



Attlebridge Landfill Site Energy Management and Efficiency Review 2018

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1.0 Introduction

1.1 Site Location

Attlebridge Landfill Site is located at National Grid Reference TG 145 162, approximately 1km southeast of the village of Attlebridge, Norfolk. The landfill lies on flat ground above the valley of the river Wensum which flows towards the southeast some 600m to the southwest. The site is surrounded by woodland and itself surrounds three sides of a farm and an associated property known as Keepers Cottage at its northern boundary. Adjacent to the south-eastern boundary lies a strip of land used by the Mid Norfolk Shooting School.

1.2 Scope

In accordance with the permit condition Bramford Landfill Site is required to monitor, record and review energy efficiency of activities and implement suitable improvements where possible at a minimum of every 4 years.

This review will detail actions taken to make energy and carbon savings, show energy usage at Bramford Landfill Site as well as suggest ideas for future energy and carbon savings.

2.0 Energy and Carbon Saving

On our landfills we are keen to utilise the gas emissions to produce power, normally in the form of electricity, to export or to offset our own usage. Excess gas is trapped and flared. We operate all our sites to maximise the volume of gas collected and strive to have collection efficiencies of 80% or more. In total Biffa operates 34 generating sites in the landfill business, and also has 3 generating Anaerobic Digestion sites in the Energy business. Overall as a company Biffa generates nearly 7 times the amount of electricity we import from the grid for day to day use.

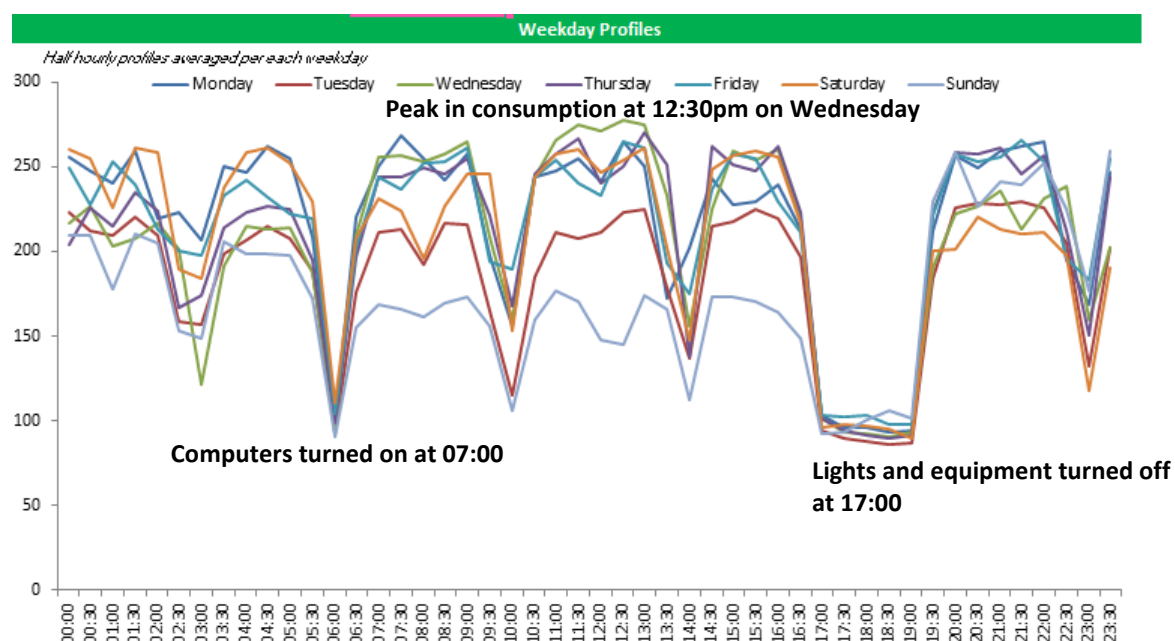
In relation to energy usage Biffa have operated several campaigns to reduce our carbon emissions. These have included “switch it off” campaigns based on electricity usage. This campaign comprised increased reporting and improved guidance in relation to onsite electricity use. Two further campaigns were centred around diesel usage (for road as well as on site plant), and we have also run a “walk to work week” three years running. This was not simply about walking to work but reducing the impact of your journey - if you can’t walk, cycle, use public transport or share lifts. We also encourage the use of car sharing when travelling to business meetings.

3.0 Attlebridge Landfill Site Data

The table below details the amount of energy used at Attlebridge Landfill Site through various sources during 2018. The table also highlights the CO₂ emissions in tonnes.

| <u>Energy Source</u> | <u>Energy Quantity (MWh)</u> | <u>CO₂ Emissions (Tonnes)</u> |
|---------------------------------------|------------------------------|--|
| <u>Grid electricity consumption</u> | 35.1 | 14.38 |
| <u>Electricity production</u> | 4690 | 1920.88 |
| <u>Gross total energy consumption</u> | 35.1 | 14.38 |
| <u>Gas and Oil</u> | 0 | 0 |
| <u>Natural Gas</u> | 0 | 0 |
| <u>Other</u> | 0 | 0 |

*Where applicable, all figures are rounded to 2 decimal places.



Biffa continues to review real time data to highlight any irregularities in energy usage, which can be addressed to ensure minimal energy usage on site. An example of real time data review can be seen below.

4.0 Proposed Energy and Carbon Saving Measures

Biffa continues to undertake energy surveys across the group to highlight areas for energy savings. Fuel usage accounts for 14.17% of Biffa's greenhouse gas emissions so the business is currently conducting electric car and van trials as well as eco-driver training.