



Montem Resources

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ASX Announcement

26 July 2022

Montem's Pre-Feasibility Studies confirm the potential for TM-REX as an outstanding Renewable Energy Project

HIGHLIGHTS

- Pre-Feasibility Studies (“**PFS**”) for the Pumped Hydro Energy Storage (“**PHES**”) and Green Hydrogen Electrolyser elements of the Tent Mountain Renewable Energy Complex (“**TM-REX**”) have been completed by Hatch and GHD, confirming the TM-REX as an outstanding renewable energy project with compelling economics.¹
- Montem has entered into a framework agreement with the Piikani Nation.
- The PFS details the Tent Mountain PHES (“**TM-PHES**”) development concept for an 80+ year project life with a 320 MW installed capacity, 2,560 MWh storage capacity allowing for 8 hours of continuous generation.
- PFS determined that based on the current data, there are no geotechnical fatal flaws in developing the TM-PHES.
- PFS recommends optimization work be completed to investigate increasing the size of the TM-PHES upper reservoir, with potentially low capital cost, which has the potential to almost double the energy storage capacity to 4,955 MWh, providing continuous generation for 15 hours.
- Nearby interconnection options for both the 500 kV and 240 kV transmission line have been identified to connect the TM-PHES to the Alberta power grid, and the relevant applications for connection are lodged.
- Results of the PFS returned compelling capital cost estimates for the TM-PHES that support attractive base case economics, with material upside for project economics in an evaluated “Net Zero Electricity” market scenario.
- The PFS for the Green Hydrogen Electrolyser identified the optimum business case which includes the co-location of the electrolyser facility “behind the meter” with a renewable energy source (offsite wind farm).

¹Disclaimer: Hatch's report referred to in this announcement has been prepared for the benefit of Montem (and no other party). Hatch is not liable to any third party, and no third party can rely on it without Hatch's prior written consent. Hatch's report is based on a number of underlying assumptions and qualifications (set out in the report). The assumptions made in the report, and the qualifications and disclaimers to the report have been communicated to, and accepted by, Montem. The report had a number of contributors and was prepared based on information provided by third party contributors and information provided by Montem. This ASX announcement has been prepared solely by Montem. Hatch, to the maximum extent permitted by law, expressly disclaims all liabilities in respect of, makes no representations regarding, and takes no responsibility for, any statements in or omissions in this announcement.



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Montem Resources Limited (**ASX: MR1**) ("**Montem**" or the "**Company**") is pleased to advise it has completed the pre-feasibility engineering and design, cost estimates and project economics for the Pumped Hydro Energy Storage ("**PHES**") element of the Tent Mountain Renewable Energy Complex ("**TM-REX**"). The Company is also pleased to advise it has completed a business case analysis for the Green Hydrogen Electrolyser element of the TM-REX. Combined, these works are the Pre-Feasibility Studies ("**PFS**") for the TM-REX.

Montem has now completed its initial investigations into the potential transition of the Tent Mountain Mine into a renewable energy complex. The results of the PFS are compelling, identifying no fatal flaws and strong economics. Together, the Tent Mountain PHES ("**TM-PHES**") and Green Hydrogen Electrolyser have the potential to provide strong returns for shareholders and to create value for Alberta.

The TM-REX development concept includes three primary elements:

- 320 MW / 2,560 MWh Pumped Hydro Energy Storage
- 100 MW Green Hydrogen Electrolyser
- 100 MW Wind Farm (offsite)

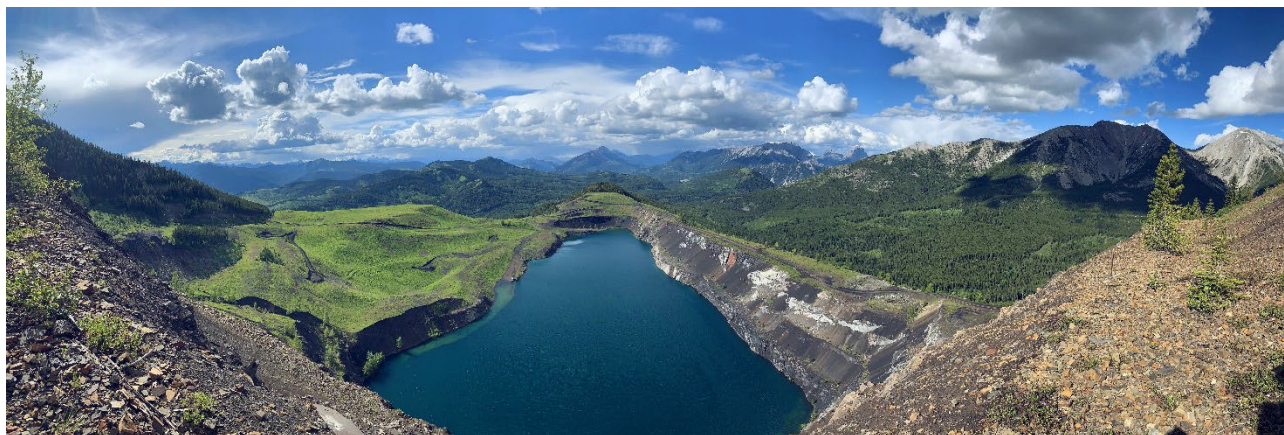


Figure 1: Tent Mountain Mine Pit 4 which will be repurposed as the TM-PHES upper reservoir.

Montem's CEO, Peter Doyle said:

"Following a period of sustained activity, we are excited to complete the PFS and have confirmed the TM-REX as an important energy infrastructure project."

