



THE FOOD WASTE EXPERTS

**TIDY PLANET SUSTAINABLE ON-SITE
FOOD WASTE SOLUTIONS**

FOOD WASTE — THE BIG PROBLEM

The Facts

In the EU food waste across the supply chain is estimated at approx. 89million tonnes per year – this is expected to rise to 126 million tonnes by 2020.

(source European Parliamentary Research Service Document: 130678REV1)

The Impact

Landfill: A large percentage of food waste in the EU still ends up in landfill despite EU legislation and contributes significantly to greenhouse gas emissions in the form of methane and CO₂

Transport: Emissions from transportation of food waste contribute significantly to greenhouse gases and pollution and add further pressure to Europe's increasingly congested roads

Cost of Disposal

Many EU countries are using increasing taxes on landfill to encourage waste companies to find alternative methods of disposal. Costs are increasing significantly for Municipalities and Business alike all around Europe

FOOD WASTE — THE SOLUTION

1) Reduce Food Waste

Though the EU Waste Framework Directive, Landfill Directive and other initiatives to divert food waste from landfill are proving successful the generation of food waste is **continuing to increase** as the EU population continues to grow.

2) Re-introduce back into food chain

EU regulations relating to Animal by Products / Animal Health and extensive use of packaging by food retailers and food producers make this increasingly difficult to reintroduce as animal feed

3) Re-Use as a resource

Several ways of dealing with Food Waste of which the main 2 are:-

Composting

Food Waste to Energy



INTRODUCTION TO TIDY PLANET

Based in the UK and providing sustainable food waste solutions for over 15 years

- We believe the best way to use food waste is as a resource
- We believe the best place to process food waste is as close to the source as possible
- We believe in saving our clients' money by using their food waste to produce something of value such as Energy or Compost

A range of products designed to offer our clients on-site Sustainable Solutions includes:



Food Waste to Energy Solutions



Food and Organic Waste In-Vessel Composting Solutions



Used Cooking Oils and Fats to Energy Solutions



IN-VESSEL COMPOSTING

Rocket In-vessel composting is a 14 day continuous Aerobic process in an agitated vessel which uses natural bacteria to produce compost from organic waste.

It has the following advantages:-

Carbon Footprint: By processing in smaller units as close as possible to the food/organic waste source we reduce the pollution and cost of transportation

Segregation: By separating organics from contamination at source before processing we follow best EU composting guidelines and are able to control the quality and produce usable compost

Resource: By producing quality compost we eliminate the cost of disposal and produce a product with value for further food production, horticulture and the community

Efficiency: Energy consumption and staff interaction with In-vessel composting is very low

Operation: The Rocket In-vessel composter is a simple continual process. The equipment is durable and built to run continuously for more than 20 years with minimal maintenance

Odours: Rocket in-vessel composters are designed to almost eliminate the release of odours to atmosphere





The Rocket In-Vessel Composter from Tidy Planet is found around the globe with over 600 units in operation around the world including North and South America, Europe, Middle East, Asia

Sizes: The Rocket is available in sizes from 50kg/day up to 10,000kg day

Sectors: The Rocket is suitable for all sectors where food and organic waste are a problem and is available in smaller sizes suitable for schools and restaurants up to large units for Municipalities and food processing businesses. It is particularly suitable for remote communities where transportation is a problem and expensive such as: Island communities, mining/oil and gas operations etc

Modular: The larger Rocket models can be supplied in different modules to provide the best solution for the site. **Dewatering** for wet wastes, **Pre-shredding** of large solid wastes, automatic **Screening** of finished compost are some of the options available



ROCKET A700 IN-VESSEL COMPOSTER

- **CAPACITY:** Up to 1000 kg per week
- **USED:** Schools, Hotels, Prisons

This model is located at **THE HILTON HOTEL** here in Athens

ROCKET A900 IN-VESSEL COMPOSTER

- **CAPACITY:** Up to 2000 kg per week
- **USED:** Hotels, Universities, Shopping Centres

This model is located at **SOUTH LODGE LUXURY HOTEL** in the UK





ROCKET A1200 IN-VESSEL COMPOSTER

- **CAPACITY:** Up to 3000 kg per week
- **USED:** Food Processing, Holiday Resorts, Municipal

This model is located at THE RIBBY HALL Holiday Village in the UK

ROCKET B2500 IN-VESSEL COMPOSTER

- **CAPACITY:** Up to 10,000 kg per week
- **USED:** Municipal, Remote Communities, Sewage Treatment

This model is located in London, UK



SOLID WASTE TO ENERGY

The DRAGON Food Waste to Energy system combines GAIA organic waste drying technology with an automated separation system and Biomass Energy process to provide an integrated solution which produces thermal energy from food waste all in one package.

It has the following advantages:-

Contamination: The Gaia food waste dryer is able to process packaged food waste by de-packaging the food waste and drying it into a stable biomass product in one integrated process

Carbon Footprint: By processing in smaller units as close as possible to the food/organic waste source we reduce the pollution and cost of transportation

Energy: The energy generated by The Dragon is in the form of useable heat. This can be used to generate, hot water, steam or cooling for the site.

