

# Off-grid solar charging system with stand-alone payment process

UK company providing bespoke technical solutions and consultancy services for sustainable energy generation is seeking collaboration for building an off-grid solar energy charging system with stand-alone “pay as you go” payment process designed for non-electrified areas in developing countries. The collaboration can be based on joint venture or technological cooperation agreement with other technological consultancies or solar systems manufacturers to customize.

The rationale for the proposed technology lays in the ever growing need for affordable sustainably sourced energy in most of the developing countries – a solution that caters for low income earners and smallholders. Over 1 billion people have highly unreliable connections to national electricity grids or are without access to reliable electricity. These consumers turn to costly and unhealthy energy alternatives, such as kerosene and candles for lighting, disposable lead-acid batteries for torches, and diesel to run generators. As an example In Sub-Saharan Africa, 51% of the population lack access to electricity. In Nigeria alone, over 100 million people, or 55% of the population, have no electricity supply mostly living in peri-urban and rural areas. In contrast, mobile networks have become the predominant infrastructure, with over 85% of the population living within mobile coverage. With high mobile coverage and large non-electrified areas in a good number of countries within Sub-Saharan Africa, this UK-based company sees large potential for joint development and roll-out of an affordable and sustainable off-grid solar energy charging solution with stand-alone payment process to help alleviate the above energy related problems for battery storage charging needs. A fully functioning prototype of the proposed system is currently being developed (now at TRL 7 - Operational Prototype (Alpha Product)). The final system would have a Machine-to-Machine connectivity enabling a remote monitoring, control and data collection, with integrated PAYG ("pay-as-you-go") or similar stand-alone mobile payment process. The proposed off-grid solar charging systems would be capable of: • Producing varying wattage output capacities to charge various appliances (such as mobile phones and laptops) • Efficiently storing generated energy • Using Pay-As-You-Go (PAYG) mobile technologies • Using scratch card pin solution as an alternative to PAYG. • Wi-Fi technology – as Wi-Fi hotspot • GSM Module • Wireless processing of system information to a base control system With the prototype development at an advanced stage, the company looks to collaborate on this project and share its benefits via joint venture or technological cooperation agreement with other technology solution providers.

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