

28<sup>th</sup> March 2023

**Clontarf Energy plc  
("Clontarf" or "the Company")**

**Joint Venture Agreement on Direct Lithium Ion Extraction Technology in Bolivia.**

Clontarf Energy plc (AIM: CLON) is pleased to announce that it has elected to proceed with the NEXT-ChemX Bolivian joint venture, and therefore has executed the formal Contractual Partnership Agreement with NEXT-ChemX Corporation ("NEXT-ChemX"), which supersedes the 'Heads of Agreement' announced on 15 February 2023.

The purpose of this 50:50 joint venture (the "JV") is to demonstrate the technical, commercial and environmental feasibility of NEXT-ChemX's ion-Targeting Direct lithium Extraction ("iTDE") technology in Bolivia. The JV will hold exclusive rights to deploy and commercialise NEXT-ChemX's iTDE technology in Bolivia, and is governed by the laws of the State of Texas.

Under applicable laws, the JV will, in coordination with the Bolivian authorities, sample, test, and potentially produce lithium salts.

The initial priority of the JV is to confirm the technical, commercial and environmental feasibility of the technology in a pilot plant to be constructed in Austin, Texas. Under contractual arrangements to be agreed with the Bolivian authorities under applicable law, and subject to securing the necessary further funding, the JV plans to deploy a pilot plant in Bolivia in partnership with the State Lithium Company, YLB.

Clontarf is separately in discussions with lithium brine developers outside of Bolivia regarding potential partnering arrangements.

**Further details on the formation of the JV**

NEXT-ChemX will provide US\$500,000 proof of funds to Clontarf, and Clontarf is to pay NEXT-ChemX US\$500,000 towards testing and the pilot plant construction, and as an exclusivity fee for the use of the NEXT-ChemX's iTDE's technology in Bolivia.

Clontarf is also required to issue to NEXT-ChemX 385 million new ordinary shares in the capital of Clontarf ("Ordinary Shares"), of which half will be subject to a 12 month lock in requirement. At yesterday's closing price, such issue of new Ordinary Shares is worth approximately £580,000.

The above two paragraphs detail the "Conditions Precedent" to the JV coming into force. A further announcement will be made as and when the Conditions Precedent are satisfied.

As part of the transaction, NEXT-ChemX will issue to Clontarf the number of fully paid restricted shares of common stock of NEXT-ChemX representing a US\$500,000 value, with the exact number of shares being calculated using the issuance price fixed at the next completed equity raising that is closed and reported to the SEC by NEXT-ChemX. Such shares shall be issued at the closing of the next equity raising carried out by NEXT-ChemX.

Clontarf will potentially issue the following further Ordinary Shares to NEXT-ChemX (or its nominee):

Company will potentially issue the following further Ordinary Shares to NEXT-ChemX (or its nominee):

- 250 million new Ordinary Shares, after successful pilot processing of Bolivian brines through the NEXT-ChemX pilot plant; and
- 250 million new Ordinary Shares after entry into a construction and processing contract between the JV and the Bolivian authorities on processing of Bolivian brines utilising NEXT-ChemX's iTDE's technology.

#### **Pilot Plant Update:**

In respect of the pilot plant:

- Final piping and instrumentation diagram (P&ID) engineering for the Pilot Plant is complete, based on modular 40-foot containers specifically designed for the chemistry of the ions to be extracted from a brine;
- Custom designed Hollow Fiber Membranes have been produced and a production system has been designed for immediate erection of the pilot plant; and
- Testing of various lithium brines is planned, subject to applicable laws, during Q2 2023.

#### **The Process from Lab to Pilot, and then to Commercial Operations**

The extraction of ions has been proven in the lab for various concentrations of different ions using the iTDE technology, which is based upon the square metres of active surface area. Therefore, in the Board's view, it should be easily scalable, since an increase in the surface area results in a proportionate increase in extraction yield. The same basic system works for different ions, however the flow rates and chemistry differ for each brine composition. Therefore, exact kinetics of each reaction must be determined by running the brine liquids through the Pilot system. This allows the calculation of OPEX and therefore CAPEX for a specific brine project.

#### **Chairman, David Horgan, commented:**

*"The world is steadily electrifying, even in hard-to-electrify sectors like transport. Electricity is already about 21% of world primary energy demand, and is projected to grow 2% yearly reaching 35% of total by 2050. According to BP calculations, electricity generation would need to grow by 2.4% yearly to achieve 'net zero' by 2050.*

*"Much of this supply growth is anticipated to come from intermittent sources like wind and solar. Yet existing grids are inadequate even for current needs. Green capital is flowing into more exciting areas like offshore wind and hydrogen, while grids are neglected. Electricity grid storage worldwide is minimal.*

*"The most cost-effective battery storage – whether for vehicles or grids – is currently lithium-ion technology. Yet existing hard rock and brine sources are inadequate. Official estimates of demand by 2050 vary between 12 and 60 times current output from existing sources.*

*"To even partly meet such demand, the world needs a dramatic increase in battery grade lithium salts output. Projected global demand cannot be delivered without major Bolivian output. The delay has been the shortcomings of evaporative ponds at high altitude, some rainfall and impurity levels. The only solution is Direct Lithium Extraction technology.*

*"Any Bolivian operations will conform with applicable laws, in partnership with the State Lithium Company, and respect high international operating standards.*

*"The joint venture's ion-Targeting Direct lithium Extraction ("iTDE") technology may unlock some of Bolivia's brine potential, by reducing water use by 95%, minimising plant footprint, and increasing output to meet surging demand."*

ENDS

*This announcement contains inside information for the purposes of Article 7 of the Market Abuse Regulation (EU) 596/2014 as it forms part of UK domestic law by virtue of the European Union (Withdrawal) Act 2018 ("MAR").*

For further information please visit <http://clontarfenergy.com> or contact:

<b>Clontarf Energy</b> David Horgan, Chairman Jim Finn, Director	+353 (0) 1 833 2833
<b>Nominated &amp; Financial Adviser</b> <b>Strand Hanson Limited</b> Rory Murphy Ritchie Balmer	+44 (0) 20 7409 3494
<b>Broker</b> <b>Novum Securities Limited</b> Colin Rowbury	+44 (0) 207 399 9400
<b>Public Relations</b> <b>BlytheRay</b> Megan Ray	+44 (0) 207 138 3206
<b>Teneo</b> Luke Hogg Alan Tyrrell	+353 (0) 1 661 4055

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