

Greenland Minerals and Energy
Ltd is focussed on discovering and
developing world-class a mineral
projects in Greenland; an
important new minerals region
looking to establish a strong
resources sector

Exploring the highly-prospective Ilimaussaq Intrusive Complex, favourably located near existing infrastructure in southern Greenland

619 Mt JORC-code compliant multi-element resource (REE, U, Zn) defined at Kvanefjeld plateau, with new satellite deposits recently discovered

Pre-Feasibility Study indicates potential for large-scale, costcompetitive production of uranium and REEs, with a long mine life and strong growth potential

The company is listed on the Australian Securities Exchange

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# **December 2011 Quarterly Activities Report**

Monday, 30<sup>th</sup> January, 2012

# **Highlights**

- New uranium licensing framework introduced for the Kvanefjeld project
  - Licensing developments provide GMEL with the right to exploit all economic components of the world-class Kvanefjeld resource, pending outcomes of environmental and social impact assessments
- ➤ 2011 drilling at Zone 2 delivers broad, high-grade uranium-REE intercepts with strong continuity
  - Initial JORC-resource estimate for Zone 2 anticipated late in Q1 2012
  - Significant increase in overall uranium and REE resources expected, at upper end of grade range
- ➤ Results of 2011 drilling at Zone 3 anticipated in the coming weeks
  - Initial JORC-resource for Zone 3 expected late in Q1 2012
- ➤ Technical work programs continue on track, with the aim of finalising the optimal flow-sheet for Kvanefjeld in the coming weeks
- Environmental and social impact assessments advancing on schedule

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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 Kvanefjeld multi-element project (both light and heavy rare earth elements, uranium, and zinc) through the feasibility phase and into mine development.

Kvanefjeld is located within the Company's license over the northern Ilimaussaq Intrusive Complex; a unique geological entity that is highly prospective for specialty metals. Mineral resources at Kvanefjeld now stand at **619 Mt** (JORC Compliant), with three recently discovered satellite deposits now being the focus of resource definition. Kvanefjeld is a highly-accessible resource that outcrops on a broad plateau, with the higher grade portions located close to surface. Adjacent deep-water fjords provide shipping access directly to the project area. An international airport is located 35km away, and a nearby lake system has been positively evaluated for hydroelectric power.

An *Interim Report* on the Kvanefjeld pre-feasibility study was released in February 2010 that indicates the potential for the multi-element resources to sustain a large-scale mining operation for decades (*for more information visit the Company's website at* <a href="http://www.ggg.gl">http://www.ggg.gl</a>).

Importantly, the Greenland government recently introduced a uranium licensing framework for the Kvanefjeld project. This provides a clear path to see the project move through the feasibility phase and ultimately into mine development.

The Company's aim is to be a cost-effective producer of metals of fundamental strategic importance and value to tomorrow's world. Rare earth elements (REEs) are now recognised as being critical to the global manufacturing base of many emerging consumer items and green technologies. However, China controls more than 95% of global REE supply, and has maintained a policy of significantly reducing export quotas. This continues to raise serious concerns to non-Chinese consumers over the long-term stability of REE supply and pricing, at a time when REE-demand continues to grow. 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.

#### **December Quarter Activities**

The highlight of the December Quarter was the introduction of a uranium licensing framework for the Kvanefjeld project. This landmark decision by the government of Greenland provides the Company with the legal right to exploit all material of economic interest from the Kvanefjeld resource (uranium, REEs, zinc).



GMEL recently released the results of the 2011 drill campaign at Zone 2. The results are extremely encouraging and set the foundation for an initial resource estimate for Zone 2. The results of 2011 drilling at Zone 3 are expected in the coming weeks, with initial resource estimates for both Zones 2 and 3 anticipated for late in Q1.

Metallurgical and process development studies continue to advance the Kvanefjeld project, and the Company is on track to select the optimal, preferred flow-sheet in the coming weeks. Trade-off studies are currently comparing flowsheet options and analyzing the different development scenarios and their economic parameters.

