



Company Announcement 6th April, 2016

Kvanefjeld Feasibility Study Update: Conservative Assumptions, Robust Metrics, High-Value Rare Earth and Uranium Project

Greenland Minerals and Energy Limited ('GMEL' or 'the Company') has completed an update to its Kvanefjeld Project Feasibility Study (FS), released May 25, 2015. The study update incorporates several modifications to the Kvanefjeld project ('the Project') which significantly improve the Project's financial outcomes. The study update utilises lower pricing assumptions and a higher discount rate than those used previously, in order to more accurately reflect prevailing economic conditions. The study update reiterates the clear potential to develop Kvanefjeld as a stable, long-life, low cost producer of critical rare earths and uranium.

Highlights of the update:

- **Following pilot plant operations, recoveries and production are higher**
- **Capital and operating costs are down; GMEL's capital cost now US \$832M**
- **Project NPV has increased to \$1.59B (post tax)**
- **Project IRR has increased to 43.4%**
- **Average annual free cash flow of US \$376M**
- **Cumulative free cash flow of US \$8.88B**
- **Third party infrastructure financing initiatives are progressing**
- **Major progress by Greenland Government on uranium regulation demonstrates a supportive and progressive political backdrop**

GMEL's Managing Director John Mair:

'Since closing out the Feasibility Study we have made some material technical improvements to the Project that have allowed us to update Kvanefjeld's economic metrics. The substantial improvements to the Project's NPV and IRR are outstanding, particularly given that they are based on more conservative pricing assumptions and an increased discount rate.'

All rare earth prices, other than prices for the four "magnet metals" for which the demand outlook is strong, have been reforecast at current spot levels. Our forecast for uranium oxide has also been reduced to reflect the market impact of the slow reactor re-starts in Japan.

Overall, the results demonstrate the economic advantage of the Project's unique, efficient metallurgy and the advantage of multiple projected revenue streams.

We have had excellent outcomes from pilot plant operations conducted as part of the European Union funded EURARE program. The piloting has demonstrated that significantly improved rare earth leach extractions can be achieved.

We have also started to develop infrastructure funding concepts that will significantly benefit the Project.

In depth reviews of the mining license application for Kvanefjeld are progressing, with feedback on a number of key components having been received. We look forward to providing further updates on progress of the overall review in the coming weeks.'

Background

During 2015, the key focus for GMEL was the completion of a mining license ('ML') application for the Kvanefjeld Project. In Greenland, an ML application must include a comprehensive feasibility study and environmental and social impact assessments. The scopes of both of the impact assessments are only settled once the scope of the feasibility study has been determined.

GMEL settled the scope of its feasibility study in 2014 and completed the study in May, 2015, which allowed for the environmental and social impact assessments to be successfully completed in Q4 2015. The ML application was then lodged with the Greenland Government for formal review

Having finalised the scope for the FS, GMEL continued to investigate opportunities to enhance the Project and also conducted pilot plant operations to evaluate continuous metallurgical performance at large scale.

A number of fundamental enhancements to the Project were identified through these steps and these have now been incorporated into the Company's Project valuation.

Results

The combined financial impact of the Project enhancements developed in 2015, as compared to the results of the Company's FS, can be summarised as follows:

- 1 The Project's **net present value** (NPV) has increased from \$1.36 to **\$1.59B**
- 2 The Project's **internal rate of return** (IRR) has increased from 21.8% to **43.4%**
- 3 **GMEL's project financing requirement** has been reduced to **\$832M**

The table below summarises the impact on Project financial metrics of 2015's enhancements.

Table 1. A summary of the key financial metrics for the Kvanefjeld Feasibility Study Update (2016), with comparisons to those from the Feasibility Study, released May, 2015.

