



Investor Presentation April 2025

FASTER
DISCOVERIES

LOWER
COSTS

REDUCED
ENVIRONMENTAL
IMPACT

Disclaimer and Forward-Looking Statements

GENERAL ADVISORY

This presentation has been prepared by management of NXT Energy Solutions Inc. ("NXT" or the "Company") based on publicly available information, internally developed data, and other sources. The information does not claim to be all-inclusive and should not be solely relied upon. Investors should review public filings and consider professional advice before making investment decisions. This presentation contains forward-looking statements regarding future plans, growth opportunities, securing of contracts, financial position, and market conditions. These statements are based on assumptions, expectations, and known risks, including NXT's ability to secure capital, market competition, changes in laws, volatility in oil prices, and other operational risks. NXT assumes no obligation to update forward-looking statements as of the date of this presentation, and these statements are subject to change based on new information, future events, or other factors.

CAUTION REGARDING FORWARD-LOOKING STATEMENTS

This presentation contains certain "forward-looking statements" within the meaning of applicable Canadian securities legislation. The Company includes forward-looking statements to assist readers in understanding the Company's future plans and expectations and the use of such information for other purposes may not be appropriate. All statements and disclosures, other than those of historical fact, which address activities, events, outcomes, results or developments that NXT anticipates or expects may or will occur in the future (in whole or in part) should be considered forward-looking statements. In some cases, forward-looking statements can be identified by terms including, but not limited to, "future", "may", "will", "could", "might", "expect", "anticipate", "believe", "potential", "enable", "plan", "predict", "continue", "contemplate", "intend" or other comparable terminology. In particular, this presentation contains, among other things, forward-looking statements pertaining to: the timing and extent of potential growth opportunities in new international and geothermal markets, the intentions and spending estimates of explorations companies, including the potential securing of SFD® contracts, new business ventures, and the satisfaction by third-parties of certain necessary conditions related thereto, including obtaining government and regulatory approvals; the ability to successfully complete the SFD® data acquisition in accordance with the terms of the contract; completion of SFD® recommendations within the contract parameters; ensuring payments of all contract revenue in accordance with the terms of the contract; estimates related to our future financial position and liquidity; general business strategies and objectives; the cost deficiencies associated with the deployment of NXT's SFD® technology in identifying, evaluating and exploiting oil and gas reserves. These forward-looking statements are based on a number of assumptions which may prove to be incorrect. Assumptions have been made with respect to the following matters, in addition to any other assumptions identified in this presentation: our ability to source personnel and equipment in a timely manner and at an acceptable cost; our ability to obtain all permits and approvals required; general business, economic and market conditions (including global commodity prices); the ability to obtain insurance to mitigate the risk of default on client billings; the success rate of SFD® recommendations continuing at 71% (on average); foreign currency exchange and interest rates; the Company's ability to successfully execute its business plans and intentions; the products and technology offered by the Company's competitors; and market competition.

Although we believe that the assumptions underlying these forward-looking statements are reasonable, they may prove to be incorrect, and we cannot assure that actual results will be consistent with these forward-looking statements. These forward-looking statements are based on current expectations and are subject to a wide range of known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Known risks include, but are not limited to: our ability to generate sufficient ongoing cash flow from operations or to raise adequate capital to allow us to grow the business and continue operations; conducting operations in international markets; the emergence of alternative competitive technologies; protection of our intellectual property and rights to our SFD® technology; reliance on a limited number of aircraft; the loss of key personnel; our dependence on a limited number of clients; foreign currency and interest rate fluctuations may affect our financial position; changes in, or in the interpretation of, laws, regulations or policies; volatility in oil and natural gas commodity prices may reduce demand for our services; specialized equipment; geological conditions; flight operation; changes in market competition; general economic conditions; that the Company will be able to access capital, including debt, on acceptable terms; and applicable political and economic conditions. Although the Company has attempted to identify important factors and risks that could cause actual actions, events or results to differ materially from those described in the forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. For more information relating to risks, see the section titled "Risk Factors" in NXT's current Annual Information Form for the year ended December 31, 2024 and Management and Discussion Analysis for year ended December 31, 2024.

These forward-looking statements are made as of the date of this presentation and are expressly qualified in their entirety by this cautionary statement. Subject to applicable securities laws, the Company does not assume any obligation to update or revise the forward-looking statements contained herein to reflect events or circumstances occurring after the date of this presentation.