During Q4 2011 a number of important corporate developments also took place. GMEL agreed to extend the window for settlement with Westrip until June 15<sup>th</sup> 2012. Westrip has been the joint-venture partner of GMEL since the acquisition of the Kvanefjeld project in 2007. In August 2011 Westrip agreed to terms for GMEL to move to 100% ownership of the Kvanefjeld project. GMEL also acquired a 3% royalty on net profits generated by GME A/S; the Greenland subsidiary through which the Kvanefjeld project is held.

### **Greenland Government Introduces a Uranium Licensing Framework for Kvanefjeld**

In early December 2011, GMEL announced that the government of Greenland had amended the terms of the Company's exploration license that covers the Kvanefjeld multi-element project such that it is now inclusive of uranium. This is a very significant development in the evolution of the Kvanefjeld project, with the move providing a clear legal framework for the permitting of a project that includes uranium.

Exploration license EL 2010/02 covers the northern Ilimaussaq complex and includes the world-class Kvanefjeld resource (Table 1), along with the emerging satellite deposits Zones 2 and 3 (Figure 1). Under the licensing framework in Greenland, the licensee maintains the right to apply for an exploitation (mining) license for all exploitable elements listed on the exploration license. Importantly EL 2010/02 now includes radioactive materials, providing the company with the clear right to apply for the exploitation of radioactive elements along with all other exploitable elements. The granting of an exploitation license will be dependent on establishing an environmentally and socially sustainable development scenario that is economically robust.

The amendment comes approximately one year after the Government of Greenland issued GMEL with an evaluation permit to allow for comprehensive feasibility studies to be conducted on a mineral deposit that includes uranium. Through the first half of 2011, the Company



conducted extensive stakeholder engagement to establish the terms-of-reference for the EIA and SIA. These terms were approved by the government in July 2011, and both the EIA and SIA are progressing on schedule. Both studies are expected to be completed by late 2012. The EIA and SIA form a critical part of an exploitation license application.

# Zone 2: Unearthing another major REE-Uranium deposit on the Ilimaussaq Complex

Over the 2010 and 2011 field seasons, GMEL has focussed on evaluating two significant new multi-element deposits with the northern Ilimaussaq project area. The discovery of these deposits has served to confirm the theory that the northern Ilimaussaq Complex is host to several large-scale REE-uranium deposits. Importantly, the style of mineralisation and the economic minerals at these new deposits is the same as that which has been extensively studied at Kvanefjeld. All deposits are therefore amenable to the same processing route.

The results of the 2011 drilling at *Zone 2* follow on from the outstanding results achieved from the 2010 drilling, and Zone 2 is clearly shaping up as a significant deposit in its own right.

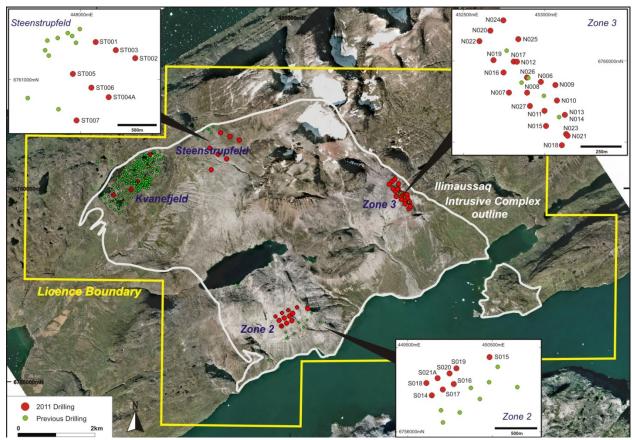
## Significant 2011 Zone 2 Intercepts Include:

•	S018	$66m \ @ \ 474ppm \ U_3O_8, \ 1.55\% \ TREO, \ 0.34\% \ Zn$
•	S019	$60m @ 486ppm U_3O_8$ , 1.15% TREO, 0.34% Zn
•	S016	65m @ 417ppm U <sub>3</sub> O <sub>8</sub> , 1.36% TREO, 0.33% Zn
•	S020	52m @ 452ppm U <sub>3</sub> O <sub>8</sub> , 1.49% TREO, 0.33% Zn
•	S013	45m @ 443ppm U <sub>3</sub> O <sub>8</sub> , 1.70% TREO, 0.35% Zn
•	S015	39m @ 449ppm U₃O <sub>8</sub> , 1.29% TREO, 0.37% Zn

