ADGEX

Advanced Green Expertise

greenBLAZE

MOBILE UNIT FOR RECYCLING, DISPOSAL, DECONTAMINATION AND RECYCLING OF HUMAN WASTE

SYDNEY

greenBLAZE IS A UNIQUE MOBILE UNIT

The greenBLAZE unit is designed to process human organic and biological waste into environmentally friendly fractions. The greenBLAZE is unparalleled in the world and is able to solve the eternal problem of mankind in a turnkey manner - the solution is to correctly and environmentally friendly recycle and dispose of organic and biological waste directly at the source and/or site of its disposal, and to recover low-cost energy resources, such as heat and electricity, from waste.

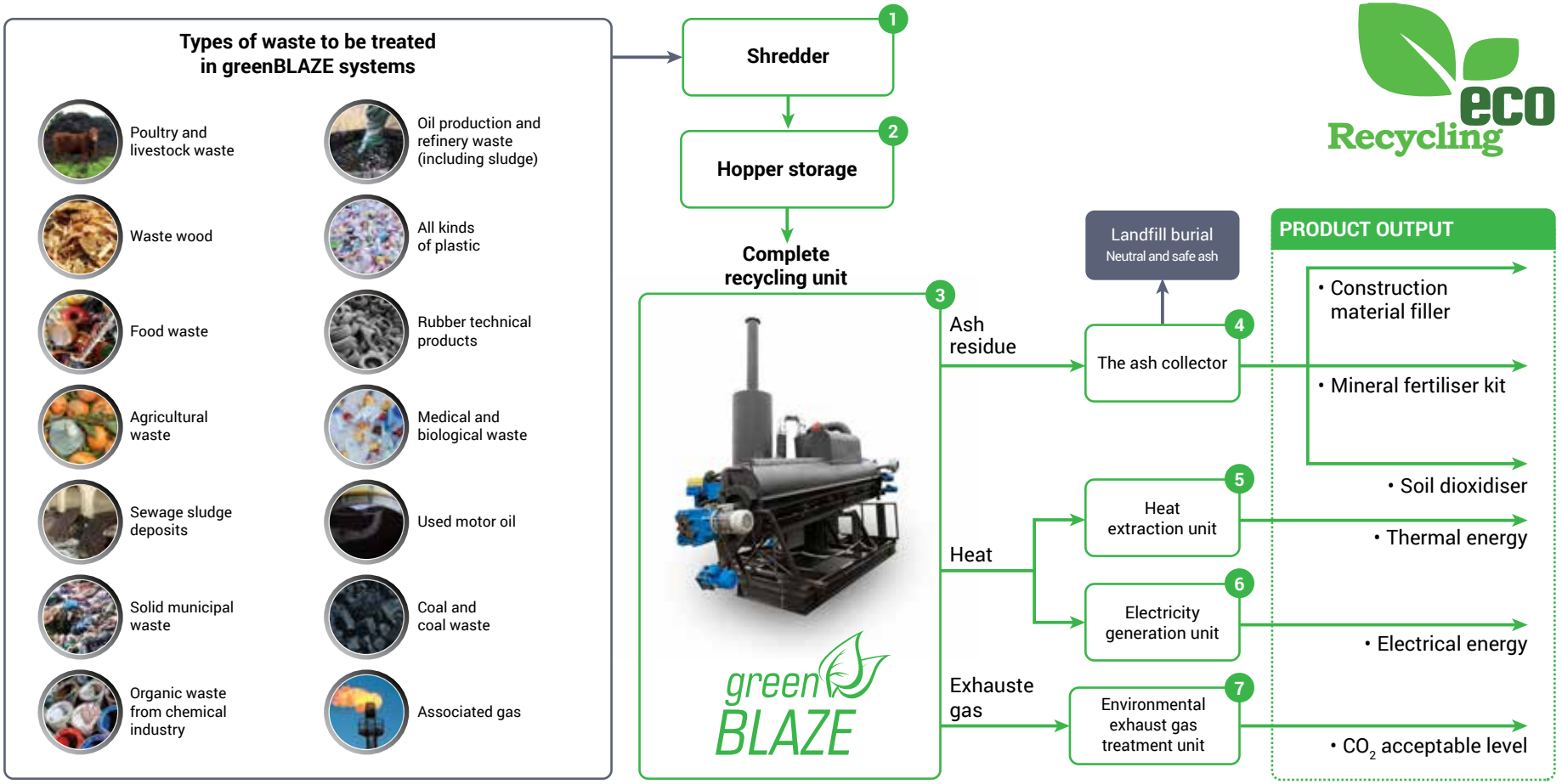
FIELDS OF greenBLAZE APPLICATION

- Livestock and poultry farms, meat processing plants
- Landfills and waste recycling plants
- Large industrial enterprises
- Sea and river ports
- Communal facilities
- Wastewater treatment plants and water utilities
- Timber processing companies
- Coal mining industry
- Food manufacturers
- Shopping malls, hypermarkets and shops
- Train stations, airports, bus stations
- Other organic waste generators

greenBLAZE IS CREATING A NEW APPROACH TO WASTE MANAGEMENT

WASTE MANAGEMENT AND DISPOSAL NOW	WASTE MANAGEMENT AND DISPOSAL USING greenBLAZE
High costs of collecting waste and transporting it to landfill or recycling facilities.	Reduce the volume of waste by more than 10 times, and reduce the cost of waste management by more than 50 percent.
The problem of overflowing landfills and landfill sites near settlements.	With greenBLAZE there is no need for random garbage dumps or new landfill sites.
A huge list of non-recyclable and non-degradable types of waste that are simply dumped and accumulated in landfills.	greenBLAZE recycles virtually all known types of organic waste and human waste without polluting the environment.
Different requirements for the disposal of waste of different hazard classes and, as a consequence, different disposal methods and additional costs for waste generators.	The product of the greenBLAZE plant is a neutral and safe ash residue, irrespective of the type and class of waste originally disposed of
When landfill sites are set up, huge areas are contaminated for many years. There is a constant need to open new and new landfills to replace the overcrowded ones.	With greenBLAZE, existing landfill sites can be remediated and no new ones opened, recycling the newly generated waste directly on site.
