ADGEX

Advanced Green Expertise

greenBLAZE

ENERGY BRICK

UNIVERSAL
WASTE-TO-ENERGY
SOLUTION

THE PROBLEM

WE ARE TURNING RESOURCES INTO WASTE FASTER THAN WASTE CAN BE TURNED BACK INTO RESOURCES!

Globally treatment of waste is a huge challenge. More than 700 kg of waste per capita are produced each year. About 80% of the waste is just landfilled. Abundance of trash goes to wild dumps. At the same time, significantly less amount of waste is converted into energy. Unfortunately, the practice of waste processing is not really widespread nowadays.

Garbage recycling plants are quite complex and incredibly expensive to construct. They are not as eco-friendly as claimed, so waste utilization is conducted with massive emissions of toxic substances. There has been no any optimal solution so far for safe and cost-effective utilization of waste.

Landfilling, incineration and dumping of waste inflict irreparable harm on peoples' health and environmental well-being, and existing treatment methods are not economically viable. Uncollected wastes contribute to flooding, air pollution, and public health impacts such as respiratory ailments, diarrhea, dengue fever, oncology and many other diseases.

Humanity has already filled every corner of the world with trash that cannot be treated with existed technologies.

THE SOLUTION

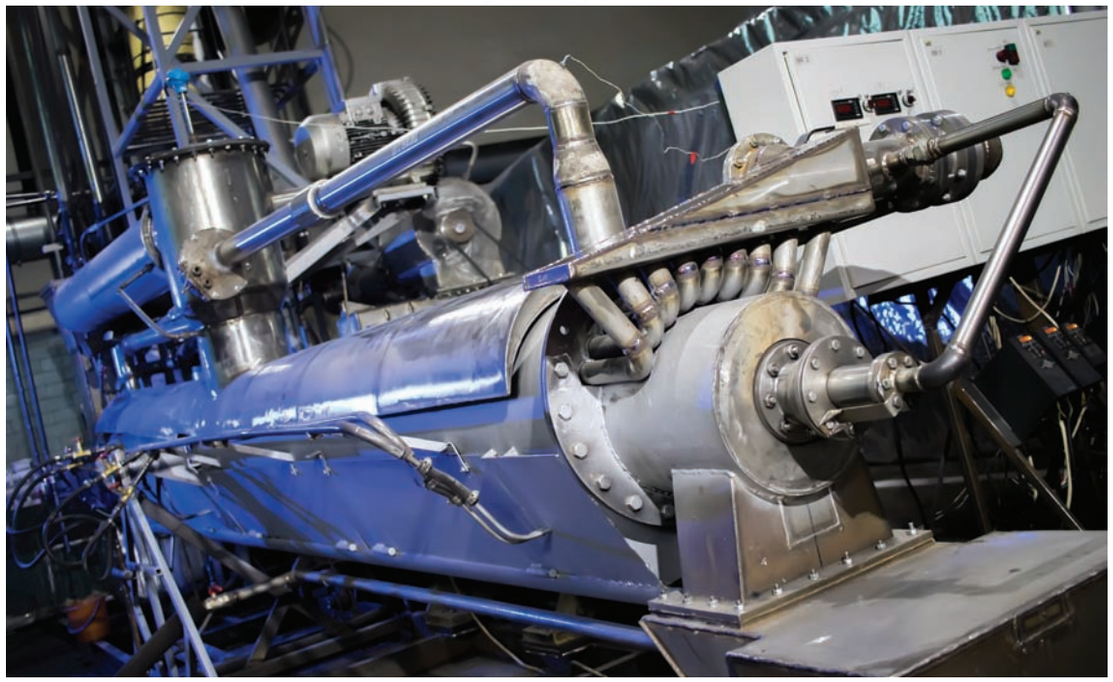
ADGEX presents a comprehensive waste to energy solution, capable of solving the problem of ever-increasing waste accumulation and global power shortage!

The solution encompasses two signature technology of ADGEX as well as a unique scheme of Green Energy Distribution.

The core is the **greenBLAZE technology**, representing an altogether new way of energy generation from waste and all carbon-contained materials.

greenBLAZE is a mobile sustainable processor, designed for conversion of all type of organic waste into electric energy, fuel and heat energy.

The conversion technology is based on innovative safe and eco-friendly method of high-temperature vacuum destruction. It allows reaching the matchless quality of end market products and provides the highest level of efficiency and operation performance.



Eco-friendly greenBLAZE processors will turn our cities into advanced global centres for fostering game-changing sustainable innovations. Introduction of the greenBLAZE technology can play a vital role in intensive evolu-tion of our society as a green, modern and high technological community.

greenBLAZE FEATURES

NO WASTE SORTING

The greenBLAZE processor is able to treat all types of organic waste without preliminary separation, meaning that it is now possible to load all unsorted liquid or solid waste at once and convert it into high-profitable energy sources.

