

NXT ENERGY SOLUTIONS PROVIDES OPERATIONAL UPDATE

CALGARY, AB, September 16, 2021 – NXT Energy Solutions Inc. ("NXT" or the "Company") (TSX: SFD; OTC QB: NSFDF) today announced an update on the Company's recent research and development programs.

NXT is pleased to report that progress continues with respect to the development of the "SFD-GT" geothermal sensor family for which NXT is receiving advisory services and funding from the National Research Council of Canada's Industrial Research Assistance Program. To facilitate SFD-GT sensor development, NXT tested existing SFD® sensors under different operating parameters associated with subsurface conditions favourable for geothermal resources. The test results have demonstrated that the development of a dedicated SFD® Geothermal sensor family can be accelerated. This will allow NXT to undertake commercial ventures in the geothermal field in the near and midterm.

NXT is also pleased to provide an update on processing algorithms that will assist in the attribute mapping, interpretation and integration of SFD® data. A number of new approaches, algorithms, and models have been successfully trialed that provide a more definitive approach to corroborating SFD® results by direct spatial comparison with subsurface properties that are pertinent to both hydrocarbon and geothermal applications. Whilst these methods require final formalization and further field testing, NXT expects that the eventual implementation of these enhancements will help drive the integration of SFD® data and results into the overall upstream exploration cycle.

NXT also announces its patent application in India has now been officially granted by the Office of the Controller General of Patents, Designs and Trade Marks bringing the total number of countries granting NXT's patents to 45 which is indicative of the successful technical scrutiny of the underlying concepts and principles of the SFD® geophysical method.

George Liszicasz, President and CEO of NXT, commented, "On the business development side, hydrocarbon survey opportunities continue to progress well in our core areas of focus in Africa, Mexico, Asia, and in South America. In addition, we are in discussions with multiple geothermal companies about providing SFD® services to them. For these reasons, we are optimistic about the remainder of 2021, and will remain focused on contract execution in order to deliver value to our shareholders."

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 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

For investor and media inquiries please contact:

Eugene Woychyshyn
Vice President of Finance & CFO
302, 3320 – 17th AVE SW
Calgary, AB, T3E 0B4
+1 403 206 0805
nxt_info@nxtenergy.com
www.nxtenergy.com

George Liszicasz
President & CEO
302, 3320 – 17th AVE SW
Calgary, AB, T3E 0B4
+1 403 206 0800
nxt_info@nxtenergy.com
www.nxtenergy.com

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: completing additional phases of the SFD-GT project, completing additional phases of the algorithms and mapping methods, that the processing algorithms will help drive the integration of SFD® data and results into the overall upstream exploration cycle, business negotiations, opportunities, discussions, including the timing thereof and business strategies. 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, including those related to the novel coronavirus (2019-nCoV/COVID-19), and the potentially negative effects thereof on the Company's workforce, its supply chain or demand for its products. Additional risk factors facing the Company are described in its most recent Annual Information Form for the year ended December 31, 2020 and MD&A for the three and six month periods ended June 30, 2021, 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 forwardlooking statements made herein or otherwise, whether as a result of new information, future events or otherwise.