Portable power: batteries of the future

If we are to meet our decarbonisation targets, we need to reshape the production, storage and distribution of electricity. This episode is looking at advances in a technology that we use daily but probably don’t think about, except when we reach for a phone charger: batteries.

Off road equipment, used in construction and other sectors, is still very heavily reliant on diesel. The cost of downtime to recharge current electric batteries puts off industrial consumers. As does the short life of the batteries which then need to be replaced.

In many ways, battery technology hasn’t developed to keep pace with our growing need for portable power.

We need storage devices that can balance out the intermittent power produced by renewable energy sources and our demand. We have to identify viable, novel materials to make a new generation of batteries in order to get around bottlenecks in lithium supply – set to get even worse as demand for electric vehicles takes off.

A whole new generation of cooling systems could speed up recharging time and prolong battery life. While paper-thin sheets of silicon with great conductive power could be a new boost to electric vehicle uptake.
This episode is looking at breakthroughs in battery design that could affect all of us, supported by EU research funding. Our guests are here to recharge our interest in batteries, something we generally take for granted.

Juan J. Vilatela leads a research group at IMDEA Materials in Madrid. His scientific career is focused on methods for synthesis and assembly of 1D nanomaterials into macroscopic nanotextiles for energy and structural applications, which he explored through the SyNERGY project.

Pekka Peljo is associate professor of Materials Engineering at the University of Turku, Finland. He is interested in accelerating the development of the stationary electricity storage technologies for storing wind and solar power, but also in fundamental electrochemistry. His CompBat project developed machine learning tools to identify alternative materials for next-generation batteries.

Matthieu Desbois-Renaudin is president and one of the co-founders of WATTALPS. He has dedicated his career to optimising energy consumption and emissions in mobile applications, firstly focusing on hybrid cars, and then on all kinds of vehicles and machines. His interests lie in electrification, batteries and their optimisation, including the patented cooling technology developed with the help of the WATTELSE project.

Happy to hear from you!

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