"Our conviction to explore an alternate development pathway to the coal mine at Tent Mountain is yielding results. We now have a viable alternate investment at Tent Mountain, with the potential for strong returns, and importantly, a social licence to pursue this investment. We continue to receive support for TM-REX from Indigenous and local communities, and the Provincial government. We are working with the Piikani Nation on advancing this important infrastructure project for southern Alberta. We have an exciting phase of work ahead at Tent Mountain and we are well underway in advancing commercial aspects to find a strategic partner to work with us to develop the TM-REX."



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Piikani Nation Agreement

Tent Mountain is located in the traditional territory of the Piikani Nation (“**Piikani**”), with Piikani’s reserve lands situated in the heart of southern Alberta’s wind power generating region.

Montem is pleased to announce that it has entered into a framework agreement (“**Agreement**”) with Piikani. The signing of the Agreement was witnessed by the Honourable Rick Wilson, Alberta Minister of Indigenous Relations, and the Honourable Whitney Issik, Alberta Minister of Environment and Parks.

The Agreement creates a framework for co-operation in relation to review of the development concept of the PHES. Under the Agreement:

- The parties agree to work together to implement a negotiation process.
- To work together to jointly develop an engagement strategy with relevant stakeholders.
- Montem commits to provide regular updates on the PHEs, including its potential impacts, benefits and economic opportunities.
- The parties nominate the primary representatives of each party.
- Montem agrees to reimburse certain costs of Piikani.
- The term is from signing until execution of a Mutual Benefit Agreement or termination on 60 days’ notice by either party.



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Figure 2: Montem CEO Peter Doyle, and Piikani COO Corbin Provost, signing the Agreement, witnessed by the Honourable Rick Wilson, Alberta Minister Indigenous Relations, and the Honourable Whitney Issik, Alberta Minister of Environment and Parks at the annual Blackfoot Confederacy Calgary Stampede BBQ. The agreement creates a framework for future co-operation.



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Figure 3: Left to Right: Riel Houle, Piikani Councillor; Peter Doyle, Montem CEO; The Honourable Whitney Issik, Alberta Minister of Environment and Parks; Chief Stan Grier, Piikani Nation; The Honourable Rick Wilson, Alberta Minister Indigenous Relations; Avril Grier, celebrating at the annual Blackfoot Confederacy Calgary Stampede BBQ.

The Agreement focuses on the TM-PHES and aims to build a long-term cooperative and mutually beneficial relationship between Montem and Piikani. Positive collaboration on the TM-REX between Montem and Piikani will provide regulatory clarity and community acceptance for the project.

Montem's CEO, Peter Doyle said:

"The signing of an Agreement with the Piikani Nation is a major milestone for Montem. We are excited by the opportunity to develop a meaningful partnership with the Nation that will deliver mutual benefits. Piikani will add value to our developments within the Piikani Traditional Territory. For Montem it represents our first significant agreement with an Indigenous group, and we couldn't be more pleased than to have an agreement with the Piikani Nation."



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TM-PHES Pre-Feasibility Study

Montem has received the finalized PFS from Hatch Engineering (“**Hatch**”), which includes design, engineering work, and cost estimate for the TM-PHES. The Hatch work has been coupled with analytics supplied by Boost Energy Ventures (“**Boost**”) to evaluate project economics.

The Tent Mountain PHES will leverage Montem’s existing assets at Tent Mountain, including a large water reservoir, on Montem’s freehold land, which was left behind from historical mining operations. The site, located in the Crowsnest Pass, Alberta, is close to important infrastructure including high voltage power lines and interprovincial Highway 3.



Figure 4: TM-PHES design and layout positioned on current landscape, of the historical Tent Mountain Mine, on freehold land owned by Montem.



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TM-PHES Design

The results of the Hatch work have been positive, indicating the Tent Mountain site is suitable for hosting a PHES with an 80+ year project life, 320 MW installed capacity, 2,560 MWh storage capacity and a continuous generation duration of 8 hours.

As part of its work, Hatch completed the Gap Analysis, Hydrological Assessment, Geological and Hydrogeological Assessment, and the Options Study. The Options Study recommends the optimal configuration for the powerhouse of 4 x 80 MW fixed speed reversible Francis turbines. Based on the current data, there are no geotechnical fatal flaws in developing the TM-PHES.

Table 1: TM-PHES Indicative Physical Attributes

Project Life	80+ Years
Installed Capacity	320 MW
Storage Capacity	2,560 MWh (<i>potential for up to 4,955 MWh</i>)
Continuous Generation Duration	8 hours (<i>potential for up to 15 hours</i>)
Turbine Configuration	4 x 80 MW fixed speed reversible Francis turbines
Upper Reservoir Active Volume	3.55 million m ³
Upper Reservoir Minimum Operating Level	1783m
Lower Reservoir Minimum Operating Level	1480m
Maximum Gross Head	320m
Minimum Gross Head	288m



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Figure 5: TM-PHES Design



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TM-PHES Capital Cost Estimates and Economics

Hatch have provided a Class IV (AACE Class) estimate of the capital costs based on commodity prices (steel, materials, energy) as of Q1 2022, and vendor quotes for major components. Total cost estimate includes a contingency of 30%.

At Montem's request, Hatch has also provided a capital cost estimate for the same scope based on commodity prices from Q1 2020. There is a material volume of steel required for the project and recent price spikes have skewed the cost of the steel intensive elements of the project. Both cost estimates are shown below in Table 2 and exclude the estimate for the plant interconnection.

Table 2: TM-PHES Capital Cost Estimates (\$CAD millions)

	2022	2020
Direct Costs	575	467
Indirect Costs	118	109
Sub-total	693	576
Contingency (30%)	208	173
Total	901	748

Note: This 2020 Cost Estimate provides a high-level indication of the project costs in 2020, with the variation providing an indication of the changes that have occurred from 2020 to 2022. These estimates should not be used for any other purposes.

