

Food Waste Recycling

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Introduction to Warrens Group

Serving both the public and private sector we have an unrivalled commitment to diverting food waste and organic based materials from traditional and costly methods of disposal that are harmful to the environment.

As an alternative to landfill, maceration and incineration, we use anaerobic digestion to treat these materials to create valuable resources and clean, green energy to power thousands of homes.



A natural biological process

On collection of food waste it is taken to our 10m state-of-the-art processing plant in Newton Aycliffe where we use a process to remove all traces of plastic, glass and metal before pasteurising the waste to meet stringent regulations.

The waste is then transferred to large digestion tanks where anaerobic digestion takes place - a natural biological process within a fully sealed, air free environment.

Millions of bacteria 'feed' on the organic fraction of the waste to produce a methane rich 'biogas', which can then be used for heating and to produce electricity. It also produces a nutrient rich bio-fertiliser which is supplied to local farmers.



Warrens Group - Services

**Commercial Food
Waste**



**Retail Food
Waste**
food fuel

Effluents

**Meat Production
Services**

**Used Cooking
Oil/Fats/Greases**



The numbers

120,000

The number of tonnes of food waste and organic based materials we currently convert.

52m

The number of kWh of clean, green energy generated.

14,000

The number of homes which can be powered with clean, green energy for an entire year.

100,000

The number of tonnes of bio-fertiliser we supply to local farmers to help grow their crops.

The benefits of food waste recycling.....



Act sustainably



Save money



Raise your profile



Win awards



Get compliant

Food Fuel

The Food Fuel initiative provides the perfect platform for green-minded businesses to act sustainably and save money against traditional methods of disposal that are harmful to the environment including landfill, on-site food maceration and incineration.

We provide our members with peace of mind that 100% of their food waste is collected on a scheduled basis and converted into valuable resources and clean, green energy to power thousands of homes.

On joining you will also gain access to a range of tools and resources to let your customers know that you are acting sustainably by making a contribution to reducing the £17bn of food that is currently being wasted in the UK by households, and a wide range of food related sectors.



Food Fuel for Education

Since 2012 we have built a strong portfolio of over 400 schools, colleges and universities across the north east region.

In 2015 we acquired 216 primary schools in Durham through Taylor Shaw who are now diverting around 250 tonnes from landfill per year.

In 2017 I rebranded and relaunched the Food Fuel for Education with a view to doubling our portfolio over the next 12 months.

In August Middlesbrough Council committed to trialling the service and will be fully subscribed by the end of Jan 2018 and are currently in advanced talks with a number of other local authority schools.



Why is food waste from schools an important issue?

In 2007/08, **WRAP (Waste & Resources Action Programme)** produced a report into the types and quantities of waste produced by schools in England. A key finding was that food waste was a major component of waste from schools, estimated to account for almost half of the waste, by weight, from primary schools in England and almost a third of waste, by weight, from secondary schools in England.

WRAP suggests that over a school year (40 weeks) a total of **55,408 tonnes** of food waste is generated by primary schools in England and **24,974 tonnes** by secondary schools, giving a total food waste weight of **80,382 tonnes**.



Food waste was found to be statistically significantly different by school type, with primary schools producing **72 grams per pupil per day** and secondary schools **42 grams per pupil per day**.

The majority of food waste in both **secondary (77%)** and **primary (78%)** schools was found to be avoidable.

The largest proportion of all food types wasted is fruit and vegetables which suggests more is prepared than is actually being eaten in both school types.

Landfilling food waste produces methane which is **21 times** more harmful to the environment than carbon dioxide.

It is forecasted that we will run out of landfill space by 2020.



Whilst incinerating food waste is a better alternative to landfill it is still widely reported that flue gases produced during the process contains residues that are harmful to the environment. **Incineration produces an ash at the end of the process which contains toxins.**



Kitchen macerators are widely used by schools as a method of disposing of their food waste. It is expected that the **ban on all food waste put down macerators** and into the sewerage network will be introduced in early 2018.



Currently there are around **200,000 sewer blockages** in the UK every year, which can lead to flooding. The cost to clean up is estimated at **£15 million per year**, this is passed on through your ever-increasing water bills.



Case Study – Middlesbrough Council Schools

Diverted an average of 35 tonnes of general waste from landfill per 10 site cluster, over a 40 week period.

Eliminated additional charges for general waste bins that are over the contacted weight limits.

Presented an opportunity to reduce the frequencies of general waste collections and overall amount of bins required on site.

Currently in discussions to provide a solution to collect and recycle waste oil and grease.

