating assets.

Montem completed a Definitive Feasibility Study on the Tent Mountain Mine in 2020, and advanced the regulatory process to re-start the mine. In 2021 the project was designated for Federal review by the Impact Assessment Agency of Canada, and the Company continues to seek approval to re-start the mine. In light of delays to the mine re-start, the Company has identified alternate methods of monetizing Tent Mountain. One of these is transitioning the project to a renewable energy complex, employing an onsite pump hydro energy storage facility, an offsite wind power facility, and onsite production of green hydrogen. The Company is progressing studies to support development of the Tent Mountain Renewable Energy Complex, including a Feasibility study.

Montem is also progressing the Chinook Project which covers historical mines in the Crowsnest Pass that previously exported hard coking coal to Japanese steel mills. The Chinook Project has the potential for an open-cut hard coking coal mine, and the Company plans to explore, define, and develop this mine.

Forward looking statements

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