



March 2013 Quarterly Report

Wednesday 24th April, 2013

Highlights

- National election in Greenland on March 12th leads to a change in government; new coalition government led by the Siumut Party, with a parliamentary majority
- New government quick to highlight Kvanefjeld as a priority project, with an aim of fast-tracking regulations to permit uranium exploitation from multi-element projects
- Kvanefjeld project implementation strategy developed to reduce project risk through staged development scenario; initial start-up capacity of 3Mtp/a, with an expansion to 6Mtp/a
- Mine and Concentrator Study complete for initial 3Mtp/a operation, following two successful pilot plant campaigns of the concentrator (flotation) circuit
- The Study demonstrates significantly reduced start-up costs – now estimated at \$810M
 - *The mine and concentrator capable of treating 3Mtpa is anticipated to cost \$450M*
 - *The refinery to produce marketable REE and U products is estimated to cost \$360M*
- The mine and concentrator (flotation circuit) will produce a high-grade REE-uranium mineral concentrate, along with zinc (6,180tpa) and fluorspar by-products (8,865tpa)
- The REE-uranium mineral concentrate containing 14% total REO and 0.24% U₃O₈ will then be treated in a dedicated refinery to produce 23,000tpa of high purity mixed rare earth hydroxide, and 1.1 Mlbs U₃O₈,
- Unit costs remain low, economic metrics remain strong, marketing and financing risk reduced

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Introduction

Greenland Minerals and Energy Ltd ('GMEL' or 'the Company') is a mineral exploration and development company operating in southern Greenland. The Company is primarily focused on advancing the 100% owned Kvanefjeld multi-element project (*both light and heavy rare earth elements, uranium, and zinc*) through the feasibility and permitting phase and into mine development.

The Kvanefjeld project is centred on the northern Ilimaussaq Intrusive Complex in southern Greenland. The project includes several large scale multi-element resources including Kvanefjeld, Sørensen and Zone 3. Global mineral resources now stand at **956 Mt** (JORC-code compliant). The deposits are characterised by thick, persistent mineralisation hosted within sub-horizontal lenses that can exceed 200m in true thickness. Highest grades generally occur in the uppermost portions of deposits, with overall low waste-ore ratios. Approximately 20% of the prospective area has been evaluated, with billions of tonnes of lujavrite (host-rock to defined resources) awaiting resource definition.

While the resources are extensive, a key advantage to the Kvanefjeld project is the unique rare earth and uranium-bearing minerals. These minerals can be effectively beneficiated into a low-mass, high value concentrate, then leached with conventional acidic solutions under atmospheric conditions to achieve particularly high extraction levels of both heavy rare earths and uranium. This contrasts to the highly refractory minerals that are common in many rare earth deposits.

The Kvanefjeld project area is located adjacent to deep-water fjords that allow for shipping access directly to the project area, year round. An international airport is located 35km away, and a nearby lake system has been positively evaluated for hydroelectric power.

GMEL recently finalised a comprehensive, multi-year pre-feasibility program that has focussed on identifying and evaluating the best possible process flow sheet for the Kvanefjeld project, taking into account economic metrics, environmental considerations, technical and market risk. The outcomes are extremely positive and reiterate the potential for Kvanefjeld to become one of the largest rare earth producing mines globally, occupying a dominant position at the low end of the future production cost-curve. A large heavy REE output and significant uranium output differentiate Kvanefjeld from many other emerging RE projects.

Rare earth elements (REEs) are now recognised as being critical to the global manufacturing base of many emerging consumer items and green technologies. Uranium forms an important part of the global base-load energy supply, with demand set to grow in coming years as developing nations expand their energy capacity.

March Quarter Activities

Two major developments took place in the March Quarter. Firstly, on March 12th, a national election took place in Greenland that has resulted in a change of government. The Siumut party, formerly in opposition, won 14 of the 31 parliamentary seats, and has formed a coalition government with the Atassut and Partii Inuit parties. Importantly, coming into the election the Siumut Party's political platform included a clear aim to remove the zero-tolerance policy toward uranium.

Secondly, GMEL firmed up the implementation strategy for the Kvanefjeld REE-uranium project, and finalised a 3Mtp/a Mine and Concentrator Study. This maps out a staged development scenario with a lower initial mine throughput that serves to mitigate both marketing and financing risk. Significantly, overall start-up capital costs have been reduced to \$810M (USD), with the Mine and Concentrator estimated at \$450M.