CURRENT ENERGY INDUSTRY CHALLENGES

The World's Energy Demand Is Rising Amid Increasingly Challenging Exploration Conditions



RISING COSTS

Exploration costs per barrel of oil equivalent doubled in 2023 and continue to rise.



DECLINING SUCCESS

Despite higher exploration spending, discovered volumes fell to a record low of 5 billion barrels of oil equivalent.



ENVIRONMENTAL CONCERNS

On-the-ground exploration activities often result in substantial environmental impacts.



“DESPITE RISING INVESTMENTS,
DISCOVERED VOLUMES
ARE FALLING TO NEW
LOWS...

ESTIMATES SHOW THAT IN THE
FIRST HALF OF 2023,
EXPLORERS FOUND **42%**
LOWER [TOTAL BARREL OF OIL
EQUIVALENT] THAN THE FIRST
HALF OF 2022.”

RYSTAD ENERGY | AUGUST 2023

OUR SOLUTION: **STRESS FIELD DETECTION (SFD®)**

LOWERING COSTS AND DISCOVERY TIME

- Proprietary, airborne geophysical survey technology developed by NXT.
- Uses gravity-based sensors to identify stress anomalies of high exploration potential.
- Patented in 47 countries.
- Increases exploration success while substantially reducing costs and environmental impacts

“Our airborne technology is transforming energy exploration, **completing in months what could take seismic years** — at up to **90% less cost** and with **minimal environmental impact.**”



