



NXT ENERGY SOLUTIONS ANNOUNCES RIGHTS OFFERING

CALGARY, AB, October 31, 2022 – NXT Energy Solutions Inc. ("NXT" or the "Company") (TSX: SFD; OTCQB: NSFDF) advises that it will be offering rights (the "Offering") to holders of its common shares of record at the close of business on November 7, 2022 (the "Record Date"), expiring November 30, 2022 ("Expiry Date"). The Offering will be made in all of the provinces of Canada, in each state of the United States, except Arizona, Arkansas, California, Minnesota, Ohio, Utah and Wisconsin, and in all jurisdictions outside Canada and the United States where the Company is eligible to make such Offering. In certain states, including California, transferable Rights (defined below) may only be exercised by shareholders to which solicitations may be addressed without registration under the relevant state securities laws. Certain executive officers and directors of NXT intend to participate in the Offering.

Shareholders of record on November 7, 2022 will receive one right (a "Right") for each common share held. 2.95 Rights will entitle the holder to purchase one common share of the Company ("Common Shares") at a price of \$0.18 per Common Share. Exercise of the Rights and purchase of the Common Shares must be completed by 4:30 p.m. (Calgary time) on the Expiry Date.

Shareholders who fully exercise their Rights are entitled to subscribe pro rata for additional Common Shares, if available, that were not subscribed for initially on or before the Expiry Date. A fully subscribed Offering will raise gross proceeds of approximately \$4.0 million.

The proceeds from the Rights Offering will be used support the general and administrative costs which include business development and marketing activities required to transform the existing pipeline of opportunities into firm contracts.

There is no minimum commitment required and no standby purchase agreement.

The Common Shares of the Company are expected to commence trading on the TSX on an ex-Rights basis at the opening of business on November 4, 2022, meaning that Common Shares purchased on, or following that date will not be entitled to receive the Rights under this Offering. At that time, the Rights are expected to be posted for trading on the TSX on a "when issued" basis and will thereafter trade under the symbol "SFD.RT". Trading of the Rights is expected to continue until 12:00 (noon) ET (Toronto time) on the Expiry Date. A Rights Offering Notice together with DRS Rights instructions will be mailed to eligible shareholders on or about November 9, 2022. Eligible registered shareholders wishing to exercise their Rights must forward the completed Rights instructions, along with the applicable funds to Computershare Investor Services Inc. by the Expiry Date.

Eligible shareholders who own their shares through an intermediary, such as a bank, trust company, securities dealer or broker, will receive materials and instructions from their intermediary.

A copy of the Rights Offering Circular dated October 31, 2022 can be obtained from NXT's profile on the SEDAR website at www.sedar.com, the Company's website at www.nxtenergy.com, from your dealer representative, or by contacting the Chief Financial Officer at 403-206-0805 or by email at nxt_info@nxtenergy.com.

The Company is also registering the offer and sale of the shares issuable on exercise of the rights on a Form F-7 registration statement under the U.S. Securities Act of 1933, as amended. Shareholders in the United States should also review the Company's Registration Statement on Form F-7 which will be filed with the United States Securities and Exchange Commission and when filed, can be found at www.sec.gov.

This news release shall not constitute an offer to sell or solicitation of an offer to buy the securities of the Company. There shall be no offer or sale of these securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification of such securities under the laws of any such jurisdiction.

About NXT Energy Solutions Inc.

NXT Energy Solutions Inc. is a Calgary-based technology company whose proprietary SFD[®] survey system utilizes quantum-scale sensors to detect gravity field perturbations in an airborne survey method which can be used both onshore and offshore to remotely identify traps and reservoirs with hydrocarbon and geothermal exploration potential. The SFD[®] survey system enables our clients to focus their exploration decisions concerning land commitments, data acquisition expenditures and prospect prioritization on areas with the greatest potential. SFD[®] is environmentally friendly and unaffected by ground security issues or difficult terrain and is the registered trademark of NXT Energy Solutions Inc. NXT Energy Solutions Inc. provides its clients with an effective and reliable method to reduce time, costs, and risks related to exploration.

Contact Information

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Forward-Looking Statements

Certain information provided in this press release may constitute forward-looking information within the meaning of applicable securities laws. Forward-looking information typically contains statements with words such as "anticipate", "believe", "estimate", "will", "expect", "plan", "schedule", "intend", "propose" or similar words suggesting future outcomes or an outlook. Forward-looking information in this press release includes, but is not limited to, information regarding: the details or and funds to be raised under the Rights Offering, additional sources of required funding for the Company, the use of the funds raised under the Rights Offering, the intention of insiders to exercise their Rights, including the participation of our Chief Executive Officer, and the anticipated trading market which may or may not develop. Although the Company believes that the expectations and assumptions on which the forward-looking statements are based are reasonable, undue reliance should not be placed on the forward-looking statements because the Company can give no assurance that they will prove to be correct. Since forward-looking statements address future events and conditions, by their very nature they involve inherent risks and uncertainties. Actual results could differ materially from those currently anticipated due to a number of factors and risks. Risk factors facing the Company and the Rights Offering are described in the Rights Offering Circular to be filed

on www.sedar.com and as part of the Form F-7 registration statement to be filed with the U.S. Securities and Exchange Commission at www.sec.gov. Additional risk factors facing the Company are described in its most recent Annual Information Form for the year ended December 31, 2021 and MD&A for the three and six month periods ended June 30, 2022, which have been filed electronically by means of the System for Electronic Document Analysis and Retrieval ("SEDAR") located at www.sedar.com. The forward-looking statements contained in this press release are made as of the date hereof, and except as may be required by applicable securities laws, the Company assumes no obligation to update publicly or revise any forward-looking statements made herein or otherwise, whether as a result of new information, future events or otherwise.