

Food Waste Recycling - The Benefits

Some, or all, of these benefits will be relevant to you.

Commercial Benefits

Reduction/Removal of:

- ◆ food waste collection costs
- ◆ associated administration and staff costs
- ◆ vermin control costs
- ◆ compost purchase costs
- ◆ green grocery purchase costs
- ◆ drainage maintenance costs

Quick Return on Investment - typically under 2 years  
Low equipment running costs  
Compost sales revenue opportunities

Social Benefits

Wet waste removal  
Less/No odour  
Fewer/No spillages  
No attraction to vermin  
Ease of handling  
Lighter carrying loads  
Limited take up of storage space  
Promotes practicality of recycling  
Encourages discipline of self-sufficiency  
Training and further education programmes

Environmental Benefits

Accedes to government legislations and directives  
Waste transportation reduced/removed  
Use of peat-based composts reduced/removed  
Extraction of pathogens and harmful gases  
Diversion of organic material from landfill/incineration  
Reduction in landfill gasses and leachate  
Consistent and reliable process  
Complimentary to UK and EU government recycling objectives  
Multiple applications eg horticulture, agriculture  
Resultant high quality compost



HMP Morton Hall - Case Study

As part of the extensive programme of research, trials were carried out at HM Prison Morton Hall, in Lincolnshire, as an example of many institutions with similar food waste treatment problems such as schools, hospitals, military bases, hotels and larger restaurants. The prison accommodates approximately 350 prisoners and serves 710 meals per day, generating a total of 1 tonne of a broad variety of food waste per week.

In using the compost it produces on its own land, the prison is exempt from some of the government legislation relating to composting processes and procedures.

Cost Savings

In the case of HMP Morton Hall, the ability to recycle all food waste has resulted in direct savings of approx £8000 per annum in waste collection fees, and a further £4000 pa in ancillary costs, effectively off-setting the waste processing equipment cost in less than 2 years.

Consultancy

For those organisations requiring in-depth, expert advice on individual site installations and compliance with relevant legislation, IMC is able to provide the services of a specialist consultant.



IMC was founded in 1906 and has since established itself as a leading manufacturer of catering and bar equipment, with an unrivalled reputation for quality, innovation and customer service. Having produced its first Food Waste Disposer in 1956, IMC is the undisputed leader across Europe in this market sector.

All products are designed and manufactured in an ISO9001 approved environment.

In 2006 IMC relocated to its new manufacturing headquarters in Wrexham, North Wales, from which it intends to reinforce still further its customer focussed approach to business.



Food Waste Recycling  
Helping to safeguard our future



## Waste Recycling

### The Environment

Climate change and global warming are a proven result of “greenhouse gas” emissions such as CO<sub>2</sub> and methane. As major contributing factors to these emissions, landfill and incineration sites are subject to critical national legislation that limits the amount of biodegradable waste that can be disposed of in this way.

### Food Waste Disposal

Food waste represents one of the most difficult waste streams to process and dispose of safely and efficiently. Disposal to drain can often cause drainage problems, which are expensive and inconvenient to repair, whilst costs for third party collection and removal from site are rising dramatically as a result of Governmental pressure to divert waste from landfill or incineration.

Food waste containing or contaminated by meat can no longer be moved on as pigswill and must be disposed of to landfill or incineration by a licensed carrier.

### Research

IMC has worked with Imperial College, London, a leading academic authority on waste management, to identify an alternative, economically viable disposal solution, whereby the food waste, typically from catering establishments, can be recycled into compost.

Although chemical analysis shows that food waste from a catering establishment does not have the correct composition or consistent particle size to enable it to be used in the direct production of compost, the use of IMC waste macerating and dewatering equipment overcomes these issues.

### Food Waste Disposer

Waste food is macerated by the IMC Food Waste Disposer, thereby delivering the consistent waste particle size necessary for efficient waste decomposition and good quality compost production.



### Catering Food Waste

Sources of catering food waste include the kitchen preparation area, servery and returned crockery. A key benefit of the IMC waste disposal solution is the ability to singularly deal with all food waste, with no requirement to separate waste that contains or has been contaminated by meat.



### Carbon Source

In order to render the food waste suitable for the production of high quality compost, it is necessary to add to the “dry” food waste a carbon source. This is required to achieve the correct carbon:nitrogen ratio and moisture content. Although a number of carbon-rich materials are suitable, wood pellets from a sustainable source are an ideal, low-cost solution.

The use of a pelletised carbon source is particularly efficient in that it maximises the volume of food waste that can be accommodated within the IVC.



### Compost

The composting process produces a compost that has been treated at, or beyond, the legally required temperatures and duration to ensure the necessary pathogenic depletion.

The compost has achieved the industry standard BSI PAS 100 accreditation and is therefore suitable for use across all applications, with outstanding nutrient properties to encourage healthy plant growth.



### Maturation

Following a period of approximately 6 weeks in-vessel the compost is allowed to cure in maturation beds outside, where regular turning allows it to breathe.



### Bench Unit

In addition to stand-alone units, the IMC macerating and dewatering equipment is available pre-connected and pre-wired as part of a stainless steel bench unit which also comprises an IMC Reel Kleen rinser. Measuring 2200mm long by 700mm deep and 890mm high, the bench fits in with industry standard tabling dimensions, although bespoke units can be made to order.



### In-Vessel Composter (IVC)

The in-vessel composter typically comprises a horizontally orientated rotating cylinder and an air circulation and ventilating system. The feedstock is periodically turned, heated and ventilated automatically.

Food waste is loaded, together with a bulking agent, at the front end of the IVC and compost is automatically discharged at the other end several weeks later.

In-vessel composters are available in a range of capacities relative to the volume and type of food waste that is being processed.



### Food Waste Dewaterer

Macerated food waste enters the IMC “WastePro” Dewaterer by gravity feed from the Food Waste Disposer. Excess liquid is pressed out and discharged to the drain whilst the residual solid fraction, ie “dry” waste, is expelled from the chute and collected.

As a result of dewatering, the initial volume of wet food waste is reduced by approx 80% and is therefore significantly less costly to dispose of at this stage whilst being considerably easier to handle.