Waste disposed of and buried in a landfill has no further use in human life, is not useful, decomposes, pollutes and poisons the environment.	GreenBLAZE technology uses rubbish as fuel, generating large quantities of heat and electricity that can be used at home and in industry.

WASTE MANAGEMENT CHART AT THE greenBLAZE BASE



All types of solid waste first enter the **Shredder (1)** for shredding. The shredder is followed by a **Hopper Storage (2)** which receives the shredded solid waste and liquid waste, so that all the waste can be collected in one place at the same time and fed to the **greenBLAZE (3)** for processing at a uniform 24/7 speed. The greenBLAZE is a mobile closed-loop recycling system without open burning, in which a multistage vacuum-thermal decomposition of the organic the multistage vacuum-thermal decomposition of carbon-containing materials in the plant leads to the complete processing of organic waste with high heat emission and ash residue. The ash residue is deposited in the **Ash Collector (4)**. The ash residue is finely dispersed and completely inert with respect to secondary reactions of the lithified mass, and can be used for road paving, as a filler for building materials, and is an excellent mineral fertilizer and soil deoxidizer. Part of the generated heat at the outlet of greenBLAZE can be removed by the **Heat Extraction Unit (5)** and another part is taken off and fed to the **Electricity Generation Unit (6)**. The Power Generation Unit consists of a hydro turbine (closed water circuit with a 30 m tower and pumping station) and generators. The exhaust gases produced by the combustion of synthesis gas in greenBLAZE are fed to the Environmental **Environmental Exhaust Gas Treatment Unit (7)**, where CO_2 is reduced to a multiple of the minimum permissible level.

TYPES OF RECYCLED CARBON-CONTAINING WASTE AND POST-PROCESSED PRODUCTS

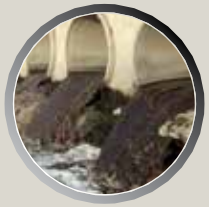
TYPES OF WASTE RECYCLED BY greenBLAZE INSTALLATIONS


Poultry and livetock waste


Timber waste


Food waste


Agricultural waste


Sewage sludge deposits


Solid communal waste


Oil production and refinery waste (including sludge)


All kinds of plastic


Rubber technical products


Medical and biological waste


Used oils


Coal and coal waste

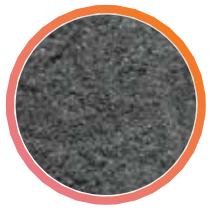
Waste can be MIXED together in any proportion

OUTPUT PRODUCTS


Electrical energy


Heat


Distilled water


Ash residue

KEY BENEFITS OF greenBLAZE INSTALLATIONS

MOBILE AND COMPACT

GreenBLAZE systems can be used at waste sites and landfills as well as directly at waste sites and production facilities. The greenBLAZE can be delivered by all modes of transport.

