

Press release

Advanced lead battery-based energy system for rural communities reaches final of global green energy innovation competition

Brussels, 9 November 2023

A system using advanced lead batteries to power a micro electric tractor tailored to the African market was selected as one of the finalists of the [Milken-Motsepe Prize in Green Energy](#).

This innovative tractor design is being developed in [Aftrak](#), a groundbreaking project funded by Innovate UK. The initiative brings together expertise from the [Consortium for Battery Innovation \(CBI\)](#), Loughborough University and UK- & Malawi-based charity Tiyeni, and the support of lead battery manufacturer VARTA.

Microgrid solutions for off-grid rural communities have high costs of implementation and maintenance that often cannot be covered by the communities, dissuading infrastructure investments. Aftrak is addressing this challenge by combining a solar energy microgrid with a micro electric tractor to mechanise land preparation. The tractor accelerates the implementation of [Deep Bed Farming](#), an agricultural methodology developed by Tiyeni especially designed for Malawian soils. This system can provide a significant agricultural revenue boost to sustain microgrid-related costs and encourage further energy access investments.

Lead batteries inbuilt in the micro electric tractor play a central role in this green energy system, storing solar energy and providing it during land preparation activities. Dr Carl Telford, member of the Aftrak team and CBI Senior Research and Innovation Manager, said: *“This is a very promising application of lead batteries that can bring real positive impact to rural communities. Having the recognition by the Milken Institute and the Motsepe Foundation is an important endorsement of the viability of lead batteries in green energy solutions.”*



The Aftrak tractor in the test site in Leicestershire.
Photo from [Loughborough University](#).

The [Milken-Motsepe Prize in Green Energy](#) is a global competition to reward innovators working to increase access to green, renewable energy in Africa. This year, over 160 teams from 36 countries presented their visionary ideas to the jury.

Selected as one of the five finalists, the Aftrak team will receive \$70,000 in funding to further develop and test the system in a live field demonstration in South Africa in February 2024. Aftrak also remains in the competition for the final prize of \$1 million, whose winner will be announced in May 2024.

About the Consortium for Battery Innovation (CBI)

For more than 25 years, CBI has delivered cutting-edge research taking lead batteries to a new level for energy storage and automotive applications. With an expert panel made up of the world’s leading battery manufacturers and research specialists, CBI is setting the standard for advanced lead batteries and the next generation of energy storage. For more information, visit our website: <http://www.batteryinnovation.org>

Dr Carl Telford is available for interview. For more information, please contact CBI’s media contact: Nicola Filizola, +32 489 17 76 60; nicola.filizola@batteryinnovation.org