FINANCIAL METRICS		2015	2016
GMEL project financing requirements	US\$M	1,361.1	831.90
Net Present Value (NPV)	US\$M	1,399.80	1,592.98
Discount Rate	%	8	10
Internal Rate of Return (IRR)	%	21.8	43.4
Cumulative free cash flow**	US\$M	7,177.10	8,879.10
Payback period	Years	6	5
REVENUE - ANNUAL AVERAGE			
Total	US\$M	755.1	710.9
Uranium	US\$M	73.2	51.0
Critical Rare Earth Mixed Oxide [CMREO]	US\$M	584.7	611.8
Lanthanum and Cerium products	US\$M	82.7	33.6
Other by products	US\$M	14.5	14.5
COSTS - ANNUAL AVERAGE			
Project Operating Costs	US\$M/a	237.4	252.10
Separation Costs	US\$M/a	190.4	82.80
Total Cost	US\$M/a	427.8	334.9
Total Cost - US\$/kg		19.32	11.18
MARGIN			
Operating margin after separation costs	US\$M	329.6	376.1
REFINERY RECOVERIES			
Uranium	%	90	86
Rare Earth Elements	%	70	87

The updates to the FS can be grouped into:

- * **Technical improvements**
- * **Revised cost and price assumptions**
- * **The impact of third party financing options**

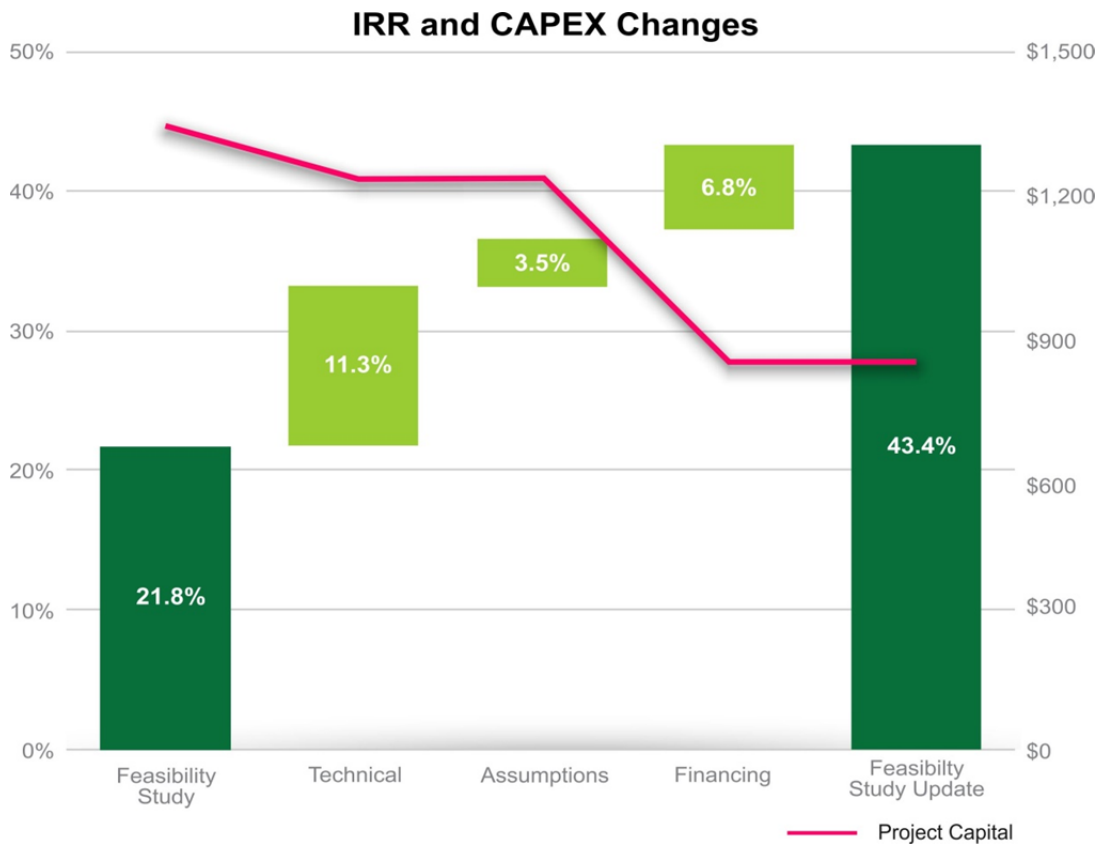
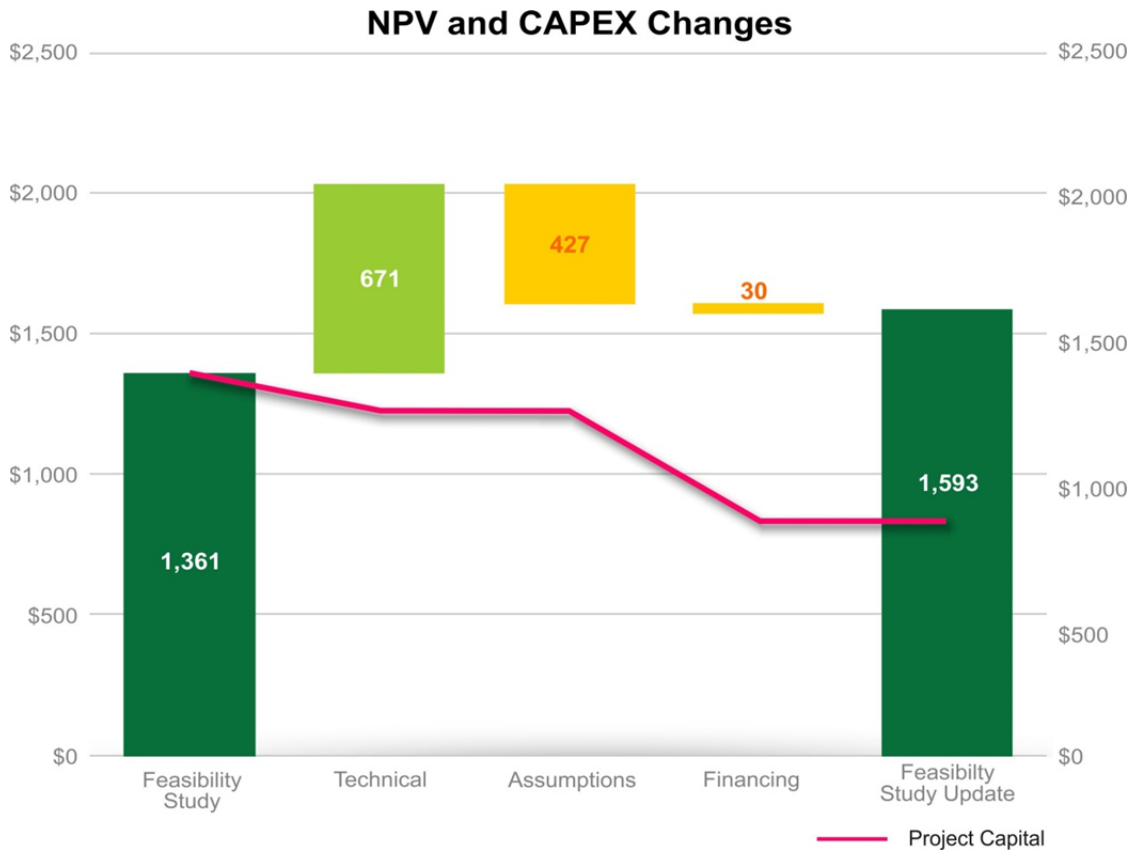


