



Prestbury Parish Council: Energy Management for the Pavilion

Review: September 2020

Cllr. Hamish Breach
Cllr. Ian McAllister

Prestbury Parish Council: Energy Management for the Pavilion

1. Background:

- Cllrs Breach and McAllister were asked by the Parish Council to conduct an energy management review at the July 2020 PPC monthly meeting, minuted as item 20/27/2b.
- That review has two components. Firstly, to look at the current electricity tariff (supplier: Npower) and seek potential alternatives and secondly, to conduct an audit of the how electricity is consumed by the Parish Council within and external to the Pavilion building, including that part relating to the Little Explorers day nursery.
- The Parish Clerk had also engaged with an energy consultant (the Utility Supplier) in April 2020.
- The purpose of this document is to report back to the Council on the findings to date and where appropriate make recommendations on the next steps.

2. Current electricity tariff (supplier: Npower)

- The table below shows the cost of electricity for the period 25th May 2019 to 1st May 2020 (342 days).
- The cost to use for comparison purposes with alternatives tariffs, is £2,607.15 (shown in green below); that cost EXCLUDES Climate Change Levy (CCL) and VAT (which is recoverable for PPC).
- As expected peak usage and cost is in late Autumn and early Winter.

Analysis of Npower bills 25th May 2019 to 1st May 2020

Period			Usage (kwh)	Tariff			Cost						
From	To	Duration (days)		Day rate per kwh (p)	Standing charge per day (p)	Climate change levy per unit (p)	Usage cost (£)	Standing charge cost (£)	Climate change levy (£)	TOTAL excluding VAT	VAT rate (%)	VAT (£)	GRAND TOTAL (£)
25/05/2019	01/08/2019	69	1,618	18.60	25.45		300.95	17.56	0	318.51	5.00	15.93	334.43
02/08/2019	01/11/2019	92	2,146	18.60	25.45		399.16	23.41	0	422.57	5.00	21.13	443.70
02/11/2019	01/02/2020	92	5,742	18.60	25.45	0.847	1,068.01	23.41	48.63	1,140.06	20.00	228.01	1,368.07
02/02/2020	31/03/2020	58	3,566	18.60	25.45	0.847	663.28	14.76	30.20	708.24	20.00	141.65	849.89
01/04/2020	01/05/2020	31	477	18.60	25.45	0.811	88.72	7.89	3.87	100.48	20.00	20.10	120.58
TOTALS			342	13,549			2,520.11	87.04	82.71	2,689.86		426.81	3,116.67

2,607.15

- Potential alternative tariffs: as stated in 1. above, the Parish Clerk had engaged with a utility switching company – *The Utility Supplier* – in April 2020 and again in July 2020.
- Cllrs Breach and McAllister also engaged with an alternative switching company – *Utility Bidder* which gives us two sets of alternatives to validate against one another.

- The table below sets out the options we have for tariff change, as supplied by Chris Conway at *The Utility Supplier* to Cllr McAllister on 6th August 2020. There were some data accuracy challenges with what was provided by Chris (this is version 3!).

Supplier	Contract terms	Fixed?	Exit fee?	Smart meter or equivalent	Day rate per kwh (p)	Standing charge per day (p)	Estimated annual cost (£)	Projected annual saving (£)
Dual	2 years	Y	Y	Y	16.02	0.30	2,271.99	335.17
Dual	3 years	Y	Y	Y	16.70	0.31	2,367.20	239.95
Corona	2 years	Y	Y	Y	16.49	0.33	2,346.13	261.02
Corona	3 years	Y	Y	Y	17.07	0.33	2,426.60	180.56
Corona	4 years	Y	Y	Y	17.93	0.34	2,544.58	62.58
Compared to our current contract:								
Npower	ends June '21	Y	Y	Y	18.60	0.25	2,607.15	

Source: Chris Conway @theUtilitySupplier August 2020

- For example, switching to a contract with Dual for 2 years will result in an annual saving of £335.17. Important.....these numbers require updating and validation.
- The savings presented by the other switching company *Utility Bidder* were broadly similar. However, in their analysis a three year deal with British Gas Lite would yield a saving of £330 per annum, so it is important when we chose an alternative tariff that we look at both unit prices and contract term. Again, these numbers require updating and validation.
- Both switching companies advised that we should NOT exit our current contract before expiry in June 2021, but we should take immediate steps to secure a new tariff as soon as possible before tariff price rises over the winter.