UP TO 90% SURVEY COST REDUCTION DONE IN MONTHS, NOT YEARS

Comparison of 10,000 sq km Exploration Block Expenditure vs Seismic

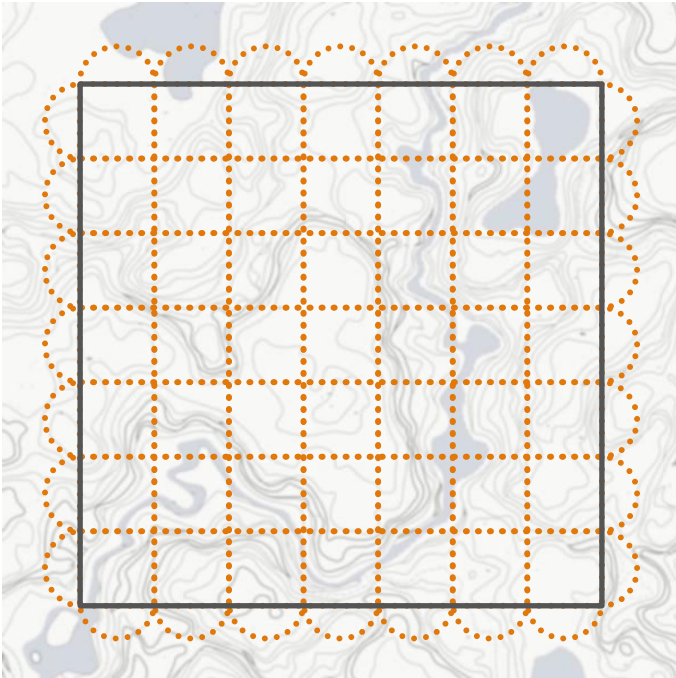
\$5,000,000 SFD SURVEY

VS

\$5,000,000 SEISMIC SURVEY

DATA
**2,200-line
Kilometers**

TIME TO COMPLETE
2 Months



DATA
**250-line
Kilometers**

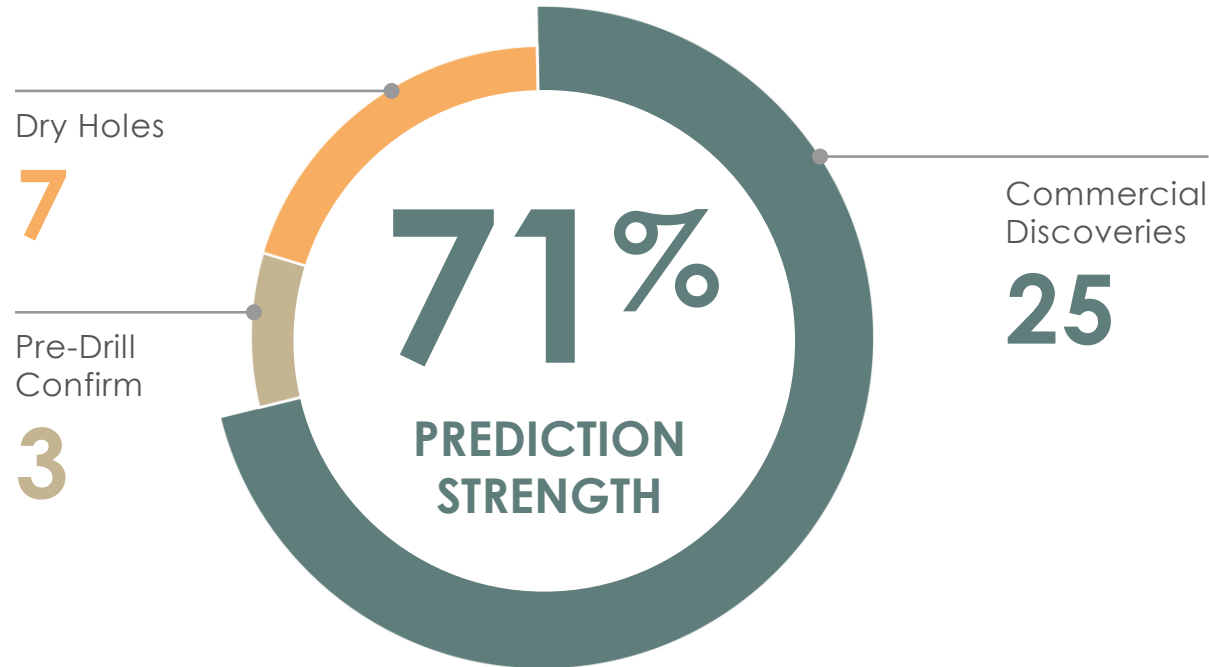
TIME TO COMPLETE
2.5+ Years



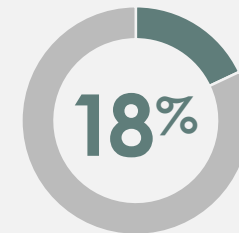
Source: www.netl.doe.gov
(Rough Terrain - High Resolution 2D Seismic Cost)

MAXIMIZING EXPLORATION SUCCESS

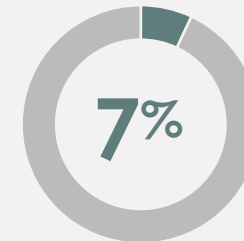
From 2009 to 2024, **35 wildcat SFD® Recommendations** have been drilled internationally resulting in **25 new commercial discoveries** and only 7 dry holes



This compares to nominal industry exploration standards of:



