



The future of battery technologies: Developing a UK sustainable battery industry: Parliamentary & Science Committee Meeting: 26 February 2024 at The Palace of Westminster

This event is aimed to tackle the challenges of sustainable battery production in the UK. The event was chaired by Lord Viscount Stansgate and Stephen Metcalfe MP.

Dr Billy Wu from Imperial College gave a powerful presentation explaining that the world is transitioning to electric vehicles, which will require a massive increase in battery production. This presents a huge opportunity for the UK, which has a strong intellectual property position in battery technology. However, the UK needs to act quickly to capitalise on this opportunity, as other countries are already investing heavily in battery production. Also there are likely to be shortages of critical materials including Copper, Lithium, Nickel and Manganese for which supply chains need to be set up and will need to be recycled from used batteries. There will also be opportunities for alternative technologies such as Sodium-Ion for static batteries. However it typically takes ten years to commercialise new technology

Martin Dowson from High Value Manufacturing Catapult said that to compete in the rapidly growing battery industry, the UK must prioritise reducing battery costs across their entire lifecycle. This means innovating in how batteries are designed, manufactured, and recycled. The battery industry is essential for the UK's automotive manufacturing sector and success in this arena underpins the country's ability to reach sustainability goals. Batteries are also needed for aeroplanes. Close coordination between research, skills development and supply chain investment is needed, alongside government policies and interventions, to ensure the UK remains competitive in this market. There is now a race to set up manufacture of batteries in UK to help the UK's motor exports comply with EU rules of origin. There is a risk that if left to a free-market economy, UK will lose that race.

Dr Valentina Gentili, Vice President of Global R&D of Agratas, explored current battery technology and future avenues for an eco-friendlier product. Agratas is owned by Tata which wants to be at the forefront of global battery manufacturing with world class R&D in UK and India. It is developing a battery Gigafactory in Somerset. Material selection should use earth-abundant resources and minimise waste through new processes. The supply chain should be localised to reduce transportation impact, the manufacturing process should incorporate water recycling, renewable energy sources and material reuse and recycling.

The event concluded with a Q&A session where the speakers were scrutinised on their presentations. It was noted that there are many challenges ahead. Batteries are still part of the solution even if other technologies such as fuel cell technologies are used. Systems engineering approaches are still required to mitigate issues of battery fires. Battery production is expensive and needs a great deal of investment.

David Price, Worshipful Company of Engineers

(474 Words)