Recommendation:

- It was agreed at the Sports and Recreation Committee meeting on Friday 25th September that we should go back to our current supplier (Npower) and negotiate a better tariff to take effect from June 2021

Action: Immediately by the Parish Clerk

- In the event that we cannot get a suitable deal with Npower then work with a switching company to gain a better deal as advised by them

Action: Immediately by the Parish Clerk

3. Energy audit

- The second component of this energy review is an energy audit – focusing on lighting, heating and a range of small electrical items.
- A preliminary audit was carried out by Cllrs Breach and McAllister on 23rd September 2020
- A list of electrical items, their location and power consumption (where appropriate) is shown overleaf
- The overall impression of the whole building is that it is woefully inefficient. The problem we have is that to improve its efficiency will be quite costly in terms of an initial outlay, especially once we get into improving the insulation, and then ventilation.
- There are, however, some potential quick wins and these are outlined in 'Recommendations' below
- Summary of initial findings:
 - No central heating in the whole building
 - All heating provided by standalone electrical heaters, in various forms
 - Hot water provided by 3 x hot water tanks in loft, heated via electrical immersion heaters, thermostatically controlled, but manually switched on and off by Pavilion staff (either PPC or Little Explorers).
 - Little Explorers switch on their tank at 07:00 on Mondays, and leave it on until Thursday 15:00.
 - Hot water for showers for footballers is provided by PPC staff switching on 2 immersion heaters at 15:00 on Fridays and it is left on until 0800 on Mondays.
 - All hot water tanks fully lagged and insulated.
 - Pipes in loft insulated via electrically powered lagging, as all located above level of loft insulation – potentially costly and inefficient.
 - Loft lagging evident: unable to fully assess its depth or quality across floor of whole loft.
 - Ventilation system evident in loft, with various outlets present in selected rooms in downstairs. Unable to assess its efficiency, or age.
 - IT equipment has standby mode features
 - There are approximately 44 fluorescent light bulbs in the building
 - No motion sensors in rooms for lighting
 - No blinds on windows to retain heat when dark
 - Refrigeration units unlikely to have A-rating
 - No policy on kettle over filling for hot drinks
 - Doors not automatically opening/closing
 - No evidence of employee awareness to remind users of best practice
 - Fire alarms (battery operated) in all rooms downstairs

Recommendations:

- Quick win: Replace all fluorescent lighting in the building with LED or similar low cost, more efficient lighting. Estimated gross saving @£4-5 per week but this needs to be validated. LED bulbs can last approximately 40,000 hours longer, are more energy efficient, and will leave less impact on the environment. (Reference: *Energy Focus*)

Action: Receive quotations for this work as soon as possible - Parish Clerk

- Quick win: Replace the two wall heaters in Little Explorer's. Existing heaters are both inefficient and a health hazard

Action: Receive quotations for this work as soon as possible - Parish Clerk

- Engage an energy management expert to undertake a thorough review of the whole building with costed recommendations for change

Action: Parish Clerk with the new Facilities Management Committee guidance

	Oil filled heater	Electric fan heater	Wall heater	Tube lights	Light bulbs	Printer	Screen /PC/ wifi	CCTV kit	Fan	Kettle	Hot water heater	Fridge	Micro	Oven and Hob	Other
Parish Office															
Main PPC office	1 (1.5kw)	1 (3kw)		8	1	2	3	2							
Office kitchen					1					1	1				
Changing room 1				2	2				1						
Urinal				1											
Shower area				4											
Room 2 corridor				2											
Changing room 2				2											
Room 3 corridor				1											
Changing room 3				2											
Garage				5	1										
Groundsman's office	1 (1.64kw)			1					1	1		1	1		
Diesel storage area															1
External lighting					5										
Little Explorer's															
Entrance hall				2											
Wash room			1	2											
Toilet				1											
Main room			2 (3kw)	12											
Kitchen	1 (2kw)						2					1	1	1	2