Figure 1. Graphical representation highlighting the impacts of key areas addressed in the feasibility update. Of the three main areas addressed, technical improvements have the largest positive impact on both the project Net Present Value, and Internal Rate of Return.

Technical developments

Key technical advances resulted from a detailed civil design review and from the operation of pilot plants which provided important operational and performance information. As a result, significant enhancements to the Project in terms of the cost of civil works and metallurgical performance were identified.

Civil Works

The layout of the processing facilities was reviewed with Tetra Tech in order to determine whether the originally separate concentrator and refinery facilities could be consolidated on a single site. The review identified the necessary modifications in order to feasibly to locate the two process plants side by side on a single site [announcement 17th of September 2015].

The impact of consolidation is, amongst other things, significant capital cost savings primarily resulting from a reduction in the amount of material movement required for roads and the process plant site. The total capital cost reduction is estimated to be US\$118M.

In addition, operating cost savings were identified from the impact of synergies and the utilisation of shared facilities on a single site. These savings are estimated to be approximately US\$2M per year.

Metallurgical Improvements

The Company's metallurgical development programme in 2015 focussed on geometallurgy, **large scale, continuous pilot plant operations** and laboratory test work on pilot plant samples.

Refinery pilot plant operations were performed in Finland as part of the European Union funded EURARE project. Outotec's Pori research facilities were selected as the location for the pilot plant. Further information on the EURARE program can be found on the EURARE website: <http://www.eurare.eu/docs/EURAREPoster.pdf>

The operation of the pilot plant was very successful and the results provided further objective validation of the flowsheet which has been developed for the metallurgical treatment of Kvanefjeld ore. More significant for the Project however, rare earth leach extractions in the pilot plant exceeded those previously assumed for the FS. As a result the design of the Kvanefjeld process plant has been modified to allow for the increase in leach extractions observed in the pilot plant.

The graph below (Figure 2.) compares leach extractions used in the FS (orange) with leach extractions achieved in the pilot plant (green). Leach extractions for the **important magnet metals** (i.e. praseodymium, neodymium) are significantly higher than has been previously assumed.

Weighted average rare earth leach extraction increases from 77% [used in the FS] to 90% the impact of which has been incorporated in this update.

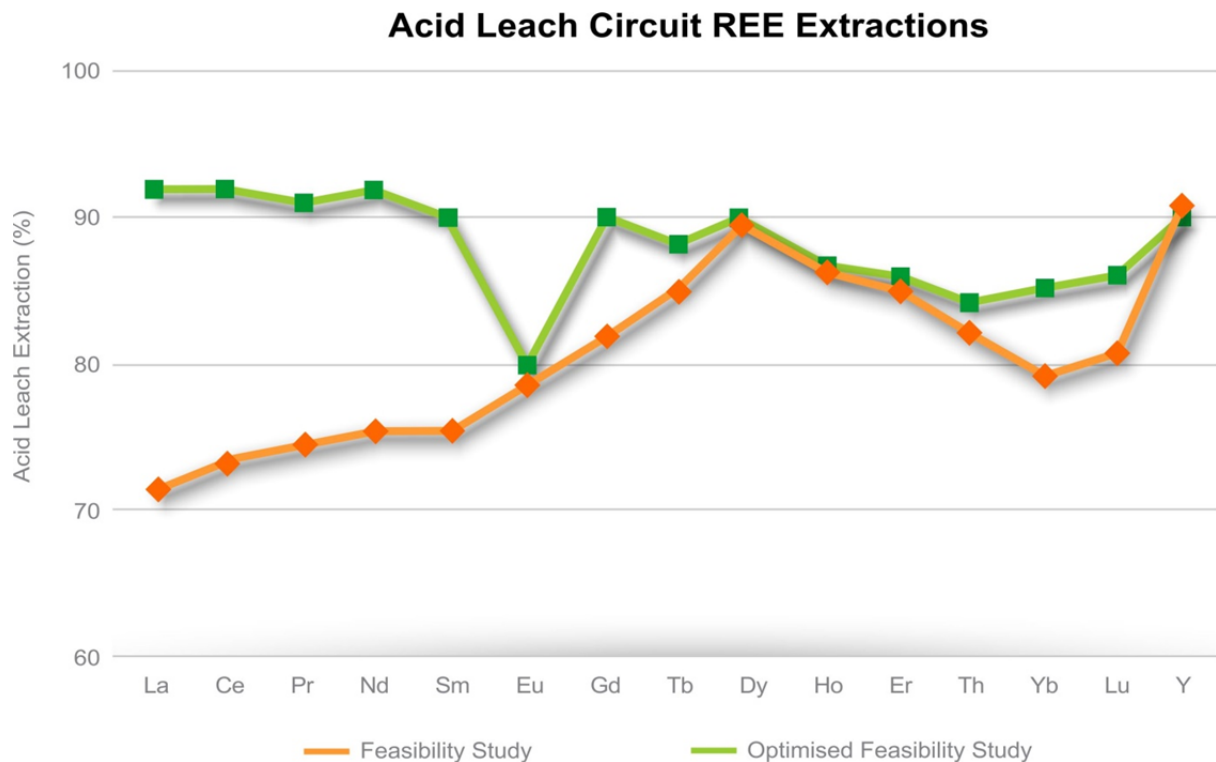


Figure 2: A comparison of optimised leach extraction, based on pilot plant operation, to feasibility study design.