Total increase in the CAPEX between 2020 and 2022 is 20%, with the average variation of the labour costs being 10% and the average variation in materials cost being 65%

Steel components of the project including penstocks, rails, racks, and gates represent the most significant variation, an average of 59% total including material, fabrication, and installation. This is consistent with the commodities price variation observed during this period mostly attributed to a shortage in the production, logistic complexity and increment in the fabrication costs due to COVID pandemic restrictions applied during 2020 and 2021, along with an increase of the demand along the same period.

In anticipation steel prices come off their current high levels, and recognising the project is not yet in the procurement stage, Montem is targeting lower direct costs for the project for materials. Montem will also be optimizing the project design through the FEED stage and developing more detailed construction plans. As such, Montem is currently targeting a Capital Cost of **C\$750M** in aggregate for the PHES project and an interconnection cost of approximately **C\$70M**.

Project economics were evaluated for two projected energy price forecasts: base case and Net Zero Electricity ("Net Zero"). Preliminary project economics for the TM-PHES indicate attractive returns for both cases, with the most robust returns generated from the Net Zero price forecast.



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TM-PHES Cost Competitiveness

Two metrics used to compare power projects and storage projects are \$/MW (power output) and \$/MWh (energy stored), respectively.

Using the 2022 capital cost estimate, on a \$/MW basis, the TM-PHES, at C\$3.0 million/MW, compares favourably to comparable global PHES projects. Likewise, using the 2022 capital cost estimate, on a \$/MWh basis, the TM-PHES, at C\$379,000/MWh, compares favourably to other global PHES projects (see Table 3).

For comparison, using the 2020 capital cost estimate, these metrics decrease to: C\$ 2.6 million/MW, and C\$321,000/MWh, respectively.

Table 3: TM-PHES Peer Comparison to other PHES Projects

Project	Location	Power Capacity	Storage Duration	Energy Capacity	Lifespan ¹	Capital Cost		Cost estimate timing	Capital Cost Intensity	Capital Intensity
		MW	hours	MWh	years	\$	Cdn 2022 \$	Study date	\$million/MW	\$/MWh
Kidston PHES	Australia	250	8	2,000	50+	AUD \$777,000,000	699,300,000	April 2021	2.8	349,650
TM-PHES	Alberta	320	8	2,560	50+	CAD \$970,000,000	970,000,000	July 2022	3.0	378,906
Swan Lake PHES	Oregon	393	9	3,537	50+	USD \$1,100,000,000	1,430,000,000	January 2015	3.6	404,297
Gordon Butte PHES	Montana	400	8	3,200	50+	USD \$1,000,000,000	1,300,000,000	July 2019	3.3	406,250
Seminole PHES	Wyoming	972	10	9,720	50+	USD \$2,801,000,000	3,641,300,000	June 2022	3.7	374,619
Georgian Bay PHES	Ontario	1,000	8	8,000	50+	CAD \$4,300,000,000	4,300,000,000	2021	4.3	537,500

¹ PHES lifecycle can be extended to 80 years (or more) with refurbishments at approximately 50 years.

Note: US estimates assume 1.3x USD/CAD rate; Australian estimates assume 0.9x AUD/CAD rate. No additional adjustments for Alberta labour or materials rates are applied to external estimates.

The TM-PHES compares favourably to similar PHES projects in North America, and to the Kidston PHES project in Queensland, Australia. The primary reasons for the TM-PHES cost competitiveness is due to the 300m head between the upper and lower reservoirs and the ability to leverage Montem's existing assets at Tent Mountain, including the large water reservoir on Montem's freehold land. The project also benefits from its proximity to the Alberta power grid, which significantly reduces the capital cost, permitting requirements, and environmental footprint typical of large-scale energy projects.

Table 4: TM-PHES Comparison to Competing Energy Storage Technology Projects (Li-ion Batteries)

Project	Location	Power Capacity	Storage Duration	Energy Capacity	Lifespan ¹	Capital Cost	Capital Cost Intensity	Capital Intensity
Li-Ion Battery (standard lifespan: 20 years)		MW	hours	MWh	years	Cdn 2022 \$	\$/MW	\$/MWh
WindCharger	Alberta	10	2	20	20	15,000,000	1,500,000	750,000
ENMAX Cross field	Alberta	10	0.43	4.3	20	14,600,000	1,460,000	3,395,349
Oneida Energy Storage	Ontario	250	4	1,000	20	500,000,000	2,000,000	500,000

Long duration (typically 8 hours and longer) storage technologies, like PHES, offer exceptional capital intensity when compared to short duration energy storage (under 4 hours) technologies, like lithium-ion batteries. Furthermore, current lithium-ion battery technology is expected to provide a maximum lifespan of around 20 years, whereas typical PHES projects have a minimum expected lifespan of 50+ years, with the ability to retrofit the powerhouse to extend the project life beyond 80 years.



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TM-PHES Optimization and Next Steps

The Hatch PFS recommends optimization work be completed to investigate increasing the size of the upper reservoir, which has the potential to increase the TM-PHES storage capacity to 4,955 MWh, with a continuous generation duration of 15 hours. Hatch estimates an additional direct capital cost of approximately C\$35 million will be required to increase the upper reservoir storage capacity.

This optimization work has the potential to create material upside for project returns.

The next stage of project engineering will be to complete additional geotechnical work in order to provide site-specific geotechnical conditions for each of the major PHES civil structures. Following the geotechnical work, Montem will complete the front-end engineering design ("FEED") work for the project.