A New Government in Greenland

On March 12th, a national election took place in Greenland that has resulted in the Siumut Party returning to power after a term in opposition. The Siumut Party has formed a coalition government with the Atassut and Partii Inuit political parties. The new Greenland government was officially sworn in on April 5th and holds a clear parliamentary majority with 18 of 31 seats. Siumut Party leader Aleqa Hammond is the new Premier of Greenland.

The new Siumut-led government has been quick to identify Kvanefjeld as a priority project, and signal a clear intent to remove the zero-tolerance policy toward uranium exploitation and replace it with a regulatory framework that allows uranium production from multi-element deposits (i.e. Kvanefjeld).

GMEL had worked to establish a positive dialogue and working relationship with the previous Greenland Government, who incorporated uranium into the exploration license for the

Kvanefjeld project in late 2011. The Company is highly confident of establishing a positive working relationship with the incoming Siumut-led government, and looks forward to commencing a dialogue as soon as the new government has settled in, with the aim of firming up the timetable for the next steps to see a mining license application finalised, submitted, and processed.

Since being sworn into government, Premier Aleqa Hammond has already met with the Danish Prime Minister Helle Thorning-Schmidt, and priority discussion points included uranium policy. The Danish Prime Minister indicated that the decision to remove the zero-tolerance policy on uranium exploitation is ultimately Greenland's, and that Denmark would support Greenland's decision.

GMEL will look to provide a market update on the steps forward under the new Greenland government, but takes high confidence from the government in being quick to voice a strong position of support for the Kvanefjeld project. The company will continue to work towards finalising a mining license application, in close consultation with Greenlandic stakeholders and regulators.

Kvanefjeld Project Implementation Strategy

In May, 2012 Greenland Minerals and Energy Ltd released a prefeasibility study on the Kvanefjeld rare earth – uranium project. The prefeasibility study (PFS) draws upon substantial test work and technical studies, and involved a rigorous flow-sheet selection process to determine the optimal means of treating Kvanefjeld ores. The PFS outcomes indicate the clear potential for Kvanefjeld to be developed as a long-life, cost-competitive producer of rare earth concentrates and uranium oxide.

Since releasing the Kvanefjeld PFS, further technical advances were made that serve to improve the PFS outcomes significantly. A PFS update was released in August 2012 outlining simplifications to the proposed processing circuit that result in a reduction in capital costs, and a 27% increase in the output of rare earth concentrate. The substantial increase in rare earth recovery and output has driven the Company to evaluate a smaller start-up capacity for Kvanefjeld than the 7.2 Mt capacity evaluated in the PFS. A reduction in the initial rare earth production capacity reduces the market risk brought about by the material improvements in

rare earth recovery, and also serves to significantly reduce the capital costs of project development.

For these reasons, the Company is now focussed on a staged development strategy with an initial mine-throughput of 3Mtpa, expanding to 6Mtpa. This provides a low-risk path to ultimately reach a large-scale production capacity.

The process flowsheet developed for Kvanefjeld is technically advantageous in its relative simplicity, and involves two main steps; a concentrator (beneficiation) circuit, and a refining circuit. The concentrator circuit delivers a very high upgrade ratio using a single methodology, and also produces marketable zinc and fluorspar by-products. A refinery circuit then effectively extracts REEs and uranium from the mineral concentrate utilising a conventional atmospheric acid leach circuit to produce marketable rare earth and uranium products. Of significance is that the REE-U rich minerals at Kvanefjeld are non-refractory and do not require complex and costly, high temperature 'mineral cracking' that many RE-producing operations require.

The technical development for Kvanefjeld is now significantly de-risked. Test work for the concentrator circuit is complete, with two highly successful pilot plant operations. Continuous test work programs for the refining circuit have been completed, with patent applications lodged for the refining methodology developed by GMEL's technical team.

Company representatives were present in Greenland in early April to conduct meetings to update stakeholders on project developments and the outcomes of the Mine and Concentrator Study.

The Company has now finalised the 3Mtp/a Mine and Concentrator Study component of the broader Feasibility Study.

3Mtp/a Mine and Concentrator Study: Key Outcomes

- The mine and concentrator (flotation circuit) will produce a high-grade REE-uranium mineral concentrate, along with zinc (6,180tpa) and fluorspar by-products (8,865tpa)
- The REE-uranium mineral concentrate containing 14% total REO and 0.24% U_3O_8 will then be treated in a dedicated refinery to produce 23,000tpa of high purity mixed rare earth hydroxide, and 1.1 Mlbs U_3O_8

➤ **Significantly reduced capital costs:**

- Overall start-up costs are now estimated at **\$810M**
- The mine and concentrator capable of treating 3Mtpa is anticipated to cost \$450M
- The refinery to produce marketable REE and U products is estimated to cost \$360M

➤ **Unit costs of production are low;** less than US\$6.40/kg TREO (after by-product credits) which will make Kvanefjeld one of the lowest cost REE producers worldwide.

