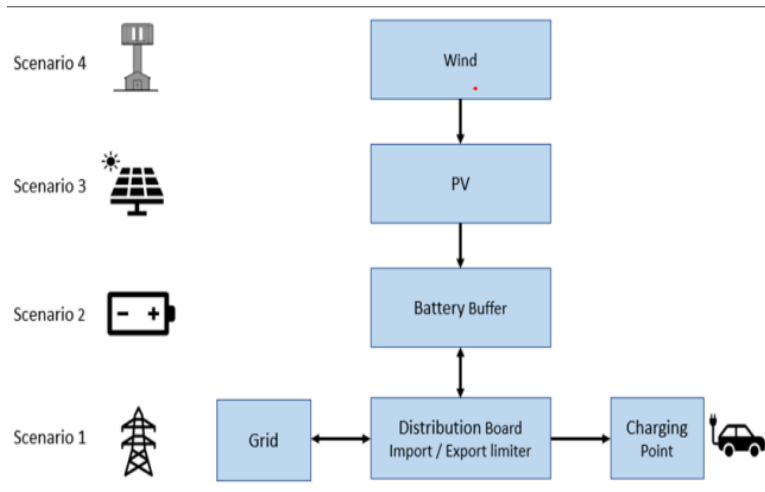


Harbury Future Energy

RCEF Stage: 2



Key Facts	
Vertical axis wind turbine	7 kW
PV	12.6 kW
Battery	80 kW
Community benefits	Power charity electric vehicles, providing essential services in the village and EV charging for villagers with no off-road parking.

The Story

Harbury Energy Initiative is a village volunteer-run group that aims to save energy, reduce household costs and cut carbon within the community. Harbury e-wheels provide transport to those in need and aim to reduce rural isolation and enable local agencies to deliver effective services at no cost to users or agencies. Harbury Future Energy (HFE) and e-Wheels have been able to identify the technical feasibility of providing a community EV charging station to provide fast and rapid charging facilities in the village powered as much as possible by on-site renewable energy (wind and solar) with battery storage and mains grid back up.

Challenges & Risks

A preliminary grid connection assessment by the Distribution Network Operator (Western Power Distribution) has confirmed there is sufficient capacity at the local substation to operate four 22kW fast chargers and one 50kW rapid charger solely from the grid. Other rural settlements are less fortunate and require alternative technical solutions to power EV charging stations e.g. batteries and renewables.

The study has highlighted the challenges faced by rural communities looking to provide local EV charging facilities whilst mitigating the risks of high capital set up costs against initial low returns until EV ownership and local demand for EV charging increases.

Lessons Learned

The demand for rapid charging brings power capacity issues and challenges to rural locations such as Harbury where grid upgrade becomes an expensive solution. However, as evidenced within the study, integrated battery 'buffer' storage coupled with export limitation technology provides a solution.

Key Figures

Project size: Wind & PV	19.6 kW
Energy Generation	120 kW
RCEF grant	Stage 1 £33,524 Stage 2 £98,160

Further Notes

LEP Coventry and Warwickshire

Link for further info: [Harbury Future Energy – Harbury Energy Initiative](#) and https://youtu.be/-76f7D_mbCM