



Company Announcement, October 11<sup>th</sup>, 2017

**First of Three Key Studies Approved:**

**Kvanefjeld - Maritime Safety Study**

- **The Danish Maritime Authority acting on behalf of the Government of Greenland has now approved the Maritime Safety Study for public consultation**
- **The Maritime Safety Study along with the Environmental and Social Impact Assessments (EIA and SIA) is one of 3 key documents which form part of the public consultation process documentation**
- **These documents undergo detailed review and revision by the Greenland Government and its advisory groups prior to receiving approvals**
- **Through 2017, GMEL has been working in close consultation with the Greenland Government to ensure the studies address recommendations from advisory bodies**
- **The Maritime Study contains various shipping studies which determine the safest and most environmentally acceptable method to transport cargo to and from site**
- **The Maritime Safety Study was prepared by the Independent Danish company Blue Water Shipping**
- **The EIA and SIA are advanced with the majority of recommendations now addressed**

## **Background**

Greenland Minerals and Energy Ltd ('GMEL' or 'the Company'), 100% owner and operator of the Kvanefjeld Project in Greenland, is pleased to update on permitting and approvals. Kvanefjeld is underpinned by the largest code-compliant resource (JORC or CIM) of rare earth elements that are critical to the clean, green and smart revolution, which is rapidly gaining momentum.

Of emerging rare earth operations, Kvanefjeld is forecast to be the largest producer of key rare earths including neodymium, praseodymium and dysprosium that are essential to high powered permanent magnets, with the longest projected mine life.

Through 2017 GMEL has been working closely with strategic partner and major shareholder Shenghe Resources Holding Co Ltd (Shenghe) to optimise the Kvanefjeld Project and ensure it is aligned with downstream processing, as a precursor to project development.

The Company has additionally been progressing project permitting in close consultation with the Greenland Government and its advisory bodies. The focus has been on three key components; the EIA, SIA, and the Maritime Safety Study.

The Company is pleased to advise that the Maritime Safety Study has been approved by the Danish Maritime Authority, and can be tabled for public consultation.

Managing Director Dr John Mair commented:

*“Approval of the Maritime Safety Study marks another important step in progressing through the approvals process. This has been a key area of focus through 2017 along with technical work conducted with strategic partner Shenghe to optimise and align Kvanefjeld with downstream processing. Progress on both fronts has Kvanefjeld well-positioned at a time when rare earth demand set for strong growth, prices are rising, and the supply outlook is constrained.”*

## **About the Maritime Safety Study**

The aim of the Maritime Safety Study (also known as the Navigational Safety Study) is to ensure that ship voyages to and from the Kvanefjeld Project site are safe and do not impact the environment.

Greenland is a relatively isolated location in arctic waters that are far from assistance and emergency services including sea rescue and environmental protection services. The shipping routes to the Project area in Southern Greenland are currently in use by cargo and tourist industries. This experience and existing facilities (ports, anchorages, etc) has provided a good precedent for project voyages.

The Kvanefjeld investigation examined the project cargo requirements to determine the best method and navigation route for the required voyages. The investigation was documented to show the cargo voyages will be made considering the risks and conditions.

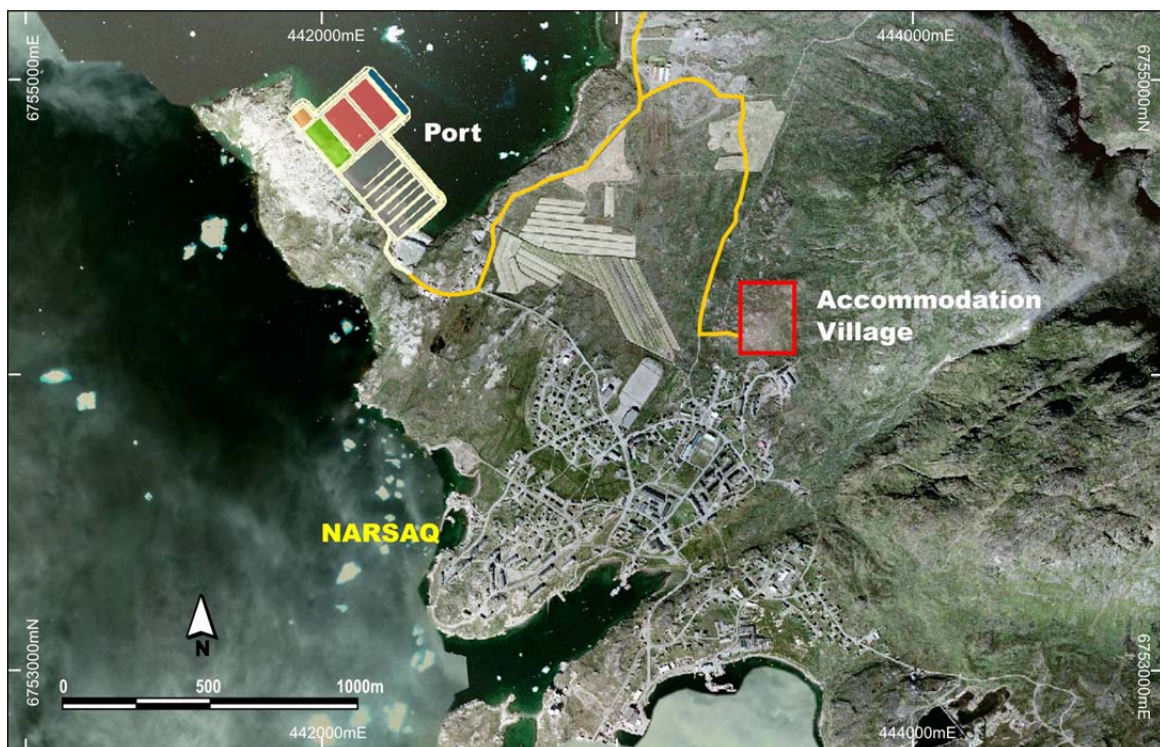
The Danish Maritime Authority (DMA) provides guidance on the requirements of the Maritime Safety Study and evaluates the contents prior to approval for public consultation. The Danish Maritime Authority is part of the Kingdom of Denmark and acts on behalf of the Government of Greenland for mining licence applications.