- Upon mine expansion from 3.0 Mtpa to 6.0 Mtpa, the unit cost of TREO production drops to less than **US\$4.90/kg TREO** (after by-product credits)
- The incremental cost of recovering the uranium is less than US\$37/lb U₃O₈. Following expansion to 6Mtpa the uranium unit production costs drop to less than **US\$31/lb U₃O₈**. This will make Kvanefjeld one of the lowest cost uranium producers amongst projects that are being considered for development in the next 5-10 years.

➤ The initial 3Mtpa Project generates a pre-tax, ungeared internal rate of return of 32% and a cash payback period of 3 years, based on long term prices of US\$70/lb U₃O₈ and US\$23/kg TREO*. The pre-tax NPV is US\$1,913 M.

(*assumes 60% value recognition in concentrate for a basket price of US\$37.80)

With the Mine and Concentrator Study component of the Feasibility Study completed the Company can now finalise the Environmental and Social Impact Assessment studies and prepare an application to the Greenlandic Government for an Exploitation (Mining) Licence.

GMEL Participates In EU-Funded Rare Earth Research and Development Project

In January, 2013 the European Union (EU) initiated the EURARE Project "*Development of a sustainable exploitation scheme for Europe's rare earth ore deposits*" which aims to establish a rare earth element value creation chain in Europe.

Rare earths have been identified as critical minerals for many current and emerging technologies for which the European Union would like to encourage European supply sources. EURARE is an acronym for a Research and Development project funded by the European Union. Total funding is €9 million spent over 5 years. It forms part of the 7th Framework Programme for Research and Technical Development supporting the EU's Raw Materials initiative. The official purpose of the EURARE project is:

Development of a sustainable exploitation scheme for Europe's Rare Earth ore deposits – New environmentally friendly approaches in minerals processing.

There are 22 project partners involved in the consortium which consist of research institutions, universities, specialist consulting groups and rare earth project development companies. The program involves 8 separate work packages ranging from an assessment of European rare earth resources through to industrial REE metals and alloy production. Also includes are field trials and demonstration plant operation.

GMEL is the program leader for work package 2 which concerns the beneficiation (or concentration) of rare earth bearing minerals from their ores. This program will consist of applied research looking at methods to produce high grade rare earth mineral concentrates suitable for hydrometallurgical refining.

Outcomes of the EURARE program will greatly add to the existing knowledge and may result in greater efficiency in mineral processing, hydrometallurgical treatment or metal refining.

Tenure, Permitting and Project Location

Tenure

Greenland Minerals and Energy Ltd (ABN 85 118 463 004) is a company listed on the Australian Securities Exchange. The Company is conducting exploration of license EL2010/2. The Company controls 100% of EL2010/2 through its Greenlandic subsidiary.

The tenement is classified as being for the exploration of minerals. The project hosts significant multi-element mineralisation within the Ilimaussaq Intrusive Complex.

Historically the Kvanefjeld deposit, which comprises just a small portion of the Ilimaussaq Complex, was investigated by the Danish Authorities. The project has received significant past exploration and feasibility evaluation in the form of drilling, geophysics, geochemistry, an exploratory adit and numerous and varying metallurgical test work and technical papers.

Permitting

Greenland Minerals and Energy Limited is permitted to conduct all exploration activities and feasibility studies for the Kvanefjeld REE-uranium project. The company's exploration license is inclusive of all economic components including uranium and REEs. The Company holds the right to apply to exploit the Kvanefjeld project. The approval of an exploitation license is largely dependent on establishing an economically robust, and environmentally and socially acceptable development scenario.

Location

The exploration lease covers an area of 80km² in Nakkaalaaq North on the southwest coast of Greenland. The project is located around 46° 00'W and 60 55'N.

The town of Narsaq is located approximately 8 kilometres to the south west of the license area. Narsaq is connected to Narsarsuaq International Airport by commercial helicopter flights operated by Air Greenland. Local transport between settlements is either by boat or by helicopter.

The Company has office facilities in Narsaq where storage, maintenance, core processing, and exploration activities are managed. This office supports the operational camp located on the Kvanefjeld Plateau above the town where the operational staff are housed.

Access to the Kvanefjeld plateau (at approximately 500m asl) is generally gained by helicopter assistance from the operations base located on the edge of the town of Narsaq. It is possible to access the base of the plateau by vehicle and then up to the plateau by a track.