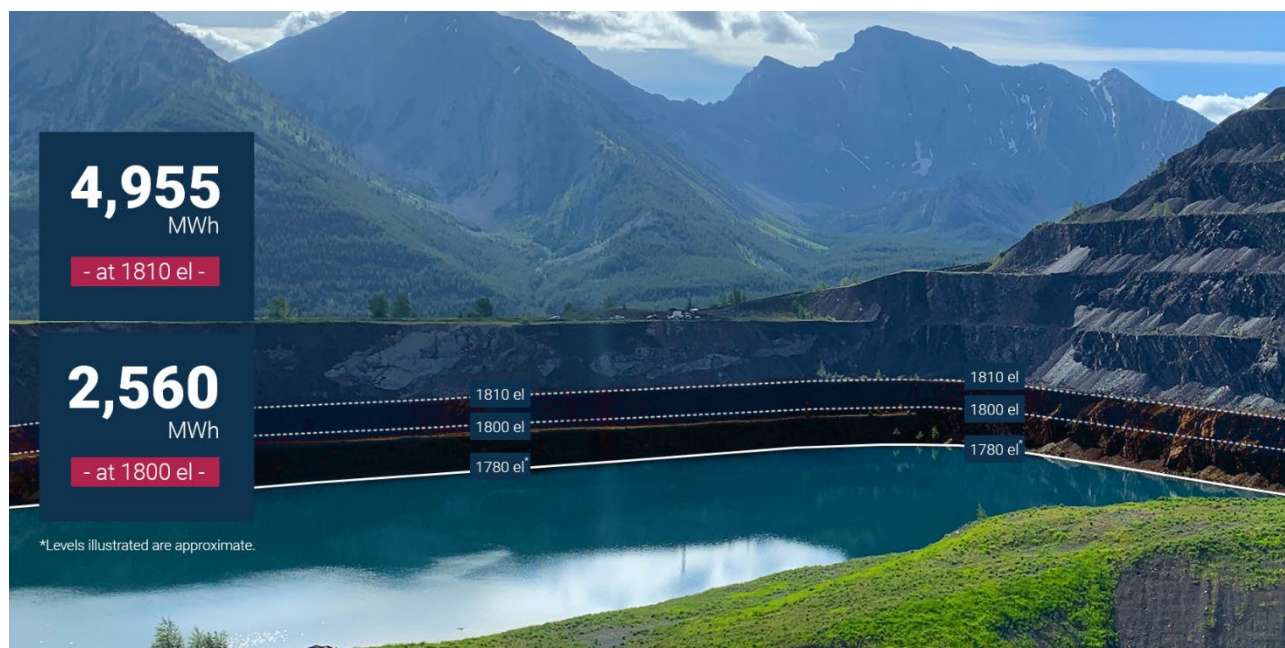


Figure 6: Upper reservoir optimization: raising the water level 10m (as indicated above) has the potential to nearly double the project's energy storage potential.



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Alberta Electricity Market Overview

The Alberta power grid, like others globally, is in the process of decarbonizing. Both the capacity of intermittent renewable generation and its contribution to the power supply in Alberta have grown in recent years. This trend is poised to accelerate with three quarters of new generating capacity being developed for power grid interconnection being wind and solar. Energy storage will become increasingly important both for balancing electricity supply and demand in real time and maintaining grid stability through the provision of ancillary services.

PHES is a proven technology that offers superior storage duration and significantly longer asset life than lithium-ion batteries, creating a niche within the mix of storage technologies required to enable grid decarbonization.

In Alberta, the topography required for hosting a PHES project is found mostly in the west and south-west, within the Rocky Mountains. However, most of these areas are designated as Parks and Protected Areas, which restrict development. Tent Mountain is located on freehold land and encompasses a perched water body 300m above the below valley floor. It is also located close to the Alberta electrical transmission system. These attributes make the Tent Mountain site very rare in the province, giving it strategic importance.

Alberta's electric system has not progressed as far through the energy transition as other globally important markets like the United Kingdom, California, and Australia. Those markets have seen parallel growth in intermittent renewable generation and energy storage, creating material investment opportunities along the way. The same macro trends driving decarbonization are at play in Alberta, whose lagging position is attributable in part to abundant natural gas reserves underpinning a largely gas-fired power generation fleet. Dispatchable energy assets that do not require investment in carbon capture, such as PHES, will be advantaged going forward.

Alberta is the only fully de-regulated electricity market in Canada, making it the nation's most attractive jurisdiction for private capital to invest in generation and storage assets. Revenues for PHES projects would come from both the energy market and the ancillary services market, the latter of which is comprised of several individual grid-supporting products. The TM-PHES design, which consists of 4 x 80 MW reversible pump/turbines, is designed to excel in these markets by ensuring flexible and efficient operation throughout the operating range.

Among the potential financial upsides for the project is the potential for changes to the design of the Alberta electricity market. Alberta operates an "energy only" market, where volatility is part of the price signal to incentivise investment but is limited administratively between \$0 and \$1,000 per MWh. Comparable markets like the National Electricity Market in Australia have a lower floor price and a higher ceiling price, enabling more volatility, which in turn provides a stronger signal to private investment in energy storage without necessarily changing the price signal to generators or the cost to consumers.



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TM-PHES Interconnection

The TM-PHES benefits from its proximity to the Alberta power grid, which significantly reduces the capital cost, permitting requirements, and environmental footprint typical of large-scale energy projects. Montem has been working with the Alberta Electric System Operator ("**AESO**") to establish access to the power grid for the TM-PHES with the project recently being accepted into the interconnection queue.

For more information see: <https://www.aeso.ca/grid/projects/connection-project-reporting/>

Montem is working directly with the AESO to determine the best way to connect to the Bulk Transmission System in Alberta. The transmission infrastructure in the Crowsnest Pass and surrounding area provides for several options, which are all being studied by AESO.