## **Contents of the Maritime Safety Study**

A new port will be constructed as part of the Kvanefjeld Project specifically to service the project requirements. The optimum port location has been studied carefully with the independent Danish Consultants Ramboll and Blue Water Shipping recommending the location shown in Figure 1.

The port will receive 84 port calls per year during the operations phase consisting of Handy-size and Tanker vessels. An ice breaking Tug Boat is also provided to assist with safe docking. Overall port utilisation is less than 20% per year.

Since the fjords and sounds up to Ilua Bay (located north of Narsaq) are already navigated by larger cargo vessels the impact of on emissions, noise and biodiversity diversity is assessed to be low by Blue Water Shipping. There are international rules for emissions which will be adhered to by the company and regulated by MARPOL ('Marine Pollution' – International convention for the prevention of pollution from ships). Further risk analysis will be conducted after the issuance of a mining licence when the specific commercial ship details are determined.



**Figure 1.** Kvanefjeld Project port location in the Narsaq Illua Bay located to the north of the Town of Narsaq. The port location is an industrial area selected as being the safest with least environmental impact for shipping.

The Maritime Safety Study document is extensive and covered the following areas concerning maritime navigation. These are consistent with guidelines from the DMA:

- Project background, layout and geography
- Choice of route, hydrographic survey and charts
- Route investigation study
- New hydrographic survey
- Charts
- Ice conditions

- Meteorological and oceanographic conditions
- Ship and crew
- Ports, places of call, anchorages
- Emergency preparedness and risk-reducing measures
- Assessment of possible environmental effects
- Description of other investigations
- Conclusions
- English executive summary

## **Public Consultation**

As part of the process of obtaining a mining licence in Greenland, companies are required to prepare documents which undergo public consultation for 8 weeks. Prior to public consultation, comprehensive reviews of the EIA, SIA and Maritime Safety Study are undertaken, recommendations addressed, and then approval sought.

The EIA, SIA and Maritime Safety Study, have all been prepared by independent expert consultants.

- Maritime Safety Study (prepared by the independent Danish Consultant Blue Water Shipping)
- EIA (prepared by the independent Danish Consultant Orbicon)
- SIA (prepared by the independent Danish Consultant Niras)

The studies draw on the Terms of Reference for the Kvanefjeld Project that were approved by the Greenland Government in late 2015.

Through 2016, each of these documents was reviewed by the Government of Greenland and their advisors. In 2017, GMEL has worked to address recommendations put forward and update studies accordingly. In addition, the Company has been receiving additional guidance from expert consultancy Shared Resources to align the studies with international standards that are of important consideration for the purposes of project finance.

Feedback has been fully incorporated into the Maritime Safety Study with a final version having now been accepted for public consultation.

Feedback has been progressively incorporated into the EIA and SIA for which additional data has been generated through 2017. Both studies are now in an advanced state, with most recommendations having now been addressed.

**-ENDS-**

## **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 (mining) license application for the initial development strategy was completed in 2015.

In 2017, GMEL is focussed on working closely with Greenland's regulatory bodies on the processing of the mining license application, and maintaining regular stakeholder updates. The Company has been undertaking technical work programs with Shenghe Resources Holding Co Ltd that aim to further enhance the Kvanefjeld Project, and ensure it is aligned with downstream processing. In addition, the Company will look to further value add initiatives including the recovery of additional by-products from the leach solution.

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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.

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### **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 12<sup>th</sup>, 2015. The ore reserve estimate was released in a Company Announcement on June 3<sup>rd</sup>, 2015. There have been no material changes to the resource estimate, or ore reserve since the release of these announcements.