



## **Vortex Energy Partners with the University of Alberta on Collaborative Research on Hydrogen and Energy Storage at the Robinsons River Salt Project**

*The research team will conduct proof of concept experiments on core samples with the intent to design and implement the first field trial of hydrogen storage in domal salt in Canada*

**September 25<sup>th</sup>, 2023**

**Vancouver, British Columbia** — Vortex Energy Corp. (CSE: VRTX | OTC: VTECF | FRA: AA3) ("**Vortex**" or the "**Company**") is pleased to announce that it has entered into a collaborative research sponsorship agreement with the University of Alberta ("**U of A**") to advance the Robinsons River Salt Project in Newfoundland and Labrador, Canada. As part of the collaboration, Vortex has agreed to make cash payments and substantial in-kind contributions over a 2-year period and to provide the U of A with core samples from the Robinsons River Salt Project. In return, the U of A has agreed to perform laboratory and mathematical analyses with the intent of designing and implementing the first field trial of hydrogen storage in a domal salt in Canada at the Robinsons River Salt Project.

The potential market for hydrogen storage in salt caverns is substantial. This research and development aligns with the global shift towards decarbonization and the transition to a more sustainable energy system. The hydrogen market is expected to grow significantly in the coming decades, driven by sectors such as transportation, industry, and power generation, which seek cleaner energy alternatives to reduce greenhouse gas emissions.

Building on its current fundamental research into hydrogen-rock interactions, the U of A team will develop protocols and guidelines to optimize locations, design specifications, and operational parameters for hydrogen storage in the salt caverns proposed to be developed at the Robinsons River Salt Project. To achieve this goal, the research team will conduct proof of concept experiments on core samples and simulation studies to identify and unlock the challenges related to containment and contamination of stored hydrogen. The findings are expected to help to develop a multi-physics model to predict hydrogen transport and reactions in the caverns proposed to be developed at the Robinsons River Salt Project as functions of temperature, pressure, in-situ stress, rock fabric and composition, and storage operational parameters.

This two-year project is planned to consist of four research phases:

- 1) Optimizing the depth interval of the proposed storage caverns by pore-scale visualization and petrophysical analysis of the preserved core samples;
- 2) Evaluating the possibility and extent of hydrogen loss through the proposed cavern wall and wellbore under operation parameters by analyzing the laboratory and field data;
- 3) Evaluating the extent of hydrogen contamination by measuring and modeling geochemical reactions; and
- 4) Evaluating mechanical stability of the proposed caverns by analyzing in-situ stress conditions and rock mechanical properties under cavern operating conditions.

The project tasks will be conducted by at least three PhD students and one postdoc fellow under the supervision of Dr. Hassan Deghanpour and other faculty members with relevant expertise at the U of A, utilizing the state-of-the-art facilities at the U of A. Vortex's cash contribution to the project will total C\$300,000 over a 2-year period, commencing on October 1<sup>st</sup>, 2023. Vortex will also track and record all in-kind contributions including but not limited to geological, geophysical, engineering, drilling, sampling, and reporting work completed on the Robinsons River Salt Project.

Major laboratory infrastructure required for the proposed hydrogen-related experiments (core flooding systems, reactors, and visualization systems) have been recently designed and built under a recent grant awarded to the research team by Alberta Innovates Hydrogen Center of Excellence and the Natural Sciences and Engineering Research Council of Canada. As part of their partnership, Vortex and the U of A will actively seek out other provincial and federal grants designated for hydrogen and green energy initiatives throughout North America. The Company is also exploring the opportunity to use developed hydrogen caverns for compressed air energy storage.

Paul Sparkes, Chief Executive Officer, commented "The University of Alberta is world renowned for its work in energy. This partnership places Vortex at the forefront of hydrogen and energy storage research in domal salt structures in Atlantic Canada. Dr. Hassan Deghanpour and his team of researchers have already received grants from the likes of Alberta Innovates' Hydrogen Centre of Excellence, the Natural Sciences and Engineering Research Council of Canada and the Mitacs Accelerate Grants Program. We are thrilled to be partnering with an institution and team of this caliber."

#### **About the University of Alberta.**

The University of Alberta in Edmonton is one of the top teaching and research universities in Canada, with an international reputation for excellence across the humanities, sciences, creative arts, business, engineering and health sciences. The university and its people remain dedicated to the promise made in 1908 by founding president Henry Marhsall Tory that knowledge shall be used for "uplifting the whole people".

#### **About Vortex Energy Corp.**

Vortex Energy Corp. is an exploration stage company engaged principally in the acquisition, exploration, and development of mineral properties in North America. The company is currently advancing its Robinson River Salt Project comprised of a total of 942 claims covering 23,500 hectares located approximately 35 linear kms south of the town of Stephenville in the Province of Newfoundland & Labrador. The Robinson River Salt Project is prospective for both salt and hydrogen salt cavern storage. The company is actively evaluating technologies to efficiently store hydrogen or energy in salt caverns. Vortex Energy Corp. also holds the Fire Eye Project, which is located in the Wollaston Domain of northern Saskatchewan, Canada.

