

## Energy Fuels Inc. (TSX:EFR) MOU Signed for Green Technology to Produce REE Metals

Development Update  
December 16, 2021

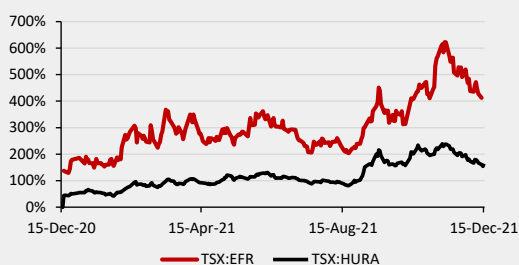
(Currency is US\$ unless noted otherwise)

Closing Price (C\$/sh)	\$10.07
Rating	BUY
Target (C\$/sh)	\$11.85
Return to Target	18%
52 Week Low / High (C\$/sh)	\$3.93 / \$14.33

CAPITALIZATION	Basic	Diluted
Shares Outstanding (M)	154.5	155.6
Market Capitalization (C\$M)	\$1,555.8	
Enterprise Value (C\$M)	\$1,422.1	
Cash and Cash Equivalents (C\$M)	\$133.7	
Total Debt (C\$M)	\$0.0	

FYE: DEC 31	2021E	2022E	2023E
REE produced (t)	548.8	1,995.8	5,987.4
Uranium produced (lb)	4,400	16,000	48,000
Revenue (US\$M)	\$8.36	\$45.62	\$137.09
Net Earnings (US\$M)	\$(30.90)	\$7.01	\$67.95
EBITDA (US\$M)	\$(29.43)	\$7.01	\$67.95
EPS	\$(0.17)	\$0.06	\$0.59
CFPS	\$(0.09)	\$0.05	\$0.44

### RELATIVE PERFORMANCE



NET ASSET VALUE	C\$M	C\$/sh
Project NAV	1,970	12.66
Corporate NAV	1,859	11.95

RELATIVE VALUATION	US\$ EV/lb U <sub>3</sub> O <sub>8</sub>	P/NAV
Energy Fuels Inc.	9.44	0.84x
Peers *	6.39	0.90x

\* S&P Capital IQ Pro

### MAJOR SHAREHOLDERS

Management (5%), BlackRock, Inc. (10%), Mirae Asset Global Investments Co., (3.38%), The Vanguard Group, Inc. (3.35%)

DISCLOSURE CODE: 1,2

(Please refer to the disclosures listed on the back page)

Source: RCS, Company Information, S&P Capital IQ Pro

### Company Description

Energy Fuels is a U.S.-based uranium mining company, supplying U<sub>3</sub>O<sub>8</sub> to major nuclear utilities. The company also produces vanadium from certain of its projects, as market conditions warrant, and in July 2021 started the commercial production of a mixed REE carbonate. Energy Fuels holds three of America's key uranium production centers: the White Mesa mill in Utah, the Nichols Ranch in-situ recovery ("ISR") project in Wyoming, and the Alta Mesa ISR project in Texas.

### Impact: Neutral to Slightly Positive

Energy Fuels has executed a Memorandum of Understanding (MOU) with Nanoscale Powders LLC for the development of what it calls an innovative rare earth element (REE) metal making technology. EFR believes that this technology has potential to revolutionize REE production by reducing costs, energy consumption and greenhouse gas emissions. Although there are likely to be hiccups along the way, we view this announcement positively as this patented technology can potentially provide Energy Fuels with a competitive advantage down the line once it starts producing REE metals and alloys, once it has perfected REE carbonate and then REE oxide production. **With the recent pivot to REEs and with U<sub>3</sub>O<sub>8</sub> prices rising to support uranium production from monazite and its pipeline of conventional and ISR uranium assets awaiting restart, we believe investors should keep a close eye on this multi-faceted company as it looks to establish the first, US based, fully integrated REE supply chain.**

- **Agreement terms.** A new entity will be created that will hold exclusive license to the technology. EFR has the right to earn 100% interest in the entity by making US\$10 M in investments: 1) US\$250k within 5 days of executing the MOU, 2) US\$250k within 5 days of executing the definitive agreement (DA), 3) pledge US\$1M to the 2022 budget within 5 days of executing the DA and 4) fund all future approved budgets required for commercialization, up to an additional US\$8.5M.
- **Investing in downstream REE metal production.** Nanoscale holds two US patents with one pending for the technology, under which it has proven the ability to produce REE on a kg batch scale basis (from a pilot plant producing 10kg/hr of NdPr). The MOU contemplates a phased approach to scale production to 1,000t of REE metal per year.
- **REE metals is key to establishing a fully integrated supply chain.** White Mesa currently produces REE carbonates that must be separated into REE oxides before it can be used to produce REE metals. REE metals are then used to manufacture materials for use in magnets for electric vehicles, wind turbines and other clean energy technologies. EFR is studying REE oxide production methods using solvent extraction technology – a process it has used to produce U<sub>3</sub>O<sub>8</sub> and V<sub>2</sub>O<sub>5</sub> for over 40 years at its White Mesa mill.
- **MOU provides path to environmentally friendly metal production.** Like many emerging technologies, we see numerous risks. However, management believes this sodium reduction process has several advantages over standard methods that produce GHGs like CF<sub>4</sub>. The process also consumes less graphite crucible material and utilizes less energy and labour, which could make it more cost-effective.

**We maintain a BUY rating and C\$11.85 target price.** We believe this is an exciting new option for EFR as it builds an environmentally friendly REE supply chain in the US. We value EFR using only its U<sub>3</sub>O<sub>8</sub> and REE carbonate businesses, awaiting further studies before we consider REE oxides or metals. **Upcoming catalysts:** 1) Monazite supply contracting (ongoing), 2) Potential restart of uranium operations (ongoing), 3) Medical isotope study (2021/2022), 4) REE oxide separation scoping study (2022).