Other Exploration License Holdings

As announced on 18 May 2011 GMEL had applied for, and was granted license holdings to consolidate its ground position in the Kvanefjeld area. The new license areas occur immediately adjacent to the Ilimaussaq Complex and may be prospective for specialty metal mineralization hosted near the margins of the complex (see Figure 1). GMEL aims to conduct evaluations to assess the potential for mineralization, in conjunction with sterilising key areas that are under assessment for plant and infrastructure locations. The Company is considering a number of possible locations for key infrastructure items, which include areas adjacent to the Kvanefjeld resource, as well as the broad area on the northeastern side of the Ilimaussaq Complex. Stakeholder input and environmental considerations are critically important to the site selection process. Options for the location of key infrastructure items have recently been presented to Greenlandic stakeholders during public meetings held in early-April 2011.

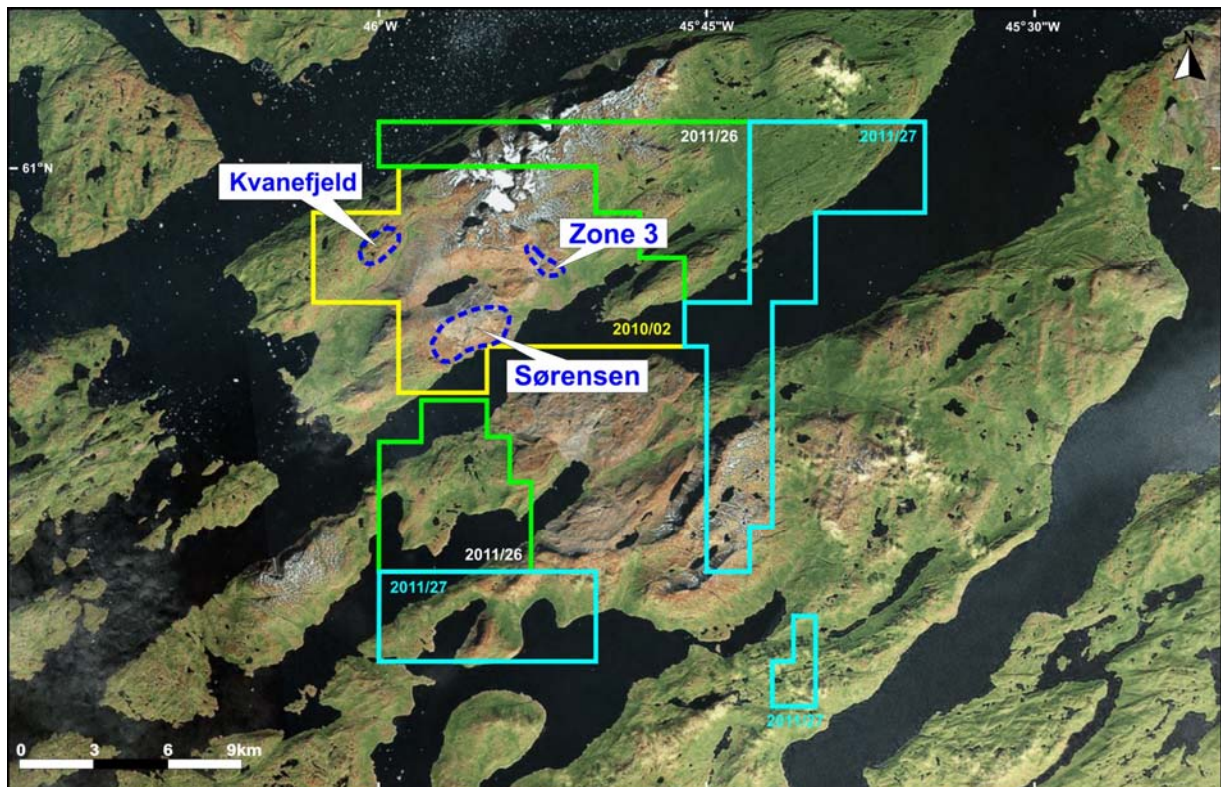


Figure 1. GMEL's license holdings over and adjacent to the Ilimaussaq complex in south Greenland. All licences are held outright by GMEL.

Capital Structure – As at 31st March, 2013

<u>Total Ordinary shares:</u>	571,225,263
Quoted options exercisable at \$0.60	25,769,191
Unquoted unvested performance options exercisable at \$1.75	7,000,000
Unquoted options exercisable at \$0.75	4,999,520
Performance rights (refer to announcement 21/10/2011 for terms)	16,860,000

Please visit the company's website at www.ggg.gl where recent news articles, commentary, and company reports can be viewed.

Yours faithfully,



Roderick McIlree

Managing Director

Greenland Minerals and Energy Ltd.

Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project (Prepared by SRK Consulting)

Cut-off (U ₃ O ₈ ppm) ¹	Multi-Element Resources Classification, Tonnage and Grade									Contained Metal				
	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
Kvanefjeld - March 2011														
150	Indicated	437	10929	274	9626	402	10029	900	2212	4.77	0.18	0.39	263	0.97
150	Inferred	182	9763	216	8630	356	8986	776	2134	1.78	0.06	0.14	86	0.39
150	Grand Total	619	10585	257	9333	389	9721	864	2189	6.55	0.24	0.53	350	1.36
200	Indicated	291	11849	325	10452	419	10871	978	2343	3.45	0.12	0.28	208	0.68
200	Inferred	79	11086	275	9932	343	10275	811	2478	0.88	0.03	0.06	48	0.20
200	Grand Total	370	11686	314	10341	403	10743	942	2372	4.32	0.15	0.35	256	0.88
250	Indicated	231	12429	352	10950	443	11389	1041	2363	2.84	0.10	0.24	178	0.55
250	Inferred	41	12204	324	10929	366	11319	886	2598	0.46	0.02	0.03	29	0.11
250	Grand Total	272	12395	347	10947	431	11378	1017	2398	3.33	0.12	0.27	208	0.65
300	Indicated	177	13013	374	11437	469	11906	1107	2414	2.30	0.08	0.20	146	0.43
300	Inferred	24	13120	362	11763	396	12158	962	2671	0.31	0.01	0.02	19	0.06
300	Grand Total	200	13025	373	11475	460	11935	1090	2444	2.61	0.09	0.22	164	0.49
350	Indicated	111	13735	404	12040	503	12543	1192	2487	1.52	0.06	0.13	98	0.27
350	Inferred	12	13729	403	12239	436	12675	1054	2826	0.16	0.01	0.01	10	0.03
350	Grand Total	122	13735	404	12059	497	12556	1179	2519	1.68	0.06	0.14	108	0.31
Sørensen - March 2012														
150	Inferred	242	11022	304	9729	398	10127	895	2602	2.67	0.10	0.22	162	0.63
200	Inferred	186	11554	344	10223	399	10622	932	2802	2.15	0.07	0.17	141	0.52
250	Inferred	148	11847	375	10480	407	10887	961	2932	1.75	0.06	0.14	123	0.43
300	Inferred	119	12068	400	10671	414	11084	983	3023	1.44	0.05	0.12	105	0.36
350	Inferred	92	12393	422	10967	422	11389	1004	3080	1.14	0.04	0.09	85	0.28
Zone 3 - May 2012														
150	Inferred	95	11609	300	10242	396	10638	971	2768	1.11	0.04	0.09	63	0.26
200	Inferred	89	11665	310	10276	400	10676	989	2806	1.03	0.04	0.09	60	0.25
250	Inferred	71	11907	330	10471	410	10882	1026	2902	0.84	0.03	0.07	51	0.2
300	Inferred	47	12407	358	10887	433	11319	1087	3008	0.58	0.02	0.05	37	0.14
350	Inferred	24	13048	392	11392	471	11864	1184	3043	0.31	0.01	0.03	21	0.07
Project Total														
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
150	Indicated	437	10929	274	9626	402	10029	900	2212	4.77	0.18	0.39	263	0.97
150	Inferred	520	10687	272	9437	383	9820	867	2468	5.55	0.20	0.45	312	1.28
150	Grand Total	956	10798	273	9524	392	9915	882	2351	10.33	0.37	0.84	575	2.25

¹There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U₃O₈ has therefore been used to define the cut-off 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.

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), that is rapidly emerging as a premier specialty metals project. A comprehensive pre-feasibility study has demonstrated the potential for a large-scale, cost-competitive, multi-element mining operation. For further information on Greenland Minerals and Energy visit <http://www.ggg.gl> or contact:

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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.

The information in this report that relates to exploration targets, exploration results, geological interpretations, appropriateness of cut-off grades, and reasonable expectation of potential viability of quoted rare earth element, uranium, and zinc resources is based on information compiled by Mr Jeremy Whybrow. Mr Whybrow is a director of the Company and a Member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Whybrow has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Whybrow consents to the reporting of this information in the form and context in which it appears.

The geological model and geostatistical estimation for the Kvanefjeld and Zone 2 deposits were prepared by Robin Simpson of SRK Consulting. Mr Simpson is a Member of the Australian Institute of Geoscientists (AIG), and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined by the 2004 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Simpson consents to the reporting of information relating to the geological model and geostatistical estimation in the form and context in which it appears.