

ORGANICS LTD

Capability statement



Manufacture

Combustion
ENGINEERING

Biological
TECHNOLOGIES

Environmental
SOLUTIONS

DESIGN THROUGH
understanding

WASTE GAS AND WASTE WATER MANAGEMENT



EQUIPMENT RANGES

LANDFILL GAS FLARES
BIOGAS FLARES
PETRO-CHEMICAL FLARES
MOBILE FLARING SYSTEMS
SOLAR POWERED FLARES
SEQUENCING BATCH REACTORS
ANAEROBIC SYSTEMS
SCRUBBING COLUMNS
ACTIVATED CARBON FILTERS
WASTE HEAT RECOVERY SYSTEMS
AMMONIA STRIPPERS
METHANE STRIPPERS
REED BEDS
GAS ANALYSIS SYSTEMS
GAS COOLERS AND CHILLERS
ELECTRICITY GENERATION
DISTRIBUTED MONITORING SYSTEMS
MOBILE GAS LIQUEFACTION UNITS
CARBON DIOXIDE SCRUBBERS
HYDROGEN SULPHIDE SCRUBBERS
GAS PUMPING SETS
LIQUID PUMPING SETS
PRESSURE-SWING ADSORBERS
SCADA CONTROL
ODOUR CONTROL
CYCLONES
WASTE TREATMENT SYSTEMS
OPERATION AND MAINTENANCE SUPPORT STRUCTURES

INTRODUCTION

Organics Ltd, with its head office located in the industrial West Midlands of England, has its origins in the UK landfill gas and leachate industry. Organics now provides a comprehensive, industrially based manufacturing service, with offices, fabrication facilities and representation in many different countries.

Organics has the capacity and capability to advise on and install complete facilities for both waste gas and waste water treatment. Also addressed within the product portfolio are technologies for waste gas utilisation. More recent product developments include systems for the use of solid and liquid wastes as a resource for energy recovery.

Over the years the company has developed various ranges of plant and equipment which can be manufactured at short notice to Client requirements. Operational facilities are now installed in a large number of locations in the United Kingdom and around the world.

The strengths of company staff lie particularly in the fields of mechanical engineering, electronics, telemetry, combustion engineering and geotechnical applications. In landfill engineering, for example, a thorough grasp of the geotechnical and hydrogeological environment of a landfill site is an essential prerequisite to proper planning of gas and leachate abstraction schemes.

Company staff are authors of professional papers on European specifications for flare stacks and on utilisation of landfill gas; a computer programme has been prepared for the quantification of gas yield over time. The company is currently deeply



involved in the development of technologies for the anaerobic digestion and gasification of components from municipal solid waste.

PRODUCT RANGES

Flare systems

Organics provides a wide range of flare systems, from simple open-burners to systems that include exhaust-gas recirculation and fuel staging for ultra-low emissions combustion of polluted waste gas streams. Industries supplied include the landfill gas, sewage gas and biogas industries, as well as the conventional petro-chemical industries.

The first elevated flare was supplied in 1988 to a landfill site in England where gas escaping from a landfill site had caused a domestic property to explode. From this initial beginning the technology has moved to SMART flares, units that use exhaust gas recycling and combustion air staging to produce ultra-low emission flares.

As well as standard equipment types, Organics is adept at designing combustion systems to suit specific process requirements.

Leachate and waste water treatment systems

The first leachate treatment system constructed involved the use of anaerobic bacteria. This technology employed was that of an anaerobic baffled reactor.

Organics has moved on to the supply of aerobic systems, sequencing batch reactors and a range of physical processes, such as ammonia strippers and activated carbon polishers.



Combined with the various equipment techniques that have been developed as process items, Organics is able to offer a wide range of solutions for a multitude of waste water treatment situations.

Gas handling equipment

As may be expected, equipment for the management of gas prior to use or destruction has become a strong point within the company. Gas handling equipment includes conventional extraction and pumping, with a range of gas-movers, to air-blast cooling, the application of refrigeration techniques, and the use of cryogenics for gas separation and ultimate liquefaction.

Instrumentation

Monitoring process performance is an important element within the control and analysis of operation. Organics is able to provide a wide range of instrumentation to monitor both process performance and the impact of processes on ambient environments.

As well as the more conventional readout at point-of-use, Organics also offers a range of SCADA methods for remote access, reporting and control.

Gasification facilities

Gasification offers a method of converting the energy content of waste directly to energy, whilst at the same time minimising the amount of waste passing to landfill. Organics has designed and built a process designed to accept a wide range of waste inputs.

Included within this process is the facility to manage calorific value of product gases passed to the



point of use. Point of use may include use in boilers and internal combustion engines.

Anaerobic digestion plant

Wet wastes are better suited to wet treatment processes. The drying of waste often requires a significant input of energy. The point at which the energy produced is less than the energy required for drying can often render drying-prior-to-use a net energy user.

Organics is working with high-rate anaerobic digestion plant for use with the varied wet organic waste streams typically received at landfill sites and waste transfer stations.

SERVICES

Finance

As a key component within a comprehensive equipment supply package, Organics is able to offer a range of finance options to the customers. These include simple leasing through to comprehensive finance and operate options.

Servicing and operation

Servicing is a vital component within a successful operation. Organics offers packages that include regular routine servicing through to full-time operational management.

Consultancy

Organics is not a consultancy. As part of specific services to its customers Organics can provide consultancy support on specific issues. This has included problem analysis, design support and expert witness services.



