Entropy Inc. Announces Exclusive Financing Agreement with Leading Energy Transition Investor and Provides Corporate Update

CALGARY, AB, Dec. 30, 2021 /CNW/ - Entropy Inc. ("Entropy" or the "Corporation", a subsidiary of Advantage Energy Ltd. or "Advantage") (TSX: AAV) is pleased to announce it has entered a non-binding strategic financing agreement with a leading energy transition investor, and to provide a year-end corporate development update.

Highlights of the Strategic Financing Agreement

Entropy and a leading energy transition investor have agreed to the terms of an exclusive, non-binding financing agreement expected to provide sufficient capital for the execution of Entropy's near-term growth plan, including a structured initial commitment of $300 million. The financing is expected to close during first quarter 2022, subject to customary closing conditions including confirmatory due diligence and completion of definitive transaction agreements, and implies an Entropy value of approximately $300 million pre-financing. We look forward to working with our new investment partner to accelerate our mission of reducing atmospheric carbon dioxide using Entropy's low-cost, low energy-intensity carbon capture and storage ("CCS") technology. Further details of the transaction will be announced upon execution of definitive agreements.

Year-End Corporate Update

Entropy has evolved rapidly since our introduction to the markets inMarch 2021, and we are pleased to provide an update on several notable elements of the business.

With international carbon markets evolving rapidly, commercial CCS projects are now feasible in many jurisdictions around the world. However, in most cases it is necessary to apply the most sophisticated CCS technology to carefully selected point-source emissions to achieve commercial returns. Entropy has acquired and developed numerous innovations that have driven CCS costs down to the point where post-combustion projects (including capture, transport and storage) are economically viable at carbon pricing of CAN$50/tonne.

Significant Pipeline of Projects with Years of Development

Entropy is currently working with third-party emitters under eight Memoranda of Understanding ("MOU") and thirty-four non-disclosure agreements ("NDA"). From these established and developing relationships, Entropy has now high-graded nine scoped projects leveraging Entropy's modular technology. Entropy's pipeline of projects under MOU now exceeds 1.8 million tonnes per annum ("Mtpa") and just over $800 million of estimated net capital expenditures. Pre-FEED (front-end engineering design), engineering, and subsurface evaluations are underway for each project, and final investment decisions for several are pending, subject to financing, commercial agreements, and regulatory approval.

Entropy's breakeven carbon pricing remains approximately CAN$40/tonne (USD$32/tonne) for capture only, or CAN$50/tonne (USD$40/tonne) for capture, transport and storage. Typical all-in capital efficiency for mid-sized projects (including capture, transport and storage) are approximately $400/tonne per annum ("tpa"), with several near-term projects expected to fall below that metric. However, certain projects that are first-of-their-kind or involve more challenging exhaust conditions may exceed $400/tpa pending further research and development. Typical operating costs are expected to be$15/tonne, with certain projects approaching $20/tonne depending on the energy efficiency of the emitting facility.

Entropy's current business plan anticipates approximately$250 million of net capital expenditures per year, with several years of project inventory under MOU. In addition to MOU projects, Entropy continues to be engaged with numerous other third-party emitters in multiple industrial applications including boilers, compressors, cement production, reformers, chemical plants and power generation, in multiple jurisdictions. These evolving projects exceed 3 Mtpa in aggregate, in addition to the projects under MOU.

Update on Entropy's Glacier Project

Entropy's Glacier Phase 1 modular CCS project is progressing on-time despite global supply chain disruptions, with operations scheduled to begin in early second quarter 2022. Projected total installed cost remains close to original estimate of $27 million with minimal impacts from the current inflationary economic environment. All major equipment has been purchased, major contracts for installation have been awarded, and modules have been fabricated in Alberta facilities. Upon commissioning of the CCS equipment, Entropy will initially run MEA (monoethanolamine, the industry standard solvent) for up to three months to establish the baseline energy intensity of Entropy's patent-pending process. Subsequently, Entropy will run our patent-pending Entropy23^{TM} solvent to establish a full-scale dataset of solvent-specific performance versus MEA in a commercial application.

Entropy Technology Licensing

Entropy is pleased to introduce a licensing model to those companies that are interested in deploying Entropy technology under

their own funding and ownership. As a part of this service, Entropy will provide project scoping, regulatory management, process design, procurement, construction management, commercial and geological disposal support, and non-exclusive use of Entropy's patent-pending CCS process and Entropy23^{TM} solvent in exchange for a commercial licensing fee.

Entropy Introduces Integrated Carbon Capture with First Deployment at Glacier

Entropy has developed an integrated CCS design ("iCCS^{TM}"), whereby original equipment manufacturers of industrial process equipment will integrate Entropy technology into new equipment at the factory. Entropy believes that iCCS^{TM} should eventually be available on all industrial equipment including power generation, compressor engines, boilers, cement kilns, steel smelters and hydrogen reformers.