ECOLOGICAL AND SAFE

The emissions and output products (carbon dioxide, ash residue, water) from the greenBLAZE are completely environmentally friendly. The disposal of hazardous and contaminated waste results in the complete elimination of dangerous pathogens.

RECYCLING OF ALL KINDS OF WASTE

The greenBLAZE is adaptable and adapted to handle any composition of organic (carbon-containing) waste fed into it. There is no need to pre-separate and sort the waste. Waste does not need to be separated and sorted beforehand.

LOW ENERGY CONSUMPTION

The greenBLAZE only requires power supply to the feeder motors (10-15 kW). With the stand-alone starter module, greenBLAZE can be used and installed at any location with no infrastructure in place.

SHORT PAYBACK PERIOD

greenBLAZE systems have low capital and operating costs. The modular design of greenBLAZE systems allows for a rapid increase or decrease in waste treatment capacity on site in a short period of time without additional costs.

COMMERCIAL EFFECTIVNESS

GreenBLAZE plants produce heat and electricity when additional modules are connected. The resulting ash residue is an excellent building material and/or is used as a mineral fertilizer complex.

COMPARATIVE ANALYSIS OF greenBLAZE INSTALLATIONS AND TECHNOLOGIES IN USE TODAY

The volume of future recycling for all existing technologies is determined at the project stage. If there is a need to increase the volume of recycling or to change the type of material to be recycled or to change the type of material to be processed, complex, long-term upgrades are required.	Reduction of waste volumes for disposal by a factor of 10 or more, continuously over the operation time
Today's cookers are usually powered by natural gas or liquid fuels. The cost of these resources is high and steadily rising.	Low energy consumption for the operation of the unit. Reduced direct costs of waste disposal
Most modern technologies are designed to process only a certain type of waste. Before recycling, waste must be completely sorted, which is one of the most expensive steps.	All organic waste of all hazard classes is recycled in the greenBLAZE plant into one waste - neutral and safe ash residue
Organic waste is spontaneously dumped in landfills. In such landfills, organic matter begins to decompose in confined spaces, forming a favorable environment for pathogen development and polluting the atmosphere with accompanying gases, contaminating groundwater and soil in a large radius from the epicenter of burial.	In greenBLAZE systems, the pathogenic environment is destroyed completely through a closed combustion process.
Other types of waste disposal and recycling, such as incineration in landfills or low-temperature pyrolysis, are very harmful to the environment. Existing technologies emit a number of toxic and harmful substances into the atmosphere, unfortunately, even the installation of additional treatment facilities does not guarantee 100% safety. This entails an increased burden on businesses in the form of fines for environmental damage.	No fines for negative environmental impact. The greenBLAZE system includes an environmental unit for cleaning exhaust gases into the atmosphere. The operation of the greenBLAZE complex is pollution-free. The emission control performance of the greenBLAZE exceeds the European `Euro-5' standard.
Alternative technology equipment is installed directly at the site of use, usually at a landfill site, and cannot be relocated at a later date. Dismantling the equipment is either impossible or extremely costly.	The greenBLAZE units are mobile. They can be easily transported to waste storage sites, require no infrastructure connection, can be set up on site and are ready for operation in 12 hours. By enlarging the plants, a rapid increase in capacity is possible.
When constructing production sites, the recycling line requires the same capital design as the structures for the main production facility. This requires additional costs for waste accumulation and the organization of temporary waste sites.	By increasing the number of greenBLAZE units, a rapid increase in productivity is possible.

greenBLAZE APPLICATIONS IN WASTE MANAGEMENT SYSTEM

REDUCING THE VOLUME OF WASTE BEFORE GOING TO LANDFILL

The greenBLAZE is adaptable and can handle any composition of organic (carbon-based) waste fed into it. The waste does not need to be separated and sorted beforehand.

DISPOSAL OF EXPIRED FOODSTUFFS

The mobile greenBLAZE units process all kinds of foodstuffs, fats and meat and bone scraps. The output is neutral ash, which can be used as a mineral fertilizer complex.