Importantly, the drill results continue to delineate a sub-horizontal upper lens that varies from approximately 50 m to greater than 100 m in true thickness. The drill hole array now covers an area of  $500 \times 800$ m, with all holes intersecting mineralisation. This high-grade upper lens is anticipated to add significant tonnage to the resource base already defined at Kvanefjeld. The



Company is looking to add significant tonnes at > 400 ppm  $U_3O_8$ , to the 122 Mt @ 402 ppm  $U_3O_8$  delineated within the Kvanefjeld resource (Table 1). The upper lens sits above a large, lower-grade body. Zone 2 remains open to the north, with the lujavrite horizon undulating northward toward the Kvanefjeld plateau located 6 km away.



**Figure 1**. Overview of GMEL's multi-element project on the northern Ilimaussaq Complex in Greenland. A JORC-code compliant 619Mt resource has been defined at Kvanefjeld. The 2011 drill program concentrated on Zones 2 and 3.

The results of 2011 drilling at Zone 3 are expected in the coming weeks. Combined, the resources of Zones 2, Zone 3, and Kvanefjeld are anticipated to represent one the largest resources of both uranium and REEs globally.



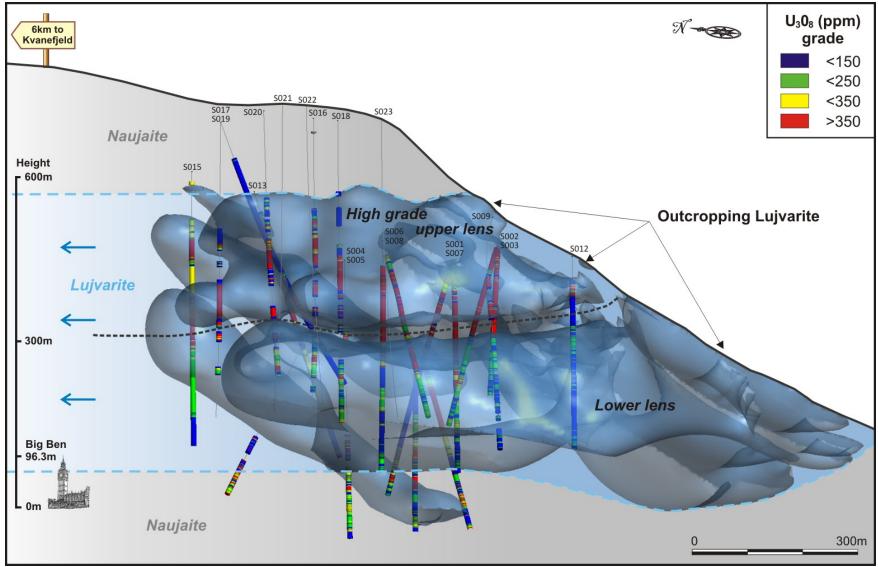


Figure 2. The initial geological model for the emerging Zone 2 REE-uranium deposit. The model is constrained by mineralised lujavrite intersected in drill core, as well as in extensive outcrops of the lujavrite horizon. The deposit remains open to the north (left of page), with the lujavrite horizon undulating for 6km to the northern contact of the Ilimaussaq Complex where Kvanefjeld is located. Zone 2 is characterised by an upper and lower lens. The model was generated using Leapfrog™ software.



## **Technical Update**

Through 2010 and 2011 GMEL's technical team has been conducting extensive testwork to identify the process options available to the Kvanefjeld project. Through these studies, the Company has identified a number of differing process scenarios to extract both uranium and REEs. Significant advances have been made to the base-case scenario outlined in the Interim Pre-feasibility Report, released at the beginning of 2010, including increases in REE recoveries, and improved REE and uranium grades in the mine schedule.

In June 2011, the Company announced it had established an effective means of beneficiating the Kvanefjeld ore to produce a high-grade, low mass concentrate. This step has paved the way for a number of alternate development scenarios. Piloting of the beneficiation step was successfully conducted in September 2011, and the mineral concentrates produced provided the basis for hydro-metallurgical leach studies. Detailed evaluation of the possible flow-sheet scenarios is now underway taking into account project economics and sensitivities, market risk and technical risk. GMEL is aiming to firm up the optimal process flow-sheet for the project through Q1 2012.