As previously announced, Entropy has collaborated with North American equipment fabricator Compass Energy Systems Ltd. on the first iCCS^{TM} design for a compressor engine. Prototype designs are approaching final and total costs are estimated to be 25% less than a comparable retrofit project. The first iCCS^{TM} installation is expected to be at the Glacier Gas Plant in approximately 12 months ("Glacier Phase 1b") and is designed to capture approximately 16,000 tpa.

Ongoing Research and Development at CETRI

At the University of Regina's Clean Energy Technologies Research Institute ("CETRI"), the second protocol of Entropy's research and development is underway. During this phase, Entropy's patent-pending technology will run over 6 months to demonstrate the degradation-resistant properties of Entropy23^{TM} over extended periods; extended Entropy23^{TM} degradation characteristics are expected to be determined late in first quarter 2022.

Executive Team Appointment

Entropy is pleased to announce the appointment of Mr.James Martin to Vice President, Engineering. Mr. Martin has been with Advantage since 2019 as Director, Operations and has been critical in the early stages of Entropy's business, including the Glacier Phase 1 project, as well as technology and patent development. Mr. Martin has over 30 years of experience in all aspects of gas processing operations and has served in several engineering and management roles for various companies. For more information on the growing team, please see www.entropyinc.com/who-we-are/.

Looking Forward

As Entropy and our financing partners work towards closing the strategic financing agreement, Entropy intends that the net proceeds would be used to fund near- to medium-term growth plans including construction of the Glacier Phase 1b iCCS^{TM} project, Glacier Phase 2 project and advancement of several CCS projects currently nearing final investment decisions.

Entropy is excited about the future our business has in 2022 and beyond with the tremendous engagement of third-party emitters and global growth in support for commercial carbon capture and storage.

For additional details regarding Entropy, an updated corporate presentation is available at www.entropyinc.com/investors/.

About Entropy Inc:
Entropy is a privately-owned company, founded by Advantage to apply sophisticated science and engineering to commercialize CCS. Entropy's technology is expected to deliver commercial profitability at a carbon price of CAN$50/tonne, using proprietary modular carbon capture and storage technology. Entropy intends to deploy this technology in the global effort to reduce and eventually eliminate carbon emissions.

About Advantage Energy Ltd:

Advantage is a low-carbon energy producer focused on developing its high-qualityMontney resources. Advantage's owned infrastructure, top-tier cost structure and capital efficiency provide a strong foundation for sustainable, disciplined production growth. With modern, low emissions-intensity assets and the Glacier carbon capture and sequestration asset, Advantage continues to proudly deliver clean, reliable and sustainable energy, contributing to a reduction in global emissions by displacing high-carbon fuels. Advantage's common shares trade on the Toronto Stock Exchange under the symbol AAV with its head office in Calgary, Alberta, Canada.

About Clean Energy Technologies Research Institute (CETRI):
CETRI centralizes all low-carbon and carbon-free clean energy research activities at theUniversity of Regina. Areas of research focus include decarbonization and zero-emission hydrogen technologies, carbon capture and utilization, and waste-to-renewable fuels and chemicals. Bringing together one of the most dynamic teams of researchers, industry leaders, innovators, and educators in the energy field, CETRI's mission aligns with the Environment & Climate Action areas of focus in the University of Regina's Strategic Plan.

Advisory

The information in this press release contains certain forward-looking statements, including within the meaning of applicable securities laws. These statements relate to future events or our future intentions or performance. All statements other than statements of historical fact may be forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "anticipate", "continue", "demonstrate", "expect", "may", "can", "will", "believe", "would" and similar expressions and include statements relating to, among other things, that the non-binding financing agreement will lead to a completed financing and the anticipated timing and benefits to be derived therefrom; the anticipated use of the proceeds derived from the strategic financing; the benefits to be derived from the MOUs and NDAs and the expectation that they will result in completed CCS projects; that Entropy's CCS technology will make post-combustion projects economically viable at carbon pricing of CAN$50/tonne; Entropy's anticipated break-even carbon pricing; the anticipated all-in capital efficiency for Entropy's projects including anticipated operating costs; Entropy's estimated net capital expenditures per year; the anticipated benefits available to third party industrial emitters that partner with Entropy; that Advantage will achieve "net zero" emissions by 2025; that Entropy's Glacier Phase 1 modular CCS project's operations will begin in early second quarter 2022; Entropy's expectations that iCCS™ technology will be available on all industrial equipment; the anticipated timing, costs and benefits to be derived from Entropy's first iCCS™ design for a compressor engine; that Entropy's patent-pending technology will demonstrate the degradation-resistant properties of Entropy23™ over extended periods and the anticipated timing thereof; the anticipated benefits to be derived from Entropy's CCS technology and that its projects will capture carbon dioxide tpa as disclosed; the expectation that there is a significant pipeline of additional potential projects available to Entropy; Entropy's focus, strategies and plans for its technology; and Advantage's strategy and focus. Advantage's and Entropy's actual decisions, activities, results, performance or achievement could differ materially from those expressed in, or implied by, such forward-looking statements and accordingly, no assurances can be given that any of the events anticipated by the forward-looking statements will transpire or occur or, if any of them do, what benefits that Advantage or Entropy will derive from them.

