

**Cluff Natural Resources Plc ('CLNR' or 'the Company')**  
**Independent Consultants confirm significant coal Exploration Target for the**  
**Company's Point of Ayr Licence Area in North Wales**

Cluff Natural Resources Plc, the AIM quoted natural resources investing company, is pleased to announce an initial Exploration Target\* in accordance with JORC of between 980 million and 1.23 billion tonnes of coal within its 100% owned underground coal gasification ('UCG') licence located at Point of Ayr, North Wales.

*\*Pursuant to JORC, the estimated Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.*

**Overview**

- **FWS Consultants ('FWS'), the Company's independent consultant, confirms an in-situ Exploration Target in accordance with JORC of between 980 million and 1.23 billion tonnes of coal**
- **Exploration Target is limited to seven coal seams greater than 1.5 metres thick, which the Company considers the minimum technical cut off for UCG**
- **Coal quality data taken from the former Point of Ayr Colliery and a number of regional boreholes suggest that coal quality is suitable for UCG**
- **Assuming a conservative in-situ Calorific Value of 25 GJ/tonne, the Exploration Target is equivalent to a gas in place volume of between 23 and 29 TCF on an energy equivalent basis<sup>1</sup>**
- **Completion of hydrogeological studies, land access and commercialisation options required before further investigations necessary to mature the Exploration Target**

**Commenting, CLNR's Chairman and Chief Executive Algy Cluff said:** "This report confirms the potential scale of coal held within our Point of Ayr Licence Area. This Exploration Target, along with our recent Resource estimate at our Kincardine Licence, highlights the extent of stranded coal in the UK and the significant role that UCG has to play in unlocking this important indigenous asset.

"A coal deposit of this scale being exploited by UCG also brings with it the potential for significant local investment, stable long term jobs and increased energy security for the UK. North Wales has already seen the benefits that new hydrocarbon developments can bring to former coal mining areas with the Talacre facility at Point of Ayr and we believe that our own projects will be similarly beneficial. The UCG projects being undertaken by CLNR have significant environmental, safety and, when combined with carbon capture and storage,

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<sup>1</sup> 1 TCF = 1,055 Petajoules

climate change benefits compared with coal mining and coal-fired power generation. We believe that UCG will help provide a cleaner energy, diversity of supply and energy security for the UK. Given the massive potential within this licence area, our understanding of the potential resource will have to be progressed in a thoughtful and considered manner, ensuring that the community is fully informed and involved in each step of the process. Our key priority is to work with the community to develop an asset which will bring significant benefits to the surrounding area.”

### Summary of the Coal Exploration Target

FWS have confirmed an Exploration Target in accordance with JORC of between 980 million and 1.23 billion tonnes of coal within the Company’s Point of Ayr Licence Area. The Exploration Target range is calculated on an *in situ* basis, with no recovery factors applied. The Exploration Target focussed on seven individual coals seams with average thicknesses between 1.75m and 4.18m present at depths of between approximately 500m and 2000m below ground level. On an energy equivalent basis this coal Exploration Target contains the same amount of energy as 23.3 to 29.2 TCF of natural gas.

The coals are expected to be high volatile, bituminous, weakly to strongly caking, usually less than 10% ash (air dried basis) and 1.5% to 2.5% total sulphur. The Company considers the quality of this coal to be suitable for UCG.

### JORC Exploration Target – Point of Ayr Licence Area (CLNR 100% interest)

<b>Approx. Seam Depth (metres below surface)</b>	<b>Lower Estimated Tonnage Target (million tonnes)</b>	<b>Upper Estimated Tonnage Target (million tonnes)</b>
-500 to -1,500	585	733
>1,500	397	496
<b>Total Exploration Target Tonnage (million tonnes)*</b>	<b>980</b>	<b>1,230</b>

\*(Totals rounded off)

While the potential of this licence area is significant, the spatial distribution of historical data means that further drilling, and other surveys, will be required to confirm the lateral continuity of coal seam thickness and quality throughout the licence area, and the geological structure, before Resources might be defined, and a UCG project can be defined in sufficient detail to allow a planning application to be prepared.

The Point of Ayr licence covers part of the North Wales coalfield, in an area with historic deep and opencast coal mining dating back to the 16<sup>th</sup> century. The last coal mine, the Point of Ayr colliery, closed in 1996. The coastal areas around Point of Ayr and Hoylake are covered by certain statutory conservation protection orders.

FWS acquired a significant amount of publicly accessible data in the form of published geological maps, legacy borehole data from the British Geological Survey and migrated seismic sections from the UK Onshore Geophysical Database. In addition, data for a single confidential borehole was purchased from the Department of Energy and Climate Change via the company IHS. Mine plans were purchased from the Coal Authority Mining Records Office and coal quality data was purchased from the Coal Authority Deep Mine Archive housed at the British Geological Survey.

The estimates of coal target volumes, target tonnages and energy equivalents stated herein are based on, and fairly represent, information and supporting documentation prepared by Dr Rick Smith of FWS Consultants Ltd, County Durham, UK. Dr Smith is a "Qualified Person" within the definition of the Guidance Note for Mining, Oil and Gas Companies, March 2006, of the London Stock Exchange and has reviewed and approved the information contained within this announcement. Dr Smith is a Consulting Geologist and Chartered Engineer with over 40 years of experience much of which has been spent working on coal based resource projects around the globe and has consented to the use of the estimates and supporting information contained herein in the form and context in which it appears. The Exploration Target Report has been prepared by Dr Smith in accordance with the JORC Code, 2012 Edition.

The full report prepared by FWS, including maps and figures, is available on the following link: [http://www.rns-pdf.londonstockexchange.com/rns/0557Z\\_-2014-12-7.pdf](http://www.rns-pdf.londonstockexchange.com/rns/0557Z_-2014-12-7.pdf)

**\*\*ENDS\*\***

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## NOTES FOR EDITORS

Cluff Natural Resources currently has 100% working interest in eight Deep Underground Coal Gasification ('UCG') Licences in the UK covering a total of 613 km<sup>2</sup>.

In addition, it has been granted five promote licences covering a total of eleven blocks in an emerging gas province of the Southern North Sea by the Department of Energy and Climate Change ('DECC') for conventional gas exploration.

It is the Company's long-term strategy to deliver conventional gas to the UK as well as a determination to safely and cleanly convert offshore coal to gas using UCG technology.

### Glossary of key terms

- **BCF:** billion cubic feet of natural gas
- **Calorific value:** the calorific value or energy content held within a given mass of coal, reported as gigajoules per tonne (GJ/tonne). Can be calculated on a number of different bases including in-situ, as received, dry ash free and mineral matter free.
- **Point of Ayr Licence Area:** is the company's 100% working interest in a UCG licence area of 69.5 km<sup>2</sup> at Point of Ayr, North Wales.
- **Exploration Target:** is a statement or estimate of the exploration potential of a mineral or coal deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and grade (quality), relates to mineralisation or coal-bearing measures for which there has been insufficient exploration to estimate a mineral or coal resource which complies to any of the Measured, Indicated or Inferred resource classifications set out in JORC and there is no certainty that further exploration will result in the estimate of a mineral resource.
- **JORC:** The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, as published by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia
- **Mineral Resource:** a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.
- **TCF:** trillion cubic feet of natural gas