WASTE TO PROCESS

greenBLAZE

SELF-CONTAINED OPERATION

GreenBLAZE requires no any external power sources as all resources necessary for uninterrupted operation are produced by the processor itself.

MOBILITY

A space-saving greenBLAZE complex can be mounted on a truck, vessel or rail platform and easily relocated from one landfill to another.

ENVIRONEMNTAL SAFETY

The greenBLAZE processor has no harmful and toxic emissions so it can be installed even in business centres or residential buildings without any threat to people's health and the environment.

SUSTAINABLE BUSINESS TRANSFORMATION

greenBLAZE greatly reduces CAPEX & OPEX and reveals new business opportunities for all market participants

APPLICABILITY

greenBLAZE is a solution to solve pressing waste utilization problems, shorten logistic schemes, optimize energy sector, integrate renewable energy, and create new self-contained MSW profit centers, which can be based directly on waste accumulation sites.

greenBLAZE can be installed in a close proximity to waste accumulation sites such as landfills and wild dumps, nearby the farms, coal mines, manufacturing and any other commercial facilities to immediately process generated waste of industrial objects on site and supply them with uninterrupted power.

SELF-SUFFICIENT UTILITY SYSTEM

greenBLAZE can be used as absolutely independent utility system, making it feasible to leave behind centralized sewage and water supply systems.

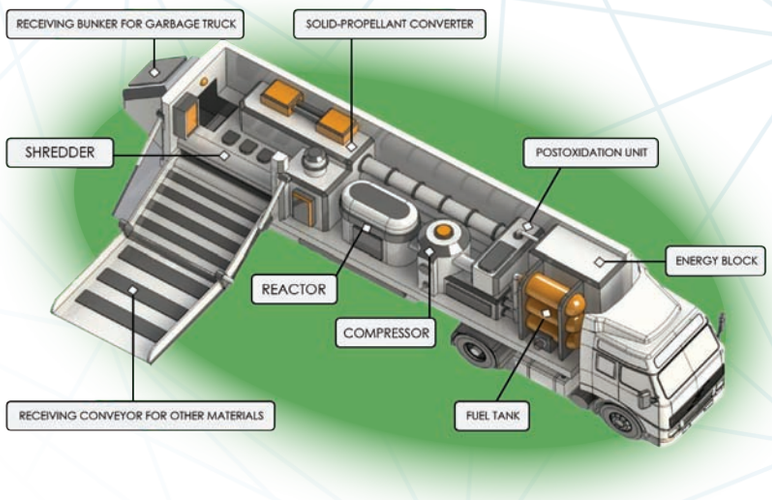
It can be positioned in basements of living or commercial buildings to create a closed circuit of waste treatment, water & energy supply. Such system collects all household wastes from a residential or industrial building, including MSW, sewage, and other waste, delivers it to the greenBLAZE unit that converts it into heat energy, electricity, and water (as a side product) and brings it back to the utility network, distributing among the building's residents.

This is the way how we can get rid of centralized water, electricity and heat supply, providing independence to any remote living or industrial premises and solve such weighty problems as a shortage of electric power and lack of access to basic amenities in hard-to-reach regions.

MOVABLE WASTE TO ENERGY TRUCKS

Unique structure of the greenBLAZE processors allows forming movable waste-to-energy trucks. Such vehicles make it possible to clean cities from ever-increasing waste and fundamentally change waste management industry.

Mobile greenBLAZE processors mounted on a truck will cruise around the cities, collect and process all waste on the move without the need to deliver it to huge process-ing and recycling facilities. Such approach allows simplifying current waste collection and utilization methods, cleaning the cities and entire regions from both accumulated waste and wild dumps.



STATIONARY WASTE TO ENERGY SYSTEMS

Stationary versions of the greenBLAZE processors can provide remote areas with a comprehensive system of waste utilization, producing green and affordable energy.

Such systems make it possible to establish self-sustaining communities, independent from centralized power networks. Hard-to-reach regions experiencing continuous outages and shortage of electric energy supply may now forget about such problems once and for all as greenBLAZE operates in 24/7 mode, generating electricity and heat energy.

Moreover, greenBLAZE can be rapidly deployed at disaster areas in order to mitigate accident's consequences and provide stable energy and fuel supply to relief breakdown aftereffect.

FLOATING WASTE TO ENERGY PLATFORMS

Oceans are another huge application area where greenBLAZE can render inimitable contribu-tion in cleaning nearshore and offshore zones.

Today global ocean contains thousands of million tons of waste with a total area of millions square kilometers. Mariners map their routes bypassing waste spots to avoid the debris being winded around the ship's propellers.

