

Lutterworth Rugby Football Club

RCEF Stage: 1



LUTTERWORTH RFC

Key Facts

Solar	Site deemed to be feasible in initial study.
PV	Excess Solar could be used to heat water for showers .
Community Benefits	Vital to keeping the club open as electricity prices are soaring and this popular club is self funding.

Key Figures

Project size:	30.18kw solar and 3 3 x 10kw battery
Energy Generation	30.18kw 24,333kw per annum
Private finance leveraged	
CO2 savings	In excess of 140000 tonnes Co2 long term
RCEF grant	6000

The Story

The site is some 10 acres. There is an opportunity for roof solar panels on both flat and pitched roofs– the building aspect is East South East and West North West. The site has a 70 KVA connection to the grid within its boundary.

The club needs to expand its land area by a least 4.5 acres.

Therefore we wish to evaluate the following technologies all integrated:

1. Solar PV on the roof for electricity generation for the clubhouse, hot water provision and export the excess to the grid in conjunction with battery technology for hot water (showers & changing rooms) plus optimum export revenue.
2. Ground source heating for the building and potentially hot water, reversible for cooling
3. Optimum use of glass technology on the 1st floor to maximise solar gain in the winter and reduce solar gain in the summer to minimise the need for cooling. (consider a reverse cycle heat pump)

Challenges & Risks

Due to most of the energy demand coming later in the day when solar generation is diminished and the use of the 13 x 2kW floodlights being a big consumer, a battery storage system to support the solar PV generation would be required to supply the site during the evenings.

The opportunity for the introduction of renewable energy sources to the club does exist but is hampered economically by the scale of the club and its “normal” hours of operation.

Lessons Learned

The rugby club does not operate as a rugby club all year round although the facilities are open out of season. The hot water requirement is focused on playing and training days and is intense for a short period of time. this means that a heat pump system would need to be sized larger than if it was covering a consistent requirement. It may also be necessary to support the water heating system with an electric heating element. If a solar PV is installed, the electric heating element energy requirement could be met by the renewable energy generated by the solar panels.

Further Notes

LEP area:

Link