Resource: By generating energy on site the producer of the waste is able to generate value from a waste that used to be expensive to dispose of. In some EU countries such as the UK Government incentives are available for this type of energy generation

Operation: The automated system is easy to operate with robust and proven technologies. The whole process requires minimal operator time and is easy to maintain





THE DRAGON

The Dragon is the result of research and development by Tidy Planet to find a sustainable solution for those businesses for whom compost was not the best solution

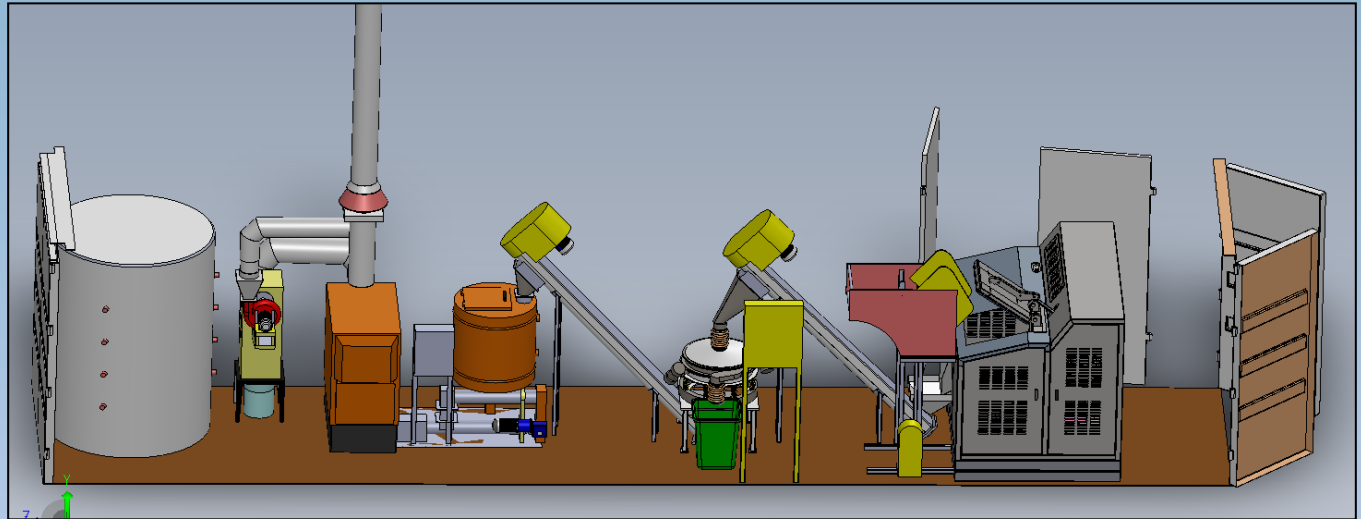
The first packaged unit was recently shipped to BP's remote South Caucasus Gas pipeline construction site in Georgia in May 2014

Models: The Dragon is a modular system which is packaged in single or multiple containers for economic transportation, installation and operation. Systems range **from** 500kg of food waste and 100kw/hr of energy **upwards**.

Sectors: The Dragon Food Waste to Energy system is aimed at larger scale catering operations and food processing facilities with a requirement for heating or cooling. Such as Food manufacturers, Supermarket distribution centres or remote mining/oil and gas operations



DRAGON D600/100 INTEGRATED FOOD WASTE TO ENERGY CENTRE



CAPACITY: 600 KG Food Waste per day & 100 kW/hr thermal output



USED COOKING OILS & FATS TO ENERGY

The CHiP (Combined Heat and Power with Intelligence) is an innovative packaged CHP Cogeneration system which turns Waste Cooking Oil and Animal fats into Green Energy by generating electricity and hot water to be used directly on the site where it is produced

It has the following advantages:-

Carbon Footprint: By converting the Waste Oil directly into energy on site we eliminate transportation and the issues of converting it into Biodiesel such as waste by products

Energy: The energy generated is in the form of Electricity and Hot Water, larger systems can also provide Cooling

Resource: By generating energy on site the producer of the waste is able to generate higher value from this waste. In some EU countries such as the UK Government incentives are available for this energy

Operation: The system is fully automated with remote monitoring and requires no operator intervention. Oil transfer and processing is via a remote pumping station

Sectors: The CHiP is used at larger scale catering operations and food processing facilities producing waste oil and with a requirement for heating or cooling.





THE CHiP – CO-GENERATOR

CHiP Co-Generation systems are helping to turn waste cooking oil into a sustainable on-site energy and are in operation around the world with units in USA & Europe



CHiP COGEN 10

- CAPACITY: 10 Kw/hr Elec and 17 Kw/hr

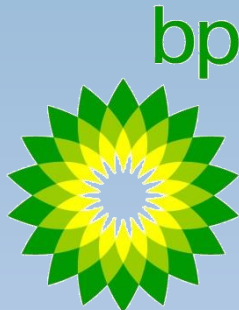
This model is located at KFC Restaurants in the UK



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