The greenBLAZE processors mounted on vessels and ships are able to collect and process all wastes from the ocean with recovery of electric energy and fuel. A part of the generated energy is used to power up the greenBLAZE floating platforms, making the ocean cleaning campaign totally green and environmentally safe.

greenBLAZE IS A UNIQUE RESOURCE-SAVING SOLUTION, ABLE TO PRESERVE OUR PLANET PRISTINE AND PROVIDE ECOLOGICAL BALANCE OF NATURE.

Electric energy generated by the greenBLAZE processor can be stored & transported using another associated technology of ADGEX called **energyBRICK.**

energyBRICK

ASSOCIATED ENERGY STORAGE TECHNOLOGY

energyBRICK is a green battery storage facility for universal electric power accumulation and effective transmission of the stored energy.

EnergyBRICK represents a number of units or "bricks" consisted of several unique accumulating cells, featuring unparalleled performance and specifications.

To reach required capacity, such cells are combined into integrated energyBRICK units. One energyBRICK unit has a capacity of 170kW, which is is able to safely accumulate and effectively store electric power, generated by any type of conventional or alternative power sources, including ADGEX greenBLAZE processor.

energyBRICK is a ground-breaking solution to back up the electricity grid operability and provide the accumulating basis for renewable energy generation.

energyBRICK HIGHLIGHTS:

- Low internal resistance value
- High efficiency level due to the lack of heat losses
- No memory effect – can be literally fully discharged to "zero" level
- Can be easily and safely stored in a fully discharged condition
- Can be charged with high-amperage and high-voltage pulse currents in a matter of minutes using any suitable power source
- Low self-discharge level as little as 5% per annum
- Highly resistant to continuous short circuit
- It is possible to start charging from any level without shortening lifetime and reducing charging efficiency
- Mobility – the units can be charged remotely and delivered to any location
- Lightweight and compact
- Eco-friendly: no harmful substances emitted during operation.

Technical specifications of one 170kW energyBRICK unit:

Parameter	Value
Capacity	170kW
Charging rate, A	500
Discharging rate, A	250
Length, mm	1200
Width, mm	800
Height, mm	1500
Mass, kg	1950
Service life, years	15
Service Life, charge-discharge cycles	25 000
Operating temperature	-60°C to +60°C

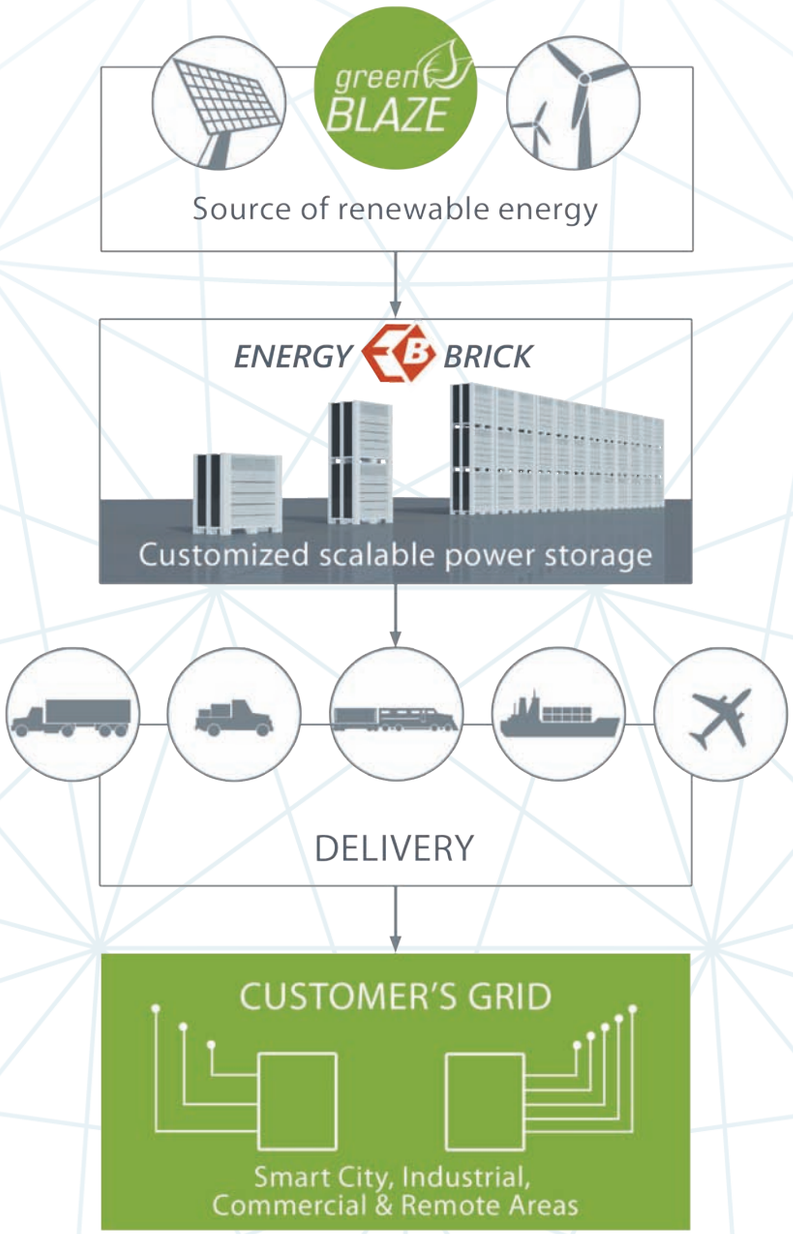
Modular ready-to-go units energyBRICK can be combined into powerful energy storage facilities to optimize a power management system and avert power blackouts and outages.