Results achieved in the pilot plant have also allowed for improvements to the solid liquid separation circuit to be incorporated in plant design. Improved washing efficiencies in the refinery led to an increase in rare earth recoveries.

Overall, rare earth recoveries increase to ~68% up from ~55% reported in the FS. Increasing the extraction efficiency has significantly reduced unit costs.

Operating and Capital Costs

A review of the Feasibility Study operating and capital costs was completed. A significant number of key input costs were re-estimated based on the current economic climate. In particular the following areas were re-assessed:

- * **Equipment sizing, larger equipment for the increase in rare earth production**
- * **Reagents, requirements for the increased production**
- * **Shift rosters, Rationalised to reflect the change in the global mining labour market.**
- * **Prices, for significant material supplies**
- * **Limestone, crushing at site rather than importing prepared limestone**
- * **Mine scheduling, increase head grade from 1.35% to 1.43% REO in early years**

*** Contingencies, revised to reflect updated project scope**

*** Accommodation, smaller village with adjusted shift rosters**

These measures all contribute to significant capital and operating cost reductions from those reported in the Feasibility Study. Capex has been reduced by \$37M and annual cost savings are approximately US\$10M.

Review of Financial Model Inputs

Separation Costs

As more than 90% of the world's rare earth separation capacity is located in China the Company has assumed that its rare earth intermediate products will be processed in China, and has been actively pursuing this strategy (see Company Announcement 7 April 2015 – New Memorandum of Understanding with China Non-Ferrous Metal Industry's Foreign Engineering and Construction Co. Ltd (NFC)).

For the FS the source of separation cost information was Adamas Intelligence's Rare Earth Market Outlook: Supply, Demand and Pricing From 2014 – 2020 issued in October 2014 ('2020 Outlook').

Since the release of the FS, Adamas has published further analysis in respect of rare earth separation costs and the Company's estimate of separation costs for its rare earth intermediate has been adjusted to reflect this more recent independent analysis.

Price Forecasts

Based on revised price assumptions, the Company has significantly reduced its revenue forecasts. The forecast for uranium has been reduced to the current long term contract price and the price for the majority of the rare earth basket has been reduced to current spot prices.

The Company has however retained the forecast prices for the 4 "magnet metal" rare earths [Neodymium, Praseodymium, Terbium and Dysprosium] that were used in the FS. These forecast prices were based on the 2020 Outlook.

As the graphs below demonstrate, the markets for these four metals will be in structural deficit by 2020. As the Chinese Government has indicated that China will not meet the shortfall the Company retains the view that the price outlook for these materials is robust.