Montem will continue to engage the AESO, Alberta Environment and Parks ("**AEP**"), the Transmission Facility Operator, and the nearby communities throughout the structured interconnection process.

TM-PHES Environmental, Social, and Governance

The TM-PHES can generate significant positive community benefits, with the potential to create over 200 high paying construction and full-time operational jobs over an 80+ year project life.

The TM-PHES can displace up to 400,000 tonnes of CO₂ annually² and deliver enough clean, renewable, and dispatchable electricity to power approximately 400,000 homes simultaneously. The TM-PHES is also well-suited to support the creation of 24x7 Carbon-Free Energy products for customers, including large industrial loads, like data centres, which are beginning to migrate their Environmental, Social, and Governance goals from "Net Zero" to Carbon-Free Energy.

Montem continues to be an active participant in the community engaging on a weekly basis with the community in the Crowsnest Pass to keep stakeholders updated on project progress.

TM-PHES Permitting Pathway

Permitting for TM-PHES will primarily be at the provincial level. In general, permitting for power and energy infrastructure projects in Alberta is more streamlined than large mining projects. The Alberta Utilities Commission ("**AUC**"), in accordance with the Hydro and Electric Energy Act, Alberta Utilities Commission Act, and AUC Rule 7, is responsible for the authorization to construct and operate the TM-PHES. The AUC approval process includes geotechnical engineering, facility and infrastructure design, the investigation of potential impacts on wildlife and wildlife habitat, and stakeholder engagement.

Concurrent to the AUC process, a Water Act approval for the design and construction of the upper and lower reservoir (in accordance with Dam and Canal Safety regulations) is required. The Water Act approval process is administered by AEP and is conducted independently from the AUC process. The recommendation made by AEP in the Water Act approval will be included in the final AUC Rule 7 permit application.

² Assumes TM-PHES cycles once per day and is charged with renewable energy.



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A key component of the AUC process is the participant involvement program (“**PIP**”). Stakeholder engagement identified by AEP is incorporated into the PIP. PIP follows a well-established program for stakeholder consultation. A successful PIP requires effective communication and meaningful engagement with stakeholders, addressing all concerns related to the proposed development, inclusive of assessments and requirements within the AEP’s scope. All information gathered during the PIP is submitted to both the AUC and AEP as required by the various applications.



(AUC)

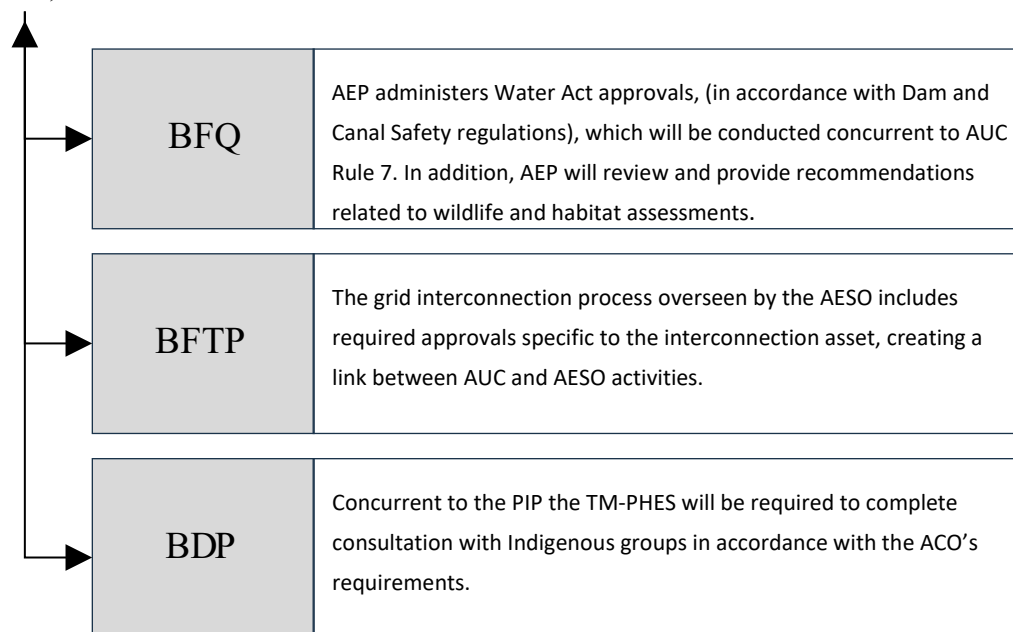


Figure 7: TM-PHES Permitting Pathway

The TM-PHES is leveraging a significant portion of the environmental monitoring and reporting completed as part of the Tent Mountain Mine Redevelopment Project. The ongoing environmental monitoring and studies target areas specific to the PHES project. To date no critical environmental risks or barriers have been identified in regard to development of the TM-PHES.



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Figure 8: TM-PHES Environmental Monitoring

TM-PHES Land Tenure

The main infrastructure for the TM-PHES is located on 838 acres of land over which Montem owns the freehold title (see Figure 9). Owning this land provides site control for the TM-PHES. This is a unique opportunity on the eastern slopes of the Rocky Mountains, most of which is covered by Provincial parks and other protected area land categories.

Of note, Montem also holds the coal rights (in both freehold and leasehold form) for all lands covering the historical Tent Mountain Mine. The Tent Mountain freehold surface land and coal rights are legacy holdings dating back to the early 1900's when the Canadian Pacific Railway rail line was constructed through the Crowsnest Pass.