Environmental and Social Impact assessments that commenced in early 2011 are continuing on schedule, and are anticipated to be completed in late 2012.

#### **Corporate Activities**

In August 2011, GMEL negotiated terms with joint venture partner Westrip to acquire the outstanding 39% of the Kvanefjeld project, thereby moving to 100% ownership. The Kvanefjeld project is 100% owned by the Greenland registered company Greenland Minerals and Energy A/S, which in turn is 61% owned by GMEL, and 39% by Westrip in a joint venture agreement. In December the two parties agreed to extend the settlement period until June 15<sup>th</sup> 2012. GMEL is committed to financing the acquisition of the outstanding 39% of the Kvanfjeld project on the best terms for shareholders, and will continue to evaluate a number of potential options.

In November 2011, GMEL negotiated terms to acquire a 3% royalty on the net profits of GME A/S, the Greenlandic subsidiary company through which the Kvanefjeld project is owned. The acquisition of the 3% net profit royalty will be finalised when GMEL completes the transaction with Westrip to move to 100% ownership of GME A/S, and thereby full ownership of the Kvanefjeld project. GMEL will issue 17,500,000 ordinary shares to acquire the royalty, with the terms being independently reviewed by BDO consultants as being fair and reasonable to



shareholders. This transaction has now received shareholder approval at a meeting held on January  $23^{\rm rd}$ , 2012.



## **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 EL2010/2 in accordance with a joint venture agreement. The Company currently controls 61% of the license (with options to move to 100%). The Company, through its subsidiary, is also the operator of the project.

The tenement is classified as being for the exploration of minerals. The project hosts significant multielement 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 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  $80 \text{km}^2$  in Nakkaalaaq North on the southwest coast of Greenland. The project is located around  $46^\circ$  00'W and  $60\,55'$ N.

The town of Narsaq is located approximately 7 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.

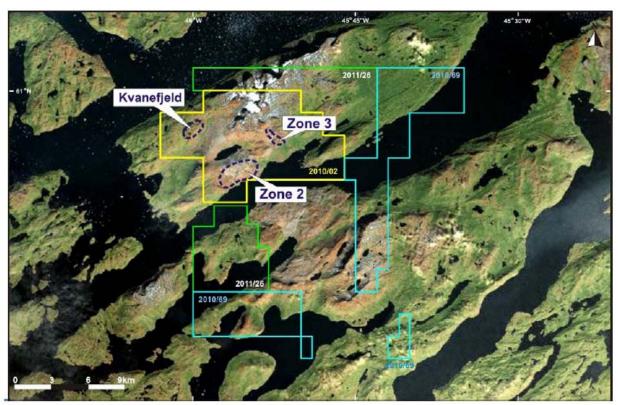
The Company has office facilities in Narsaq where storage, maintenance, core processing, and exploration activities are managed. This office supports the operational camp located on the Kvanefjeld Plateau above the town where the operational staff are housed.

Access to the Kvanefjeld plateau (at approximately 600m 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 4). 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.



**Figure 5**. GMEL's license holdings around the Ilimaussaq complex in south Greenland. License EL2010/02 is held under the joint venture agreement with Westrip Holdings, whereas all other licenses are held outright by GMEL.



# **Capital Structure**

Total Ordinary shares:	416,390,480
Unquoted unvested performance options exercisable at \$1.75	7,000,000
Performance rights (refer to announcement 21/10/2011 for terms)	16,450,000
Employee options exercisable at 25c	750,000

Please visit the company's website at <a href="www.ggg.gl">www.ggg.gl</a> where recent news articles, commentary, and company reports can be viewed.

Yours faithfully,

Roderick McIllree

Managing Director Greenland Minerals and Energy Ltd



Table 1. Statement of Identified Mineral Resources, Kvanefjeld Multi-Element Project, March 2011.