DATA SHEETS

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| ODSF00 | FLARE SYSTEMS |
| ODSF01 | AC Range flares |
| ODSF01-1 | US AC Range flares |
| ODSF02 | SC Range flares |
| ODSF02-1 | US SC Range flares |
| ODSF03 | MC Range flares |
| ODSF04 | RB Range flares |
| ODSF05 | Low NOx flares |
| ODSF06 | LHC Range flares |
| ODSF07 | Standard options for flare systems |
| ODSF08 | Industrial flares |
| ODSF09 | Mobile ground flares |
| ODSF10 | Machine Range flares |
| ODSF11 | Solar powered flares |
| ODSL00 | LEACHATE AND INDUSTRIAL WASTE WATER TREATMENT |
| ODSL01 | Sequencing batch reactors |
| ODSL02 | Aeration systems |
| ODSL03 | Anaerobic systems |
| ODSL04 | Scrubbing columns |
| ODSL05 | Stripping towers |
| ODSL06 | Activated carbon filters |
| ODSL07 | Leachate heaters |
| ODSL08 | Reverse osmosis |
| ODSL09 | Pneumatic pumps |
| ODSL10 | Methane stripping systems |
| ODSL11 | Ammonia stripping systems |
| ODSL12 | Treatability unit |
| ODSL13 | Reed beds |
| ODSG00 | GAS SYSTEMS |
| ODSG01 | Feed gas analysis equipment |
| ODSG02 | Exhaust gas analysis equipment |
| ODSG03 | Cyclone water KO pot |
| ODSG04 | Ambient-air line coolers |
| ODSG05 | Landfill gas direct use |
| ODSG06 | Electricity generation from landfill gas |
| ODSG07 | Gas chillers |
| ODSG08 | Gas filtration equipment |
| ODSG09 | Distributed monitoring systems |
| ODSG10 | Mobile gas liquefaction units |
| ODSG11 | Carbon dioxide scrubbers |
| ODSG12 | Hydrogen sulphide scrubbers |
| ODSG13 | Gas pumping sets |
| ODSP00 | PROCESS EQUIPMENT |
| ODSP01 | Pressure swing adsorption |
| ODSP02 | SCADA control |
| ODSP03 | Linkland GUI |
| ODSP04 | Chemical dosing systems |
| ODSP05 | Activated air units |
| ODSP06 | VOC abatement systems |
| ODSP07 | Flame arresters |
| ODSP08 | Orifice plates |
| ODSP09 | Ammon-ion process |
| ODSP10 | Sy-Clone |
| ODSP11 | Sepsizer |
| ODSP12 | Odour |
| ODSP13 | pH driven ammonia strippers |
| ODSM00 | FINANCE AND OPERATE |
| ODSR00 | WASTE AS A RESOURCE |
| ODSR01 | Gasification systems |
| ODSR02 | Anaerobic digesters |

COUNTRIES OF OPERATION

England
 Scotland
 Wales
 Northern Ireland
 Ireland
 Spain
 Portugal
 Greece
 Turkey
 Denmark
 Thailand
 Singapore
 Hong Kong
 Australia
 New Zealand
 United States
 Mexico
 China

COUNTRIES WHERE ESTABLISHMENT IS IN PROGRESS

Finland
 Tunisia
 France
 Sri Lanka
 Vietnam
 Philippines
 Korea
 Malaysia
 Central America
 South America

The names of countries provided above do not comprise a definitive listing. Organics remains interested in developing new relationships where opportunities exist.

INTERNATIONAL EXPERIENCE

Equipment supply overseas commenced in 1993 with flare systems to Mexico. Since this time Organics has established a market presence in many different locations around the world.

The method of operation varies from country to country. Organics operates through agents and representatives in many countries. In others, where suitable representation has not been identified, Organics has direct representation. The principle is always that installed plant and equipment should be technically supported with a full range of service and support options being available to the end-user.

As part of a continuing development of market areas, Organics has opened a regional office in Bangkok, Thailand. This office acts as a point of contact for the Far East, China, Australia and New Zealand.

Every country in which Organics operates has its own methods and preferences for a great many of the variables involved in environmental control. The United Kingdom measures emissions as a concentration; the USA measures emissions as a mass flow rate set against power ratings. Environmental compliance in Hong Kong is rigorously applied whereas in many other countries standards are considerably less stringent.

Organics is able to respond to the needs of each situation by offering appropriate solutions for specific pollution control requirements.

Ultimately, the preference is for sustainable solutions. It is in this direction that the social requirement to deal with waste will ultimately find an equilibrium with the environment.

FUTURE DIRECTIONS

Organics has established, through a large number of satisfactorily completed projects, its ability to design and deliver a wide range of environmental control equipment for landfill sites and other situations where pollution control is a requirement.

Organics is building upon its ability to deliver equipment around the world. Providing new solutions to well known and understood problems forms a focus for the contribution Organics is making to technology in its field.

At the same time Organics is developing new technologies and equipment ranges to meet the objectives of developing trends within the waste management industry. Such equipment is designed for use with organic liquid wastes, organic solid wastes and odours.

Having the role of technology provider in many operational facilities, Organics is also involved in building up the Finance and Operate side of its business. For many end users it makes sense to pass partial or complete responsibility for the long-term performance of such systems to the supplier of the technology. There are many permutations to this theme. Organics is ready to meet the requirements of individual circumstances and Client preferences.

POINTS OF CONTACT

In the first instance new contact may be made directly to the UK head office or by means of the Internet, through the Organics web site:

www.organics.com

or via e-mail:

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All country enquiries will be directed to the appropriate party.



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