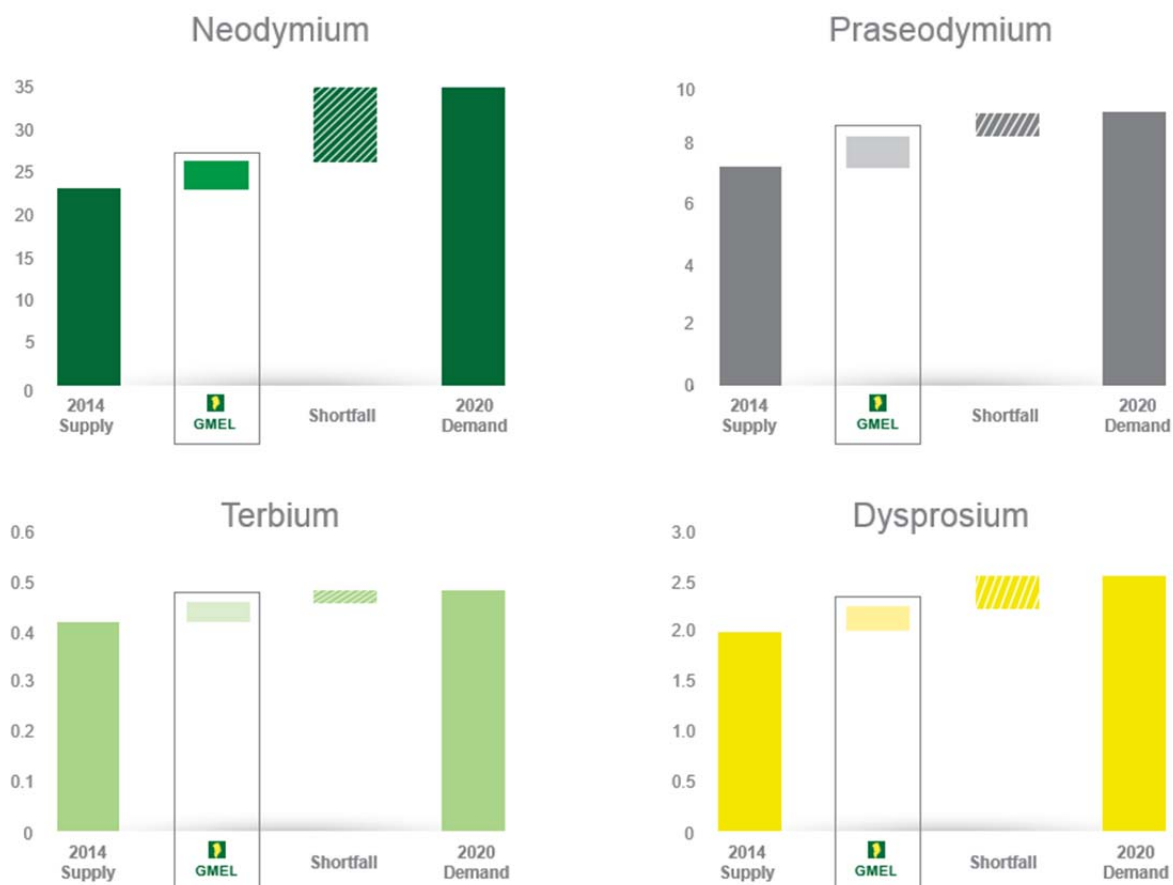


Figure 2: The demand outlook for the four key rare earth elements that are integral to the permanent magnet industry. Units are in metric tonnes. These include praseodymium, neodymium, terbium, and dysprosium. The projected demand growth, and limited new supply options is set to create a structural deficit [source: Adamas Rare Earth Market Outlook: Supply, Demand and Pricing From 2014 – 2020]. Kvanefjeld is one of the few advanced projects which can meaningfully supply all four rare earths that are integral to the magnet sector.

Third Party Infrastructure Financing

The Kvanefjeld site does not have ready access to:

- * A port of sufficient scale
- * Accommodation for employees
- * A supply of power
- * Supplies of key reagents

Project design therefore includes provision of these facilities and equipment for reagent production.

The Company has identified that these project facilities may be capable of being financed, constructed and operated by third parties.

An arrangement where a third party finances, constructs and operates a facility on behalf of a [or several] customers is often described as BOO [Build Own Operate].

Typically the elements of a BOO transactions are:

1. The creation of a special purpose vehicle (SPV)
2. The SPV funds, constructs, commissions and operates the facility
3. The SPV enters into a “take or pay” agreement with a customer(s) for supply of products or services from the facility.

BOO arrangements are an increasingly attractive means of financing project development.

The Company is currently discussing such an arrangement for power supply with the Government of Greenland and a major European multinational conglomerate that specialises in power provision.

Summary

The Kvanefjeld Feasibility Study Update demonstrates a robust, high-value rare earth and uranium project, with extensive upside owing to the substantial mineral resource inventory. With pilot plant operations completed on both the concentrator and refining circuits, Kvanefjeld is one of the worlds most advanced rare earth and uranium projects. Conservative pricing assumptions demonstrate the viability of the project, even in a low-price environment.

The project stands to be a stable, long-term, low-cost supplier of materials essential to clean energy generation, and energy efficient technologies. Few other rare earth projects allow for simple processing utilising flotation followed by an atmospheric acid leach, and can additionally produce all four rare earths critical to the permanent magnet industry (neodymium, praseodymium, dysprosium, terbium), in market-relevant proportions. The uranium output stands to provide a stable revenue stream to significantly strengthen project economics.

The Greenland Government has meanwhile invested substantial efforts in establishing a regulatory framework in which a project that includes uranium production can be permitted, and operated, in accordance with international best-practice. This has included negotiating and reaching formal agreements with Denmark on uranium regulation. These developments have allowed the permitting process to progress, and clears the path for advancing commercial discussions with strategic partners and off-take agreements.