**INDUSTRY SUCCESS
RATE HIGH RISK ONSHORE**

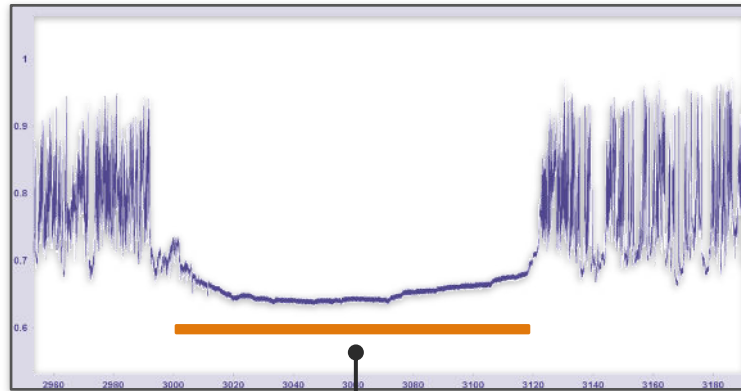


**INDUSTRY SUCCESS RATE
DEEPWATER OFFSHORE**

*Source: Frontier Exploration Data from
EIA, Westwood Global Energy Group*

SAMPLE SFD® SIGNAL RESPONSES

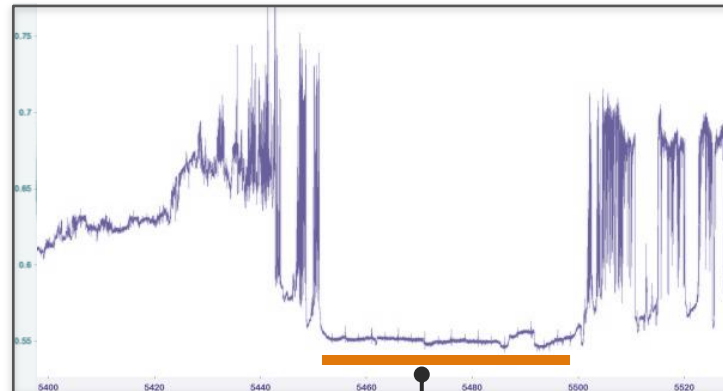
Rubiales Field, Colombia



SFD® Anomaly

RESERVES
4,500 MMBBL

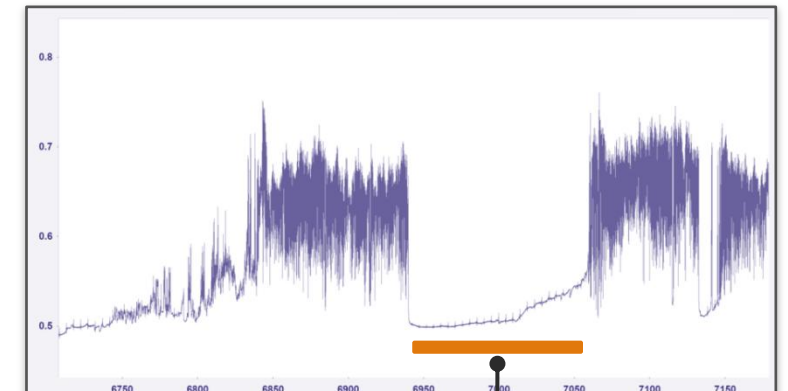
Gilby Field, Canada



SFD® Anomaly

RESERVES
325 MMBBL
1,830 BCF

Ladyfern Field, Canada



SFD® Anomaly

RESERVES
1,860 BCF

SFD®: The only tool that identifies trapped fluid at Stage 1 of exploration

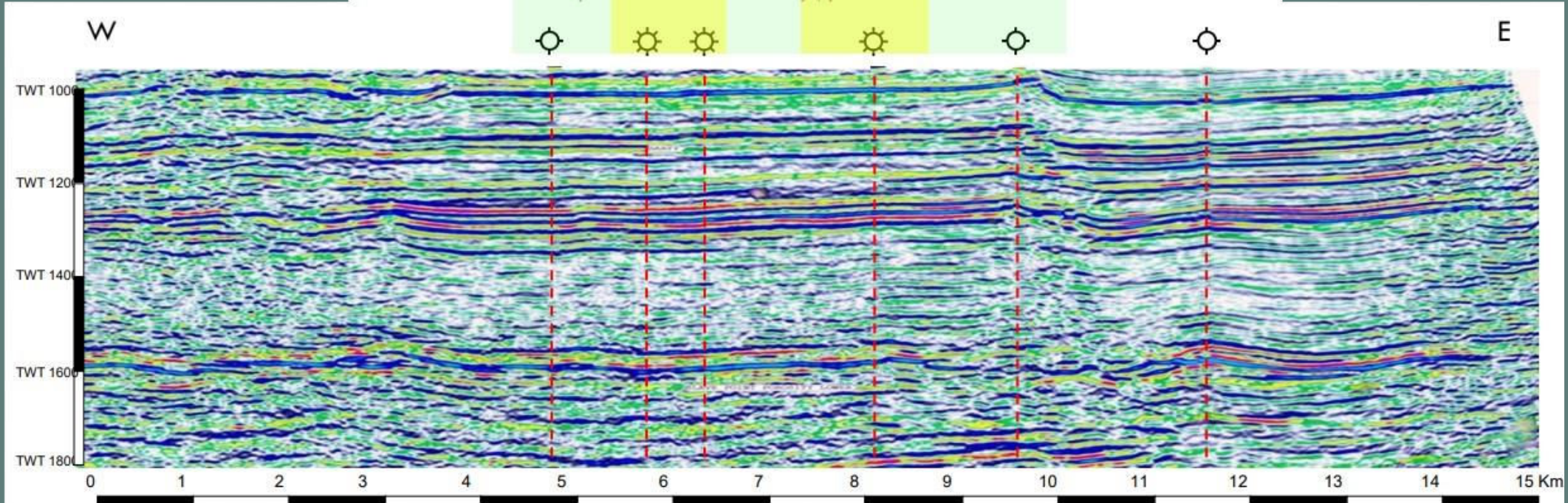
SFD[®] PLUS SEISMIC A WINNING COMBINATION

Legend:  = Dry Hole  = Commercially Successful Discovery

SFD[®] VOI
(Value-of-information)



SFD[®]



SEISMIC

The Adsett field is located in NE BC, Canada. It has an estimated total production of 500 bcf from the Slave point Fm. (dolomitized carbonate).