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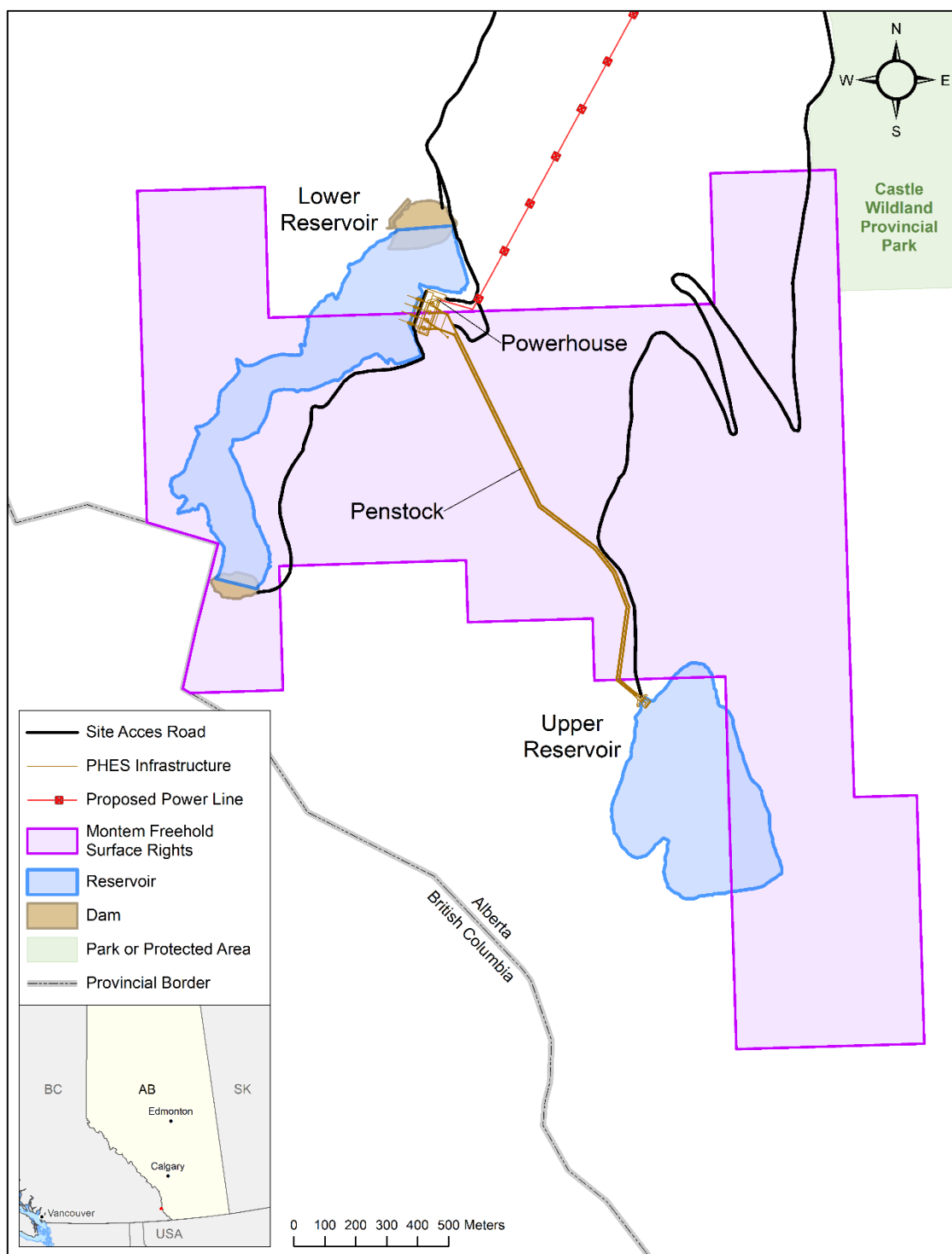


Figure 9: TM-PHES Freehold Surface Rights



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TM-PHES Key Project Risks

A number of risks and expected mitigations were identified during the PFS. These, along with other project risks identified by Montem, are discussed below.

Geotechnical and Ground Stability

Due to Tent Mountain being a historical mine site, there are areas which may be impacted from previous blasting. That said, Hatch's geotechnical investigations identified no fatal flaws in developing the TM-PHES.

Table 5: TM-PHES PFS Identified Risks

Risk Title	Description	Consequences	Controls
Headpond (Pit 4) Leakage	Pit 4 is the proposed PS headpond and needs to be watertight to avoid water loss over time.	Loss of water that affects the operation of the facility	Seal the reservoir through grouting or other means.
Natural Water Supply Volumes	Delay in filling the reservoir delays the operation of the project.	Project in-service date is delayed	Start ponding ASAP, including potential use of temporary containment structures (e.g., cofferdams) to start ponding dead storage in the lower reservoir.
Waste Dump Stability	The mine waste materials dumped around the upper reservoir. The instability of these materials can impact upper reservoir and Upper Intake Structure	No information about the dumped waste materials around the upper reservoir.	Geotechnical investigation and providing stabilization measures if required
Unstable ground along the penstocks	Based on the terrain geometry and ground materials, encountering unstable ground along the penstocks is a risk to penstock	Lack of geotechnical information along the penstocks and geohazard assessment.	Geotechnical investigation and appropriate design to mitigate the risk
Unpredicted ground condition	Unpredicted ground condition at the powerhouse area can impact the layout of the powerhouse and may require additional excavation and changes in design during construction.	Additional work if occurs during construction or stop of operation to fix the penstock if occurs during operation	Geotechnical investigation and proper design.
Instability in Lower reservoir abutment	The natural ground materials along the lower reservoir abutment will be unstable because of water level change.	Longer construction time due to ground condition change. Delay for more investigation and design of the powerhouse structure based on the actual ground conditions	Geotechnical investigation and hazard assessment.
Reuse of Rock materials	The base assumption is that the rock materials excavated from across the project site can be reused for the dam construction	Overtopping the lower reservoir dams (saddle Dams) and potential dam breach	Complete the geotechnical investigation & testing program



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Relations with Indigenous People

Collaborative relations with Indigenous People within whose traditional territories the Project is situated are key to project approval and can cause delays if not achieved on a timely basis. Proactive engagement, meaningful consultation and development of agreements are expected to build support from these Indigenous People.