With respect to forward-looking statements contained in this press release, Advantage and Entropy have made assumptions regarding, but not limited to: that the non-binding financing agreement will lead to a completed financing; that Entropy's existing MOUs, and NDAs will lead to completed CCS projects; that iCCS™ technology will be available on all industrial equipment; that Entropy's pipelines of projects will exceed 1.8 Mtpa and $800 million of estimated net capital expenditures; conditions in general economic and financial markets; effects of regulation by governmental agencies; current and future commodity prices and royalty regimes; future exchange rates; royalty rates; future operating costs; availability of skilled labor; timing and amount of net capital expenditures; the impact of increasing competition; that Advantage and Entropy will have sufficient cash flow, working capital, debt or equity sources or other financial resources required to fund its capital and operating expenditures and requirements as needed; that Entropy's conduct and results of operations will be consistent with expectations; that Entropy will have the ability to develop its technology in the manner currently contemplated; current or, where applicable, proposed assumed industry conditions, laws and regulations will continue in effect or as anticipated; and the anticipated benefits and results from Entropy's technology are accurate in all material respects. Readers are cautioned that the foregoing lists of factors are not exhaustive.

These statements involve substantial known and unknown risks and uncertainties, certain of which are beyond Advantage's and Entropy's control, including, but not limited to: that Entropy's existing MOUs and NDAs will not result in completed CCS projects; that Entropy's CCS technology will not make post-combustion projects economically viable at carbon pricing of CAN$50/tonne; that Entropy's break-even carbon pricing will be higher than anticipated; that Advantage will not achieve "net zero" emissions by 2025; that Entropy's Glacier Phase 1 modular CCS project's operations will not begin when anticipated; Entropy's iCCS™ technology will not be available on all industrial equipment; the anticipated timing, costs and benefits to be derived from Entropy's first iCCS™ design for a compressor engine will be inaccurate; that Entropy's patent-pending technology will not demonstrate the degradation-resistant properties of Entropy23™ over extended periods; there will not be a significant pipeline of projects available to Entropy; changes in general economic, market and business conditions; industry conditions; actions by governmental or regulatory authorities including increasing taxes and changes in investment or other regulations; changes in tax laws and incentive programs; changes in carbon tax and credit regimes; competition from other producers; the lack of availability of qualified personnel or management; intellectual property and patent risks; credit risk; changes in laws and regulations including the adoption of new environmental laws and regulations and changes in how they are interpreted and enforced; ability to comply with current and future environmental or other laws; stock market volatility and market valuations; failure to achieve the anticipated benefits and results of Entropy's technology; failure to achieve the anticipated benefits of Entropy's relationships with third parties; ability to obtain required approvals of regulatory authorities; and ability to access

sufficient capital from internal and external sources.

Management has included the above summary of assumptions and risks related to forward-looking information above in order to provide shareholders with a more complete perspective on Entropy's future operations and such information may not be appropriate for other purposes. Entropy's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Advantage and Entropy will derive there from. Readers are cautioned that the foregoing lists of factors are not exhaustive. These forward-looking statements are made as of the date of this news release and neither Advantage or Entropy disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise, other than as required by applicable securities laws.

Non-GAAP Financial Measures
The Corporation discloses certain financial and performance measures in this press release that do not have any standardized meaning prescribed under GAAP. These financial and performance measures include "net capital expenditures" which should not be considered as an alternative to, or more meaningful than "cash used in investing activities" presented within the financial statements as determined in accordance with GAAP. Net capital expenditures include total capital expenditures related to property, plant and equipment and intangible assets. Management considers this measure reflective of actual capital activity for a period as it excludes changes in working capital related to other periods. The Corporation's method of calculating this measure may differ from other companies, and accordingly, it may not be comparable to similar measures used by other companies.

SOURCE Advantage Energy Ltd.

For further information: Mr. Michael Belenkie, President & CEO, Entropy Inc., 1-866-393-0393, info@entropyinc.com, www.entropyinc.com, 2200, 440 - 2nd Avenue SW, Calgary, Alberta T2P 5E9, Phone: (403) 718-8000, Fax: (403) 718-8332, Toll free: 1-866-393-0393

https://advantageog.mediaroom.com/2021-12-30-Entropy-Inc-Announces-Exclusive-Financing-Agreement-with-Leading-Energy-Transition-Investor-and-Provides-Corporate-Update