David A. Talbot | MD, Mining Analyst  
 Koby Kushner | Research Associate  
 Alina Islam | Research Associate  
 Daniel Kozielowicz | Research Associate  
 Elie Khazzaka | Research Associate

**Red Cloud Securities Inc.**  
 120 Adelaide Street West, Suite 1400  
 Toronto ON, M5H 1P9  
[research@redcloudsecurities.com](mailto:research@redcloudsecurities.com)  
<https://www.redcloudfs.com/research-home/>

Disclosure Statement  
 Updated December 15, 2021

Recommendation / Target Change			Red Cloud Securities has this percentage of its universe assigned as the following:	
Date	Rating	Target	Status	%
2021-04-22	NA	NA	BUY	74%
2021-05-14	NA	NA	BUY (S)	22%
2021-07-08	NA	NA	HOLD	0%
2021-07-15	NA	NA	SELL/Tender	0%
2021-07-30	NA	NA	NA	3%
2021-08-04	NA	NA	Under Review	1%
2021-09-07	BUY	10.25		
2021-10-13	BUY	11.85		
2021-10-21	BUY	11.85		
2021-11-02	BUY	11.85		
2021-11-23	BUY	11.85		

Disclosure Requirement

Red Cloud Securities Inc. is registered as an Investment Dealer in all Canadian provinces and territories, and is a member of the Investment Industry Organization of Canada (IIROC). Part of Red Cloud Securities Inc.'s business is to connect mining companies with suitable investors. Red Cloud Securities Inc., its affiliates and their respective officers, directors, representatives, researchers and members of their families may hold positions in the companies mentioned in this document and may buy and/or sell their securities. Additionally, Red Cloud Securities Inc. may have provided in the past, and may provide in the future, certain advisory or corporate finance services and receive financial and other incentives from issuers as consideration for the provision of such services.

Red Cloud Securities Inc. has prepared this document for general information purposes only. This document should not be considered a solicitation to purchase or sell securities or a recommendation to buy or sell securities. The information provided has been derived from sources believed to be accurate but cannot be guaranteed. This document does not take into account the particular investment objectives, financial situations, or needs of individual recipients and other issues (e.g. prohibitions to investments due to law, jurisdiction issues, etc.) which may exist for certain persons. Recipients should rely on their own investigations and take their own professional advice before investment. Red Cloud Securities Inc. will not treat recipients of this document as clients by virtue of having viewed this document.

Red Cloud Securities Inc. takes no responsibility for any errors or omissions contained herein, and accepts no legal responsibility for any errors or omissions contained herein, and accepts no legal responsibility from any losses resulting from investment decisions based on the content of this report.

Company Specific Disclosure Details

Company Name	Ticker Symbol	Disclosures
Energy Fuels Inc.	TSX:EFR	1,2

1. The analyst has visited the head office of the issuer or has viewed its material operations.
2. The issuer paid for or reimbursed the analyst for a portion or all of the travel expense associated with a visit.

3. In the last 12 months preceding the date of issuance of the research report or recommendation, Red Cloud Securities Inc. has performed investment banking services or has been retained under a service or advisory agreement by the issuer.
4. In the last 12 months, a partner, director or officer of Red Cloud Securities Inc., or the analyst involved in the preparation of the research report has received compensation for investment banking services from the issuer.
5. The analyst who prepared this research report has a long position, in the issuer's securities.
6. The analyst who prepared this research report has a short position, in the issuer's securities.
7. Red Cloud Securities Inc. and its affiliates collectively beneficially owned 1% or more of any class of issuer's equity securities as of the end of the month preceding the date of issuance of the research report or the end of the second most recent month if the issue date is less than 10 calendar days after the end of the most recent month.
8. A partner, director or officer of Red Cloud Securities Inc. serves as a Director or Officer or Advisory Board Member of the issuer.
9. A partner, director or officer of Red Cloud Securities Inc. or any analyst involved in the preparation of a report has, during the 12 preceding months, provided services to the issuer for remuneration other than normal course investment advisory or trade execution services.
10. The analyst who prepared this research report was compensated from revenues generated solely by the Red Cloud Securities Inc.'s Investment Banking Department.
11. Red Cloud Securities Inc. is a market maker in the equity of the issuer.
12. There are material conflicts of interest with Red Cloud Securities Inc. or the analyst who prepared the report and the issuer.

#### **Recommendation Terminology**

Red Cloud Securities Inc. recommendation terminology is as follows:

- BUY – expected to outperform its peer group
- HOLD – expected to perform with its peer group
- SELL – expected to underperform its peer group
- Tender – clients are advised to tender their shares to a takeover bid
- Not Rated or NA – currently restricted from publishing, or we do not yet have a rating
- Under Review – our rating and target are under review pending, prior estimates and rating should be disregarded.

Companies with BUY, HOLD or SELL recommendations may not have target prices associated with a recommendation. Recommendations without a target price are more speculative in nature and may be followed by "(S)" or "(Speculative)" to reflect the higher degree of risk associated with the company. Additionally, our target prices are set based on a 12-month investment horizon.

#### **Dissemination**

Red Cloud Securities Inc. distributes its research products simultaneously, via email, to its authorized client base. All research is then available on [www.redcloudsecurities.com](http://www.redcloudsecurities.com) via login and password

#### **Analyst Certification**

Any Red Cloud Securities Inc. research analyst named on this report hereby certifies that the recommendations and/or opinions expressed herein accurately reflect such research analyst's personal views about the companies and securities that are the subject of this report. In addition, no part of any research analyst's compensation is, or will be, directly or indirectly, related to the specific recommendations or views expressed by such research analyst in this report.