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Appendix 1

Resources and Mine Reserves

The Kvanefjeld Project contains total mineral resources of 1.01 billion tonnes of ore containing 593 million pounds of U₃O₈ and 11.13 million tonnes of rare earth oxide. This resource is across three deposits all located within close proximity. The resource estimate was independently prepared by SRK Consulting in 2015 and is compliant with the JORC code (2012).

A mine production schedule was developed to incorporate pioneering, pre-strip and mine production in the mine design. The schedule outlined 37 years of operations including 3 years of production ramp up. At the end of 37 years the pit remains in ore and there is considerable potential to increase the mine life. Two open satellite deposits also remain for development, and present the opportunity to target specific elements based on market conditions (i.e. uranium, dysprosium, neodymium).

An Ore Reserve estimate has been prepared and the contained mineral inventory is shown in the Table below. The ore reserves are based on the upper portions of the Kvanefjeld deposit.

Kvanefjeld Mine Reserves - JORC				
	M tonnes	TREO	U ₃ O ₈	Zn
Classification	Mt	ppm	ppm	ppm
Proven	43	14,700	352	2,700
Probable	64	14,000	368	2,500
Total	108	14,300	362	2,600

Statement of Identified Mineral Resources, Kvanefjeld Project, Independently Prepared By SRK Consulting (February, 2015)

Multi-Element Resources Classification, Tonnage and Grade										Contained Metal				
Cut-off (U ₃ O ₈ ppm) ¹	Classification	M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
<i>Kvanefjeld - February 2015</i>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95.21	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	171.97	0.71
150	Inferred	222	10,000	205	8,800	365	9,200	793	2,180	2.22	0.08	0.18	100.45	0.48
150	Total	673	10,900	248	9,600	400	10,000	881	2,270	7.34	0.27	0.59	368.02	1.53
200	Measured	111	12,900	341	11,400	454	11,800	1,048	2,460	1.43	0.05	0.12	83.19	0.27
200	Indicated	172	12,300	318	10,900	416	11,300	970	2,510	2.11	0.07	0.17	120.44	0.43
200	Inferred	86	10,900	256	9,700	339	10,000	804	2,500	0.94	0.03	0.07	48.55	0.22
200	Total	368	12,100	310	10,700	409	11,200	955	2,490	4.46	0.15	0.35	251.83	0.92
250	Measured	93	13,300	363	11,800	474	12,200	1,105	2,480	1.24	0.04	0.10	74.56	0.23
250	Indicated	134	12,800	345	11,300	437	11,700	1,027	2,520	1.72	0.06	0.14	101.92	0.34
250	Inferred	34	12,000	306	10,800	356	11,100	869	2,650	0.41	0.01	0.03	22.91	0.09
250	Total	261	12,900	346	11,400	440	11,800	1,034	2,520	3.37	0.11	0.27	199.18	0.66
300	Measured	78	13,700	379	12,000	493	12,500	1,153	2,500	1.07	0.04	0.09	65.39	0.20
300	Indicated	100	13,300	368	11,700	465	12,200	1,095	2,540	1.34	0.05	0.11	81.52	0.26
300	Inferred	15	13,200	353	11,800	391	12,200	955	2,620	0.20	0.01	0.01	11.96	0.04
300	Total	194	13,400	371	11,900	471	12,300	1,107	2,530	2.60	0.09	0.21	158.77	0.49
350	Measured	54	14,100	403	12,400	518	12,900	1,219	2,550	0.76	0.03	0.07	47.59	0.14
350	Indicated	63	13,900	394	12,200	505	12,700	1,191	2,580	0.87	0.03	0.07	54.30	0.16
350	Inferred	6	13,900	392	12,500	424	12,900	1,037	2,650	0.09	0.00	0.01	5.51	0.02
350	Total	122	14,000	398	12,300	506	12,800	1,195	2,570	1.71	0.06	0.15	107.45	0.31

Statement of Identified Mineral Resources, Kvanefjeld Project, Independently Prepared By SRK Consulting (February, 2015)