SELECTED COMPANIES LEVERAGING OUR TECHNOLOGY



COLOMBIA - INDEPENDENT



INTERNATIONAL - IOC



NIGERIA - NOC



PAKISTAN - NOC



MEXICO - NOC



BOLIVIA - NOC



COLOMBIA - NOC



CANADA - INDEPENDENT

TURNING POINT:

New Leadership and Key Milestones

NXT ENERGY RECENT TIMELINE



GROWTH STRATEGY: FREQUENCY, ADJACENCY, AND REPEATABILITY

Building Client Base with Regional Successes and Strategic Expansion

AFRICA

- Strategic alliance with Synergy E&P
- US\$8.9m Survey in 2019
- US\$2.1m data sale in 2021
- Repeat survey contract data acquisition phase completed in January 2025

TÜRKİYE

- SFD® Survey with independent O&G firm in Q1-2024
- Expanded contract after successful test
- Pursing additional contracts in country
- Exposure to neighboring countries

ASIA

- SFD® Survey announced in May 2024, to commence in April 2025
- New Pakistan SFD® Survey announced in Nov 2024, to commence in Q3-25
- US\$2.66m contract for PPL of Pakistan in 2013
- Pursuing new contracts across the region

AMERICAS

- US\$14.4m survey for YPFB in 2015
- US\$3.7m survey for Kerogen Exploration (USA) in 2013
- US\$5.8m survey for PEMEX in 2013
- Continuing to pursue leads

RESEARCH AND DEVELOPMENT:

Geothermal Application of the SFD® Technology

ADVANCING INTO RENEWABLE ENERGY MARKETS

Leveraging SFD® technology for geothermal exploration.

SIMILAR SUBSURFACE FEATURES

Identifies crucial factors like porosity, permeability, and cap rock.

GOVERNMENT SUPPORT

Phase-1 of the National Research Council of Canada Industrial Research Assistance Program (IRAP) R&D grant secured for sensor modification and testing.

PROVEN REVENUE MODEL

Initial commercialization through a fee-for-service model.

GAINING INDUSTRY ACCEPTANCE

First commercial contract signed with Alberta Geothermal Resource Recovery Inc.



EXPERIENCED MANAGEMENT TEAM

Combined Decades of Experience in Energy and Public Markets



BRUCE G. WILCOX

Chief Executive Officer

Previously CEO Cumberland Associates, LLC New York Based Long/Short Equity Fund



EUGENE WOYCHYSHYN

VP Finance and CFO

Previously Imaging Dynamics, FMC Corporation



RASHID TIPPU

Director of Geoscience, Asia, Africa, MEA

Previously Schlumberger, OMV



XIANG GUI, PH.D.

Director of Research & Development

Co-Inventor SFD®



ENRIQUE HUNG

Director of Geoscience, Americas & Europe

Previously Chevron, PDVSA



MOHAMMAD SAQIB

Head of Interpretation and Operations

NXT ENERGY SOLUTIONS

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KEY TRADING FACTS



Trading Symbols	TSX:SFD/OTCQB:NSFDF
Corporate Headquarters	Calgary - Alberta, Canada
Stock Price <small>(March 31, 2025)</small>	C\$0.23 / US\$0.165
Outstanding Shares <small>(March 31, 2025)</small>	79.5M
Fully Diluted Shares <small>(March 31, 2025)</small>	118M
Market Cap <small>(March 31, 2025)</small>	C\$18.3M / US\$13.1M
Insider Ownership <small>(March 31, 2025)</small>	30%
FD Insider Ownership <small>(March 31, 2025)</small>	48.3%
52-Week Trading Range	C\$0.09 - C\$0.59 US\$0.042 - US\$0.40
Cash <small>(Dec 31, 2024)</small>	C\$0.73M
Debt <small>Excluding operating leases (Dec 31, 2024)</small>	C\$11.2M
Trailing 12M Revenue <small>(Dec 31, 2024)</small>	C\$0.64M

SUMMARY

- FAST, CLEAN, CHEAP & ACCURATE
- FREQUENCY, ADJACENCY, REPEATABILITY:
NEW BUSINESS DEVELOPMENT PROCESS
- MULTIPLE SURVEY CONTRACTS ACROSS MULTIPLE
CONTINENTS EXPECTED TO BE COMPLETED IN 2025
- BEST BACKLOG IN A DECADE



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