Stakeholder Relations

Project delays can occur absent support from local communities and other stakeholders. This can be secured through proactive engagement and demonstration of economic and social benefits of the Project.

Interconnection to Alberta Electricity Grid

The Project is reliant on the ability to connect to the Alberta power grid. The process to connect is underway, with the AESO having registered the TM-PHES as a project. There remains a significant process to enable the connection, and this is a critical path timeline for the project. Delay in the interconnection will delay the project. Costs for the interconnection are being quoted by third parties and are subject to market forces.

Revenue

Montem has sought third party advice for the Alberta electricity market and used multiple potential electricity market development scenarios and the resulting revenue projections for economic modelling. No certainty is assumed for these projected prices from selling power.

Regulatory Approval Timing

Project delays can occur due to uncertainty in the timing of regulatory approvals. This can be mitigated by proactive steps to develop an effective permit submission.

Land Access

Access to public lands is required to develop the TM-PHES. Well-developed processes, including Alberta Government regulation, can be utilized to secure access and will be part of the next project phase and FEED.

Water Rights

The Project falls within a region of Southern Alberta that is a closed watershed where no new water allocations will be made. TM-PHES requires a Water Act approval to utilize the existing water in Pit 4. As the TM-PHES is not a consumptive water use project, it is expected this approval will be achieved. Montem is aware of water rights available for purchase and those will be pursued if required.

Key Personnel

The loss of key personnel and failure to recruit and retain qualified staff for key positions could negatively impact Project results and timing. Local expertise is available to help Montem design effective retention and recruitment policies.

Construction Costs

TM-PHES is a large infrastructure project requiring significant construction. Construction costs and timing are subject to market forces.

Project Funding



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Montem does not currently have the necessary funding to complete FEED and permitting, as well as the required development capital. This will be mitigated by attracting a financial partner to progress the development, and Montem will also pursue an offtake to underpin debt financing.

TM-PHES Financing, Strategic Partner, and Offtake Discussions

Montem has started the process to attract a strategic equity partner for TM-PHES and drive the project through FEED towards a final investment decision. Having completed the PFS and with the project displaying convincing economics, the TM-PHES has already attracted inbound enquiries from interested strategic investors.

In addition to government funding, Montem has advanced offtake discussions which may provide the foundation for TM-PHES project debt financing.

Tent Mountain Green Hydrogen Electrolyser Pre-Feasibility Study

GHD finalized its report detailing the business case analysis for the Green Hydrogen Electrolyser element of the TM-REX. This initial technical and economic assessment has been completed to assess the scale, costs, logistics and technical risks associated with constructing and operating a green hydrogen electrolyser facility in southern Alberta, with a focus on the suitability of the Tent Mountain site, coupled with an off-site wind farm.

This report contains significant intellectual property and will not be released.

GHD's work included preliminary engineering design work, including the assessment of land, water, and regulatory requirements for the project in southern Alberta. Further, GHD prepared the technical requirements for production, storage, and transportation of green hydrogen, and established the expected project delivery schedule. This culminated in Class IV cost estimates that have been used to determine project economics for the Green Hydrogen Electrolyser.

Subject to further evaluation, the Tent Mountain Green Hydrogen Electrolyser has the potential to meet growing global hydrogen demand. The project could be scalable, starting with a 10 MW pilot plant before expanding to a 100 MW facility.



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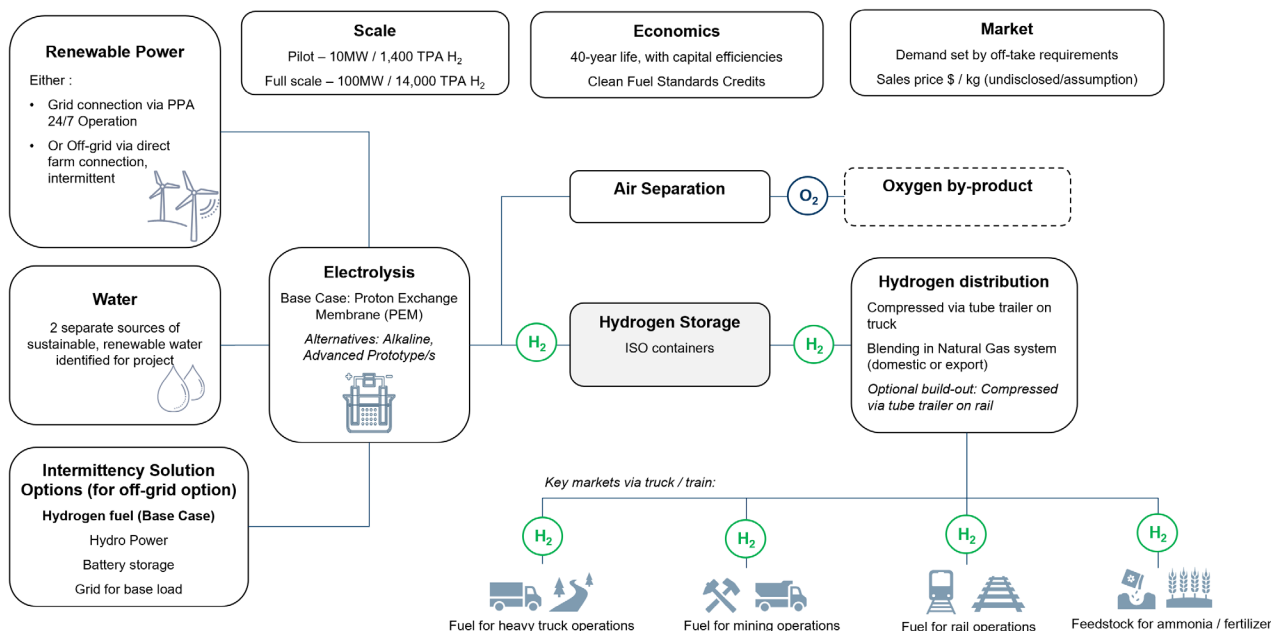


