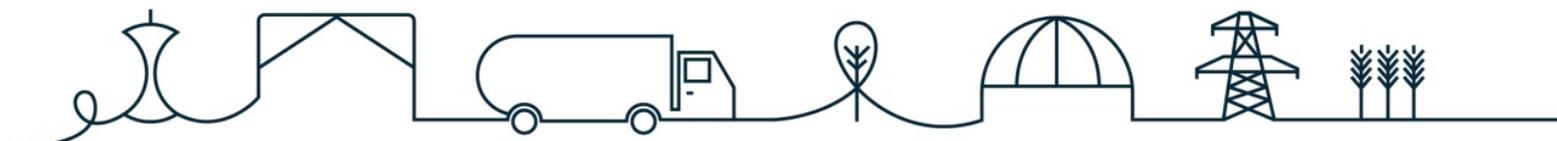


**EXAMPLE- Environmental Report**

<b>Customer name</b>	ABC Company plc
<b>BioWhale location</b>	Solihull, West Midlands
<b>BioWhale ID number</b>	B1005
<b>Reporting period</b>	December, 2016

**Summary statistics:**

	<b>December 2016</b>	<b>Y-T-D 2016</b>
<b>Volume of food waste produced</b> (tonnes)	20 tonnes	250 tonnes
<b>BioGas and BioMethane production</b> (m <sup>3</sup> ) <b>Number of houses heated</b> (for a full year)	BioGas: 4,420 m <sup>3</sup> BioMethane: 2,652 m <sup>3</sup> Houses Heated: 1.6	BioGas: 55,250 m <sup>3</sup> BioMethane: 33,150 m <sup>3</sup> Houses Heated: 20.1
<b>Electricity production</b> (Kwh / # of houses supplied for a full year)	Electricity: 9,277 Kwh Houses Supplied: 2.8	Electricity: 116,025 Kwh Houses Supplied: 35.2
<b>Organic Fertiliser produced</b> (tonnes)	16.1 tonnes	200.8 tonnes
<b>CO<sub>2</sub> savings (equivalent)</b> (tonnes)	74 tonnes	925 tonnes
<b>Number of vacuum truck pickups</b> (# of removals)	2	23



## Sources and bases of calculations

### Volume of food waste produced (*tonnes*)

The actual volume of food waste fed into the BioWhale throughout the month. (Source: BioWhale telemetry)

### Using the above volume, we calculate the following environmental impact/savings:

#### BioGas and BioMethane production (*cubic metres (m<sup>3</sup>) and # of houses heated for a full year*)

Total cubic metres of **BioGas** production is the average BioGas yield for the specific BioWhale - based on the latest laboratory test results which analyse the gas yield per tonne at a food waste AD plant - multiplied by the monthly volume. [Note: Different food wastes yield different amounts of gas, making it necessary to test the BioSoup coming out of each BioWhale at regular intervals.]

It is assumed that **BioMethane** constitutes 60% of the BioGas. (Source: ADBA) The amount of BioMethane as a percentage of BioGas can vary slightly, based on the actual food waste and the specific technology at the AD plant.

The calculation of the **number of UK houses** that could be **heated for a full year** is based on average annual household consumption of 16,500 Kwh of natural gas (Source: OFGEM fact sheet) and assumes that all (100%) of the BioMethane is used for heating.

#### Electricity production (*Kwh and # of houses supplied with electricity*)

Total Kwh of electricity generated from the Bio Methane assumes that all (100%) of the BioMethane is used to generate electricity at the AD plant, using a 35% conversion efficiency. (Source: DEFRA 2011)

The total number of houses that could be supplied for a full year is based on average UK household electricity consumption of 3,300 Kwh (Source: OFGEM Fact Sheet), assuming that all the electricity that could be potentially be generated from the BioMethane is used for household consumption.

#### Organic Fertiliser produced (*tonnes*)

The amount of organic fertiliser produced is based on the UK industry average of the amount of digestate (organic fertiliser) produced per tonne of food waste from a food waste AD plant, i.e. 803 Kg. (Source: University of Southampton)

#### CO<sub>2</sub> (equivalent) savings (*tonnes saved*)

This calculation is based on the amount of CO<sub>2</sub>e ( carbon dioxide equivalent) avoided by processing food waste at an AD plant versus sending it to landfill. One tonne of food waste to landfill creates approximately 4.2 tonnes CO<sub>2</sub>e and one tonne of food waste processed by an AD plant creates approximately 0.5 tonnes of CO<sub>2</sub>e., for a net savings of 3.7 tonnes CO<sub>2</sub>e per tonne of food waste. (Source DEFRA/DECC, AD Strategy and Action Plan, 2011)

#### Number of vacuum truck pickups

The actual number of removals in the month. (Source: OWL Shipping Registry)