	Multi-Element Resources, Classification, Tonnage and Grade										Contained Metal				
Cut-off	Classification	M tonnes	TREO <sup>2</sup>	$U_3O_8$	LREO	HREO	REO	$Y_2O_3$	Zn	TREO	HREO	$Y_2O_3$	U₃O <sub>8</sub>	Zn	
(U <sub>3</sub> O <sub>8</sub> ppm) <sup>1</sup>		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	M	
150	Indicated	437	10929	274	9626	402	10029	900	2212	4.77	0.18	0.39	263	0.9	
150	Inferred	182	9763	216	8630	356	8986	776	2134	1.78	0.06	0.39	86	0.	
	Grand Total			257				864			0.24		350		
150	Grand Total	619	10585	257	9333	389	9721	804	2189	6.55	0.24	0.53	350	1.	
200	Indicated	291	11849	325	10452	419	10871	978	2343	3.45	0.12	0.28	208	0.	
200	Inferred	79	11086	275	9932	343	10275	811	2478	0.88	0.03	0.06	48	0.	
200	<b>Grand Total</b>	370	11686	314	10341	403	10743	942	2372	4.32	0.15	0.35	256	0	
250	Indicated	231	12312	352	10950	443	11281	1032	2363	2.84	0.10	0.24	178	0	
250	Inferred	41	11251	324	10929	366	10426	825	2598	0.46	0.02	0.03	29	0	
250	<b>Grand Total</b>	272	12152	347	10947	431	11152	1001	2398	3.30	0.12	0.27	208	0	
300	Indicated	177	13013	374	11437	469	11906	1107	2414	2.30	0.08	0.20	146	0	
300	Inferred	24	13120	362	11763	396	12158	962	2671	0.31	0.01	0.02	19	C	
300	<b>Grand Total</b>	200	13025	373	11475	460	11935	1090	2444	2.61	0.09	0.22	164	C	
350	Indicated	111	13735	404	12040	503	12543	1192	2487	1.52	0.06	0.13	98	0	
350	Inferred	12	13729	403	12239	436	12675	1054	2826	0.16	0.01	0.01	10	0	
350	<b>Grand Total</b>	122	13735	404	12059	497	12556	1179	2519	1.68	0.06	0.14	108	0	

<sup>&</sup>lt;sup>1</sup>There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U<sub>3</sub>O<sub>8</sub> has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

Note: Figures quoted may not sum due to rounding.

<sup>&</sup>lt;sup>2</sup>Total Rare Earth Oxide (TREO) refers to the rare earth elements in the lanthanide series plus yttrium.



#### 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. An interim report on pre-feasibility studies has demonstrated the potential for a large-scale multi-element mining operation. For further information on Greenland Minerals and Energy visit <a href="http://www.ggg.gl">http://www.ggg.gl</a> or contact:

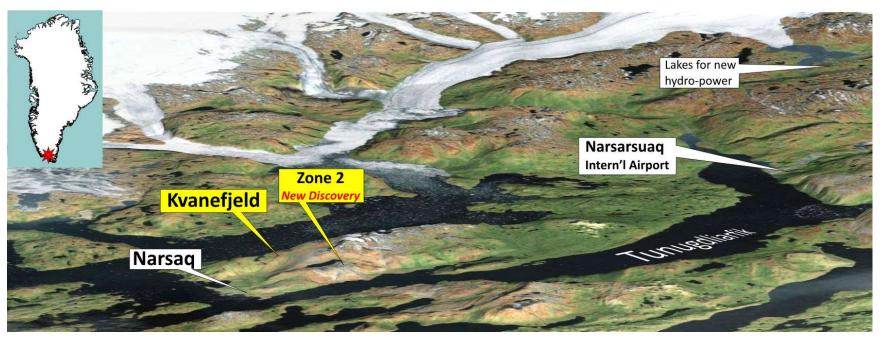
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Greenland Minerals and Energy Ltd will continue to advance the Kvanefjeld project in a manner that is in accord with both Greenlandic Government and local community expectations, and looks forward to being part of continued community discussions on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

The information in this report that relates to exploration results, geological interpretations, appropriateness of cutoff grades, and reasonable expectation of potential viability of quoted rare earth element, uranium, and zinc
resources is based on information compiled by 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 deposit 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.





View over the broader geography of GMEL's multi-element project on the northern Ilimaussaq Complex located in southern Greenland. The fjords form a large-scale natural harbor system that is open to the north Atlantic shipping lanes all year round, and provide easy access to the project area. The distance from Narsaq to Narsarsuaq is approximately 45 km.