#### **On Behalf of the Board of Directors**

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## **Cautionary Note Regarding Forward-Looking Statements**

*Certain statements contained in this press release constitute forward-looking information. These statements relate to future events or future performance. The use of any of the words “could”, “intend”, “expect”, “believe”, “will”, “projected”, “estimated” and similar expressions and statements relating to matters that are not historical facts are intended to identify forward-looking information and are based on the Company’s current beliefs or assumptions as to the outcome and timing of such future events. In particular, this press release contains forward-looking information relating to, among other things, the Company’s development of salt caverns at the Robinsons River Salt Project; the Company’s exploration plans for the Robinsons River Salt Project; the intent of the Company and the U of A to design and implement the first field trial of hydrogen storage in domal salt in Canada; the aim of the research of the U of A, the planned phases of this research and the expected outcomes of this research, including the U of A’s plan to develop protocols and guidelines to optimize locations, design specifications, and operational parameters for hydrogen storage in the salt caverns proposed to be developed at the Robinsons River Salt Project, to identify and unlock the challenges related to containment and contamination of stored hydrogen and to develop a multi-physics model to predict hydrogen transport and reactions in the caverns proposed to be developed at the Robinsons River Salt Project as functions of temperature, pressure, in-situ stress, rock fabric and composition, and storage operational parameters; the Company’s intention to provide core samples to the U of A as part of the collaboration; the potential market for hydrogen and hydrogen storage in salt caves, including the potential growth drivers of these markets; the intent of the Company and the U of A to actively seek out provincial and federal grants designated for hydrogen and green energy initiatives throughout North America; and the utility of any developed hydrogen caverns at the Robinsons River Salt Property for compressed air energy storage*

*Various assumptions or factors are typically applied in drawing conclusions or making the forecasts or projections set out in forward-looking information, including, in respect of the forward-looking information included in this press release, assumptions regarding the Company’s ability to develop salt caverns at the Robinsons River Salt Project which may be used for hydrogen, compressed air or other energy storage, or at all; the Company’s ability to execute on its exploration plans for the Robinsons River Salt Project, including that it will receive all of the necessary permits to conduct such exploration activities, will be successful in carrying out such exploration activities and will accomplish the desired outcomes from such exploration activities, including that the Company will succeed in conducting a drill program at the Robinsons River Salt Project that produces core samples that may be used by the U of A as part of the collaboration; the Company’s partnership with the U of A, including that the collaboration will be carried out in accordance with the collaborative research sponsorship agreement and yield the anticipated benefits to the Company and the Robinsons River Salt Project, including that the Company and the U of A will be successful in designing and implementing the first field trial of hydrogen storage in domal salt in Canada; that the hydrogen and hydrogen storage markets will develop as anticipated; and that the Robinsons River Salt Project will be eligible for provincial and federal grant funding and that the Company and the U of A will be successful in applying for applicable grant funding.*

*Although forward-looking information is based on the reasonable assumptions of the Company’s management, there can be no assurance that any forward-looking information will prove to be accurate. Forward looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include, among other things, the risk that exploration at the Robinsons River Salt Project does not proceed in the manner currently contemplated, or at all; risks inherent in the exploration and development of mineral deposits, including risks*

*relating to receiving requisite permits and approvals, changes in project parameters or delays as plans continue to be redefined, that mineral exploration is inherently uncertain and that the results of mineral exploration may not be indicative of the actual geology or mineralization of a project; that mineral exploration may be unsuccessful or fail to achieve the results anticipated by the Company, including that the Company may fail to develop salt caverns at the Robinsons River Salt Project which are capable of storing hydrogen, compressed air or other energy storage, or at all; that the Company's collaboration with the U of A may not yield the anticipated benefits to the Company or the Robinsons River Salt Project, including that the Company's collaboration with the U of A may not be carried out pursuant to the collaborative research sponsorship, or at all, and may not result in the design and implementation of the first field trial of hydrogen storage in domal salt in Canada; risks related to the development of the hydrogen and hydrogen storage markets, including that these markets may not grow and develop as anticipated, as a result of industry specific trends and events, global economic trends and events or otherwise, and may experience downturns; and the risk that the collaboration may not result in additional grant funding being provided to the Company or in respect of the Robinsons River Salt Project. The forward-looking information contained in this release is made as of the date hereof, and the Company not obligated to update or revise any forward-looking information, whether as a result of new information, future events or otherwise, except as required by applicable securities laws. Because of the risks, uncertainties and assumptions contained herein, investors should not place undue reliance on forward-looking information. The foregoing statements expressly qualify any forward-looking information contained herein.*

*The Canadian Securities Exchange (CSE) has not reviewed, approved, or disapproved the contents of this press release.*