Upton Village Hall – Board Discussion paper January 2017
Review of our Energy Management

Since the last review (November 2013) we have carried out a major 'Energy Saving' project – August 2015. In essence this much improved the ceiling/roof insulation of the building, converted the main hall to LED lighting and installed main hall destratification fans. We have not deemed it necessary to call in an independent energy auditor – we believe we adequately understand our own hall.

Current energy budget

Gas £2580 and Electricity £1330. Totalling £3910 this is ***£2000 down (-33%) on the 2013 report figure***.

How we currently **manage that energy** –

Gas

Our gas central heating has a smart room thermostat (Honeywell CM907 – set to optimal) located in the main hall. All radiators have thermostatic valves with marked 'normal settings' Hall usage is fairly routine from week to week and this allows for the setting up of the following program based on the required temperatures. (The 'optimal' facility on the smart controller '*learns*' when to start the heating to meet the desired settings)

Mon	Tues	Wed	Thur	Fri	Sat	Sun
0930 19	0930 19	0900 19	0930 19	0930 19	0930 20	0900 20
1100 17	1200 20	1000 19	1000 17	1130 20	1100 19	1100 19
1330 21	1330 21	1300 19	1300 17	1200 21	1300 19	1300 19
1700 17	1600 20	1800 20	1600 20	1500 20	1600 18	1600 18
1900 20	1930 17	1930 21	1900 20	1900 20	1900 18	1900 20
2100 12	2100 12	2200 12	2100 12	2100 12	2100 12	2100 12

We encourage users to report if they find the temperature consistently too warm or too cold during their period of use. From this information the responsible UVH Trustee can modify the settings. Those in GREEN have been (recently) lowered and those in RED (recently) raised. Weekends are the most variable from week to week so based on judgement.
This is not modified on the short scale (eg if a Saturday afternoon is vacant).

The Meeting room is also heated by the same Central Heating circuit. We do not have different zones. A portable electric heater is provided for the odd occasion when the room is not deemed warm enough (its radiator off due to the main hall roomstat.

All users are requested to ensure all radiator thermostatic valves are correctly set when they leave. Arriving Users are asked to check.

We are vigilant in monitoring that this temperature profiling is working correctly with the lowest settings acceptable to users.

Gas Boiler

This is a large 'old' boiler housed in its own room. Thermal efficiency 82%. We continue to follow the Carbon Trust advice of 2009 that our greenest action is to retain our current system until it becomes (too) troublesome and/or the efficiency drops off significantly.

Electricity

The main use for **electricity is the lighting**. We seek to encourage users not to waste lighting since the skylights give good daylight. However most users do believe they require a high level of lighting in the main hall. In August 2015 the main hall lighting (low energy fluorescent tubes) was totally replaced with LED (a mix of tubes and panels).
Elsewhere we have retained low energy fluorescent tubes. The light levels are high in the kitchen and amount to 1KW of power. Use of these lights is quite modest and conversion to LED tubes has not yet been taken – although this is kept under review and the market monitored. The Meeting room will be updated to LED in due time but has not been justified yet.
Electricity is used in the kitchen at quite high levels but very intermittently.

What could we do better

- Some of our users would like to see the hall air conditioned since we still struggle on very hot days. We understand that this would be expensive; both to install and operate. Demand from users may be that eventually we will need to thoroughly investigate the possibility.

- Ideally the meeting room requires its own control system (its users may be sedentary while the main hall users very active). When we eventually replace the boiler system then a multi-zone temperature control approach will be considered.

- The stage area ceiling/roof remains without insulation in part due to the high temperature levels reached during productions. Our current policy is to keep the stage curtains closed but we should prepare on discussion on how its heat insulation could be improve without a negative impact on its functionality.

- As already stated above – we need to monitor the market and eventually upgrade all our lighting to LED. (The car park lighting does now successfully operate on very low energy LED triggered by movement detectors)

- Currently the domestic hot water for the kitchen draws on a hot water cylinder heated by the gas boiler in the boiler room. With our current pattern of hot water draw off – our understanding is that it would be more efficient to produce that hot water on-demand electrically.
  Currently we are on a 100A single phase supply and with our kitchen appliances this can be operating at its limit. On-demand electrically heated kitchen water is therefore not viable.
  We are investigating the installation of a 69KVA 3-phase supply. If this becomes financially feasible then replacing the hot water cylinder for an on-demand becomes viable.

- Our roof lends itself to solar panel installation. With our 3-phase installation and re-organised boiler room – then such an installation becomes viable - when the market is very positive.

Footnote on water usage
The urinals are now on automatic sensor flushing.