

Ilika Technologies Ltd – Supplementary written evidence (BAT0047)

Letter from Graeme Purdy, CEO, Ilika Technologies Ltd

Inquiry: Role of batteries and fuel cells in achieving Net Zero

Further to the written evidence provided by Ilika at the beginning of the inquiry, we have taken the opportunity to review evidence submitted and provide these additional observations for the Committee's consideration.

The Committee has heard from many different expert sources on the opportunity of, and the fundamental challenge for, the UK taking a lead in the global race to develop next generation battery technology. Ilika is the UK's only pure-play publicly-listed solid state battery company, and is developing 'Goliath' - large format solid state batteries for automotive applications.

Leap-forward opportunity for UK

Professor Mauro Pasta, in his session with the Committee on the 9th March, laid out why lithium ion batteries will approach their physical chemical limit in the next few years, and how more energy-dense technologies will provide the next significant step forward for battery technology. Professor Pasta spoke of the need to focus our attention on these "leap forward" technologies to answer the challenges of performance, safety and charging times.

As the Institute for Materials, Minerals and Mining put it the "key challenge with these process-intensive technologies is scaling up to large batteries, and at large scale (throughout)."

Professor Pam Thomas pointed out the fact that the UK does not have a large production of current battery technology but that this position can be a significant *advantage* for the UK if it takes the opportunity to leapfrog to maturing and manufacturing solid state battery technology.

'Valley of Death' challenge for technology companies at early Technology Readiness Level (TRL)

To take this opportunity it is critical that Government shifts to funding mechanisms which allows for the long-term (5 to 10 year) journey which industry requires for business decisions, and which will encourage private investors to commit. Professor Greenwood and Professor Taylor spoke to this in the session on 23 March.

This is a key point for Ilika and for other UK battery companies with step-change technology at an early TRL. The Faraday Battery Challenge has enabled Ilika to develop the technology to produce the first solid state cells on our pre-pilot line and to create a strong, multi-disciplinary 25-strong team of experts from around the world. Being able to offer world class technology development opportunities within such a novel area has created the perfect environment for innovation.

To sustain and build on this requires Government to set in place its role and commitments with clarity and assurance to inform our R&D programmes. Technology development on this scale and with this potential significance is a long journey and requires patience and commitment. It is imperative that companies such as Ilika are able to retain the expertise created and maintain momentum. If we do not, there are others around the world who will, and as a result, the progress, skills and future industrial dividend could become lost to the 'valley of death' with which the Committee will be all too familiar.

Ilika has this week become aware that Oxis Energy Ltd, a UK lithium-sulphur battery company has been put into administration. Oxis, like Ilika, has been the recipient of UK grant funding for its low TRL technology but unfortunately has not survived for long enough to reap the rewards. This is a great loss for Oxis but also for the UK, which has invested £m's for which it will never see a return. This is a clear example of the need for sustained support.

Ilika believes a more strategic approach should be taken to UK government investment in technology and technology companies, with long term commitment, planning and support to avoid the unnecessary loss of substantial sums of UK tax-payers' money, and to significantly increase the prospects of the UK developing a world leading technology. Our request is for sustained government financial support aligned with published industrial strategy.

In considering its recommendations, we would urge the Committee to look at what specific measures and additional funding can be provided for solid-state battery technology to support research and development on a longer-term basis.

We believe from our experience and success to date that we are at a moment now which will dictate the UK's success in next generation technologies, industries, and supply chains from 2030 onwards.

Finally, we would like to extend an offer to the Committee or its staff, should they wish to visit our facilities in Southampton to see the Goliath development programme first-hand.

Of course, if we can be of any other further help to informing the inquiry or evidencing the points above we would be pleased to assist the Committee.

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