Figure 10: Green Hydrogen Production Considerations: On and Off Grid Options

Whilst the initial business case showed the viability for Green Hydrogen production in southern Alberta, a critical element is a renewable water source for conversion. The study established there is no viable sustainable water source in the immediate vicinity of Tent Mountain. Hence the Green Hydrogen Electrolyser would be better suited to be co-located with the wind farm, offsite from Tent Mountain, where viable renewable water sources are available.

A renewable ‘behind the meter’ energy source, such as a potential 100 MW offsite Wind Farm, would be fundamental to the Tent Mountain Green Hydrogen Electrolyser cost-competitiveness. No studies have commenced in relation to the feasibility of such a wind farm. A wind farm of that size would likely need to be evaluated and developed in conjunction with a suitable third party.

In conjunction with GHD, Montem continues to explore potential customers for the green hydrogen produced at TM-REX, aiming to leverage nearby key infrastructure and major transportation industries.

Grant Funding

In October 2021, Montem applied for C\$5 million in Federal funding from Canada’s Clean Fuels Program, which is administered by Natural Resources Canada (“**NRCan**”). The Company has been advised its application has now advanced to the next stage of the grant application review process which focuses on the technical and financial merits of the application. Grants are now expected to be announced in late summer 2022.

For more information on Canada’s Clean Fuels Program and the grant process, see the below link:

<https://www.nrcan.gc.ca/climate-change-adapting-impacts-and-reducing-emissions/canadas-green-future/clean-fuels-fund/clean-fuels-fund-building-new-domestic-production-capacity/23726>



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Montem is also investigating other Provincial and Federal level renewable energy grant options focused on decarbonization and energy storage, including with Alberta Innovates, Invest Alberta, and Emissions Reduction Alberta. To aid this effort, government relations efforts and ministerial level meetings are ongoing to seek up to C\$50 million in government grants to transition Tent Mountain from a coal mine to a renewable energy complex.

TM-REX Next Steps

Montem is pleased to deliver a resoundingly positive TM-REX PFS to shareholders. The strength of the achievement is a testament to the project investment case. In the tailwinds of an active period finalizing the PFS, Montem anticipates continued near-term news flow on grant funding, equity partners, offtake agreements, interconnection and permitting, as well as additional site based geotechnical and environmental monitoring activities.

Montem thanks shareholders for their continued support and looks forward to providing further updates in the near future.

Coal Assets

Throughout 2021, the government of Alberta appointed Coal Policy Committee (“**Committee**”) reviewed the Alberta 1976 Coal Development Policy. As a result, on 4 March 2022, the Committee’s reports and recommendations, and an accompanying Ministerial Order, were made public.

As a result of the Committee’s recommendations, the Alberta Government designated Montem’s Tent Mountain Mine as an advanced coal project. Alberta’s advanced coal projects are unaffected by the Ministerial Order’s additional coal exploration and development restrictions implemented as a result of the Committee’s recommendations. Montem continues to advance two parallel strategies for developing Tent Mountain:

1. restart of the existing coal mine
2. transition of the existing coal mine to a renewable energy complex

Now that the economic analysis of TM-REX is available, Montem will look to compare the investment potential of both Tent Mountain development pathways, noting the two projects are mutually exclusive. Montem continues to advance the existing coal mine restart through the Federal and Provincial permitting processes.

As part of the 4 March 2022 release, the Government of Alberta also indicated that, in the coming months, additional clarity regarding land use and coal activities will be made apparent by an update to Alberta’s Eastern Slopes policy, that will incorporate the Alberta 1976 Coal Development Policy land categories, and through the development of new regional, sub-regional or issue-specific plans. Pending that update, the moratorium on exploration and development activities that previously affected only Category 2 lands has been extended to include all land categories with the exception of advanced coal projects (e.g. the Tent Mountain Mine). For that reason, Montem must wait for the release of the Government’s updated policies and plans before conducting further exploration and development activities at its other Alberta coal projects, including the Chinook Project.



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Montem is in discussions with the ASX to seek its guidance on the future applicability of Listing Rule 11.1 as the company further explores its options in relation to TM-REX.

For further information on the Company, our assets and development plans, please visit our websites:

www.tentmountain-rex.com

www.montem-resources.com

Additionally, view the accompanying TM-REX presentation, that contains further technical details on TM-REX, which has been lodged with the ASX concurrently with this announcement.

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 and renewable energy development company that owns and leases coal tenements and freehold land in the Canadian provinces of Alberta and British Columbia. The Company's objective is to advance its steelmaking coal projects and renewable energy complex in the Crowsnest Pass, Alberta. The Company has planned an integrated mining complex in the Crowsnest Pass, focusing on the low-cost development of open-cut operations that leverage central infrastructure. This is centered around the Tent Mountain Mine Redevelopment Project, and the Chinook Vicary Project.

In 2020, Montem completed a Definitive Feasibility Study on the Tent Mountain Mine and since then has continued to advance through 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, Montem identified alternate development pathways for Tent Mountain, including transitioning the project to a renewable energy complex, employing an onsite pump hydro energy storage facility, an offsite wind power facility, and the onsite production of green hydrogen. The Company is progressing studies to support development of the TM-REX, including the pre-feasibility study set out in this announcement.



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