



Braunton Parish Council
Rural Community Energy Fund
Stage 1 assessment

Summary

Cost Saving Options

The most viable cost saving option for the business would be to switch to LED lighting. This would involve a small investment but would result in cost and carbon savings.

Figure 1 Wensley cost saving options

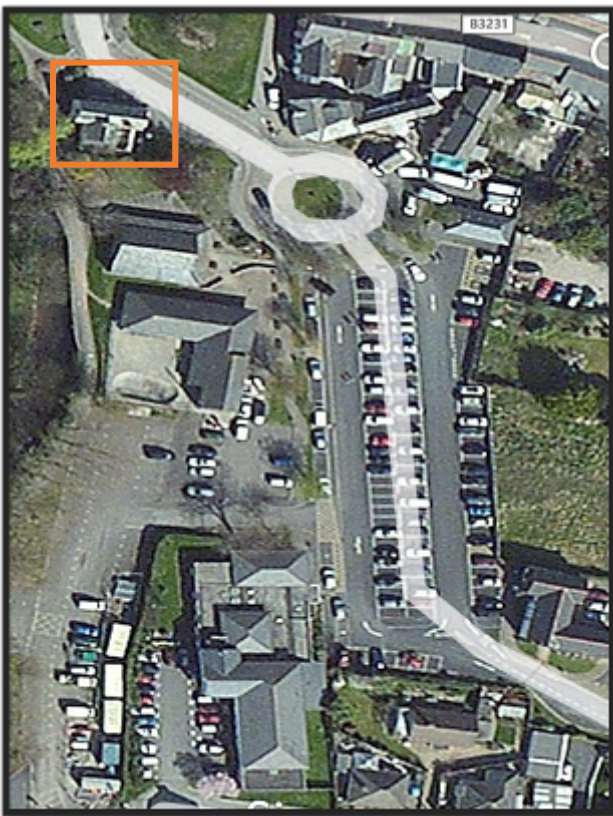
Option	Approx. Cost £	Cost Savings - £ p/a	CO ₂ savings – kg p/a	Simple payback - years
Switch to LED lighting	320*	170	592	1.9

*the costs of the LED lighting will depend on how many are purchased. A bulk order will mean a cheaper price.

Building and Site

The building can be seen highlighted in the 'Bing Maps' satellite image below. The building is located at the north western end of the Caen Street car park. The building is owned by the Parish Council.

Figure 2 Wensley newsagent satellite image



The building itself is of stone wall construction with the original roof, which is in average condition. There is insufficient unshaded south facing roof space to support roof mounted solar technology.

Figure 3 Newsagent south facing roof space



The south facing aspect of the newsagents can be seen in this photo. It is a small roof with little space and is shaded by nearby trees.

The building has a mix of single and double glazing.

Energy Use

Figure 4 Newsagent energy use

Fuel	kWh – p/a	CO ² emissions Kg – p/a	Cost p/a – inc standing charge and VAT £	MPAN	Connection
Electricity	18500	8302	2430	/	Single phase

The business has significant electrical demand for a building of this size. The demand for energy is mainly from the store lighting, fridges and freezers. These appliances provide a constant base load of electrical demand throughout the year. The business has 2 fridges, 1 freezer and a coffee machine.

A plug in electric heater is used in the winter.

Building Improvements

To improve the building would require significant capital investment. Simple measures such as draught proofing are redundant due to the nature of the business – the door is being opened and closed all day which means a large amount of air movement into the building.

To improve the thermal performance of the building would require internal/external wall insulation. The payback for these measures would be very long. Its efficacy would also be questionable due to the air movement into the building from the door. Internal insulation would also reduce the space available in the building.

Electrical System Improvements

The most significant savings can be made on changing the lighting system. The building currently uses 16 fluorescent tubes and these units are on for much of the time. The lighting is on from 5.30am to 6pm Monday to Saturday and 6am to 1230pm on a Sunday.

Switching these 49 watt fluorescent tubes to 20-25 watt LED units. This is an efficiency saving of around 50%. The LED tube units will also last much longer – 25-30,000 hour lifespan. The LED units can be retro fitted to the existing light fittings.

The business uses approx. 3300 kWh for lighting p/a, at a cost of £425. By installing LED units the business could reduce this consumption by 40-50%. Based on an efficiency saving of 40% the business could save 1320 kWh and £170 p/a by switching to LED lights.

Renewable Generation

Solar PV

The building does have some south facing roof space, however it is too small and shaded to be viable for roof mounted solar PV.

Wood Fuel Heating

The building has insufficient heat demand to be viable for its own biomass system or connection to a wood fuel district heating system.