LIQUIDATION OF UNAUTHORIZED LANDFILLS

The mobile greenBLAZE plants will recycle unauthorized landfills cost-effectively and environmentally friendly. This eliminates the need to move them to legal landfill sites for reburial.

SLUDGE AND SLUDGE DISPOSAL SEWAGE TREATMENT PLANTS

GreenBLAZE units can be easily integrated into existing wastewater treatment systems and can dispose of sludge and organic sludge directly at the point of accumulation and formation.

greenBLAZE APPLICATIONS IN ENVIRONMENTAL DAMAGE LIQUIDATION

RESTORING THE ECOLOGICAL BALANCE IN CONTAMINAYED AREAS

GreenBLAZE units can be used for the remediation of contaminated land and for the clean-up of man-made accidents and disasters (oil and oil product spills).

ELIMINATION OF MOTHBALLED WASTE SITES AND LANDFILLS

greenBLAZE plants can be used for the destruction of mothballed and open landfill sites. greenBLAZE processes also organic waste that is in a deep decomposition stage.

DISPOSAL OF SEWAGE SLUDGE

The greenBLAZE plants excellently process sewage sludge, both fresh newly formed sludge with a moisture content of up to 84% as well as dried sludge cards right on the spot.

PRODUCTION OF MINERAL FERTILISER FROM WASTE FROM THE COMPOUND

When organics are processed in greenBLAZE plants, the output is pure ash, which is an excellent mineral fertiliser complex and serves as a soil deoxidiser.

greenBLAZE APPLICATIONS IN THE FUEL-ENERGY CLUSTER

MOBILE POWER STATION

A single greenBLAZE system can produce 1 MWh of green electricity in a mobile or stationary version, by reclaiming and recycling 1 ton of low-grade coal directly at the coal storage site (including temporary storage) and other carbon-containing waste, such as wood, waste tires and other high-energy waste.

HEAT SUPPLY MANAGEMENT

A single greenBLAZE complex can produce up to 1.5 Gcal of thermal energy per hour from organic waste, both in the mobile and stationary version. The design of the greenBLAZE unit initially includes a heat recovery unit (including a mains unit), which makes it possible to connect the greenBLAZE unit to the existing heating network of residential and industrial premises.

TECHNICAL CHARACTERISTICS OF greenBLAZE BASIC UNIT

THE VOLUME OF WASTE RECYCLED PER HOUR:

- 3 to 6 tons (depending on the carbon content and moisture content of the waste)

MANUFACTURING OF COMMERCIAL OUTPUT PRODUCTS PER HOUR:

- electrical energy: 1 000 kW
- heat: 0,6 Gcal

PRODUCTS AFTER PROCESSING ORGANIC WASTE:

- Neutral and safe ash residue in the amount of 1-10% (depending on the morphology of the waste to be processed)

THE PLACEMENT OF THE UNIT AND ITS MOBILITY:

- All equipment is housed in 2 20ft containers
- Set-up time of the unit: 12 hours
- The cassette-module approach: allows the waste treatment capacity to be increased by attaching additional units (modules), and the units/s can be easily and quickly relocated to a new location

SERVICE STAFF PER SHIFT:

- Operator - 1 employee (engineering degree)
- Handyman - 1 employee (unskilled)

THE UNIT'S OPERATING MODE:

- Continuous / intermittent (at customer's choice)
- continuous: up to 8,500 engine hours per year (24/7)

greenBLAZE UNIT WARRANTY: 3 years

LIFETIME OF greenBLAZE UNIT: at least 10 years

SERVICE MAINTENANCE FOR THE greenBLAZE UNIT

- once a year (duration of service 14-20 days)
- Service charges: 5% from the price of the complex

THE CLIMATIC OPERATING CONDITIONS OF THE UNIT:

- -50°C ÷ +60°C.

HARMFUL EMISSIONS AND DISCHARGES: are kept to a minimum.

SANITARY PROTECTION ZONE: is reduced as much as possible (up to exclusion).

INFORMATION FOR THE CUSTOMERS

COST OF THE GREENBLAZE BASIC UNIT

- About USD $ 2 500 000 (excluding delivery costs)
- Depends on the individual needs of the customer, the volume of waste to be treated and its specification, additional equipment.

COST OF THE BASIC UNIT INCLUDES:

- Training for the customer's personnel (to be carried out during commissioning);
- Start-up and commissioning.

MANUFACTURING TIME:

- 4 - 7 months (depends on greenBLAZE package)

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