Cut-off (U ₃ O ₈ ppm) ¹	Classification	Multi-Element Resources Classification, Tonnage and Grade								Contained Metal				
		M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
<i>Sørensen - March 2012</i>														
150	Inferred	242	11,000	304	9,700	398	10,100	895	2,602	2.67	0.10	0.22	162.18	0.63
200	Inferred	186	11,600	344	10,200	399	10,600	932	2,802	2.15	0.07	0.17	141.28	0.52
250	Inferred	148	11,800	375	10,500	407	10,900	961	2,932	1.75	0.06	0.14	122.55	0.43
300	Inferred	119	12,100	400	10,700	414	11,100	983	3,023	1.44	0.05	0.12	105.23	0.36
350	Inferred	92	12,400	422	11,000	422	11,400	1,004	3,080	1.14	0.04	0.09	85.48	0.28
<i>Zone 3 - May 2012</i>														
150	Inferred	95	11,600	300	10,200	396	10,600	971	2,768	1.11	0.04	0.09	63.00	0.26
200	Inferred	89	11,700	310	10,300	400	10,700	989	2,806	1.03	0.04	0.09	60.00	0.25
250	Inferred	71	11,900	330	10,500	410	10,900	1,026	2,902	0.84	0.03	0.07	51.00	0.20
300	Inferred	47	12,400	358	10,900	433	11,300	1,087	3,008	0.58	0.02	0.05	37.00	0.14
350	Inferred	24	13,000	392	11,400	471	11,900	1,184	3,043	0.31	0.01	0.03	21.00	0.07
<i>All Deposits – Grand Total</i>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95.21	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	171.97	0.71
150	Inferred	559	10,700	264	9,400	384	9,800	867	2,463	6.00	0.22	0.49	325.66	1.38
150	Grand Total	1010	11,000	266	9,700	399	10,100	893	2,397	11.14	0.40	0.90	592.84	2.42

¹There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U₃O₈ has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

²Total Rare Earth Oxide (TREO) refers to the rare earth elements in the lanthanide series plus yttrium.

Note: Figures quoted may not sum due to rounding.

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ABOUT GREENLAND MINERALS AND ENERGY LTD.

Greenland Minerals and Energy Ltd (ASX: GGG) is an exploration and development company focused on developing high-quality mineral projects in Greenland. The Company's flagship project is the Kvanefjeld multi-element deposit (rare earth elements, uranium, zinc). A pre-feasibility study was finalised in 2012, and a comprehensive feasibility study was completed in May, 2015. The studies demonstrate the potential for a large-scale, long-life, cost-competitive, multi-element mining operation. An exploitation license application for the initial development strategy was completed in 2015.

In 2016, GMEL is focussed on working closely with Greenland's regulatory bodies on the processing of a mining license application, and maintaining regular stakeholder updates. A greater emphasis will also be placed on commercial development and progressing the dialogue with strategic partners. In addition, the Company will look to further value add initiatives afforded by the extensive resource inventory and prospective license holding.

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Greenland Minerals and Energy Ltd will continue to advance the Kvanefjeld project in a manner that is in accord with both Greenlandic Government and local community expectations, and looks forward to being part of continued stakeholder discussions on the social and economic benefits associated with the development of the Kvanefjeld Project.

Competent Person Statement – Mineral Resources and Ore Reserves

The information in this report that relates to Mineral Resources is based on information compiled by Mr Robin Simpson, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Simpson is employed by SRK Consulting (UK) Ltd ("SRK"), and was engaged by Greenland Minerals and Energy Ltd on the basis of SRK's normal professional daily rates. SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence. Mr Simpson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Robin Simpson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in the statement that relates to the Ore Reserves Estimate is based on work completed or accepted by Mr Damien Krebs of Greenland Minerals and Energy Ltd and Mr Scott McEwing of SRK Consulting (Australasia) Pty Ltd.

Damien Krebs is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the type of metallurgy and scale of project under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report in the form and context in which it appears.

Scott McEwing is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report in the form and context in which it appears.

The mineral resource estimate for the Kvanefjeld Project was updated and released in a Company Announcement on February 12th, 2015. The ore reserve estimate was released in a Company Announcement on June 3rd, 2015. There have been no material changes to the resource estimate, or ore reserve since the release of these announcements.