EnergyBRICK facility can be of any required capacity, starting from 170kW and endlessly scalable by installing additional units..

GREEN ENERGY DISTRIBUTION

energyBRICK is breaking new ground in electric power transmission as it creates altogether new logistic schemes of energy distribution. energyBRICK units can be relocated by means of standard transportation (vans, trucks, freight containers etc.).

DISTRIBUTED RENEWABLE ENERGY GENERATION



New method of energy distribution allows:

- Delivering the energy to any hard-to-reach areas, making remote communities self-sufficient and energy independent;
- Providing rapid energy supply in case of emergency;
- Forming local micro grids for industrial applications to enable individual sites to be less reliant on centralized power systems;
- Establishing back-up power sources to relief state power grid overloads and prevent voltage deviations.

As energyBRICK has low self-discharge level (5% of charge loss per annum), even transportation over long distances ensures delivery of energy with min losses. It doesn't matter anymore how remotely the end customer resides – energyBRICK will keep exactly the same amount of energy as when it was charged regardless of the distance and time to deliver.

Standardized weight and size parameters of the energyBRICK units allow using standard forklift to load and unload the units to / from any vehicle or platform.

It is no longer necessary to transmit electricity over long distances using traditional energy grid. The vehicles will transport precharged batteries and deliver them straight to each customer's premises.

Electricity produced by greenBLAZE processor is charging energyBRICK units directly on site

Such a comprehensive integrated solution as the energyBRICK technology will open up infinite vistas, allowing us to effectively store electric energy and distribute it via traditional current transportation methods like roads, rail or waterways.

APPLICABILITY

Universal design and performance excellence make energyBRICK a unique solution for a number of different industries.

Introduction of the energyBRICK units into various spheres will make it possible to drastically improve electric energy management and ensure universal access to affordable reliable and sustainable electric energy for all segments of the population.

Combined with the greenBLAZE processors, energyBRICK establishes a new waste to energy pattern, opening a new sustainable page of electric power production and distribution.

Urban transportation, e-buses, electric cars, scooters and other E-mobility

Indoor residential energy solution to accumulate the energy during off-peak hours and power the house when rates are high.

Energy back-up solution mitigate grid overloads and provide uninterrupted power supply in case of emergency or power outage

Setting up of local microgrids to provide independence, self-sufficiency and 24/7 power supply for industrial objects.

Delivery of affordable energy to hard-to-reach areas, turning remote settlements into self-sufficient communities

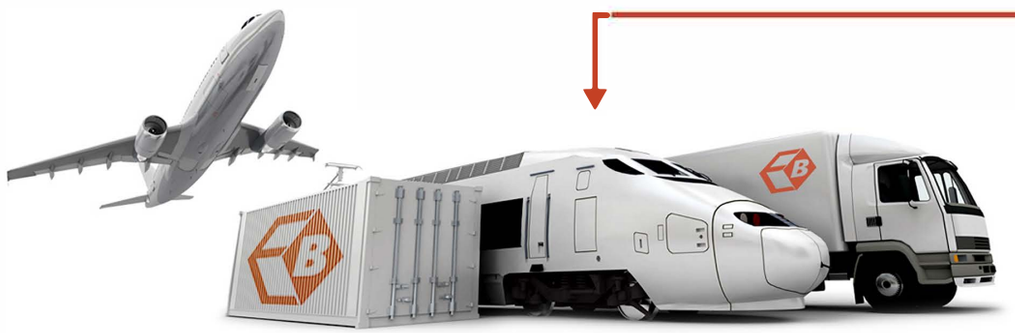
Uninterrupted power supply of socially significant facilities to protect sensitive equipment and appliances from voltage drops and power blackouts.

Independent power supply for large infrastructure transport hubs (bus, railway stations, airports etc.) to reduce peak loads and prevent network meltdown

NEW WASTE & ENERGY MANAGEMENT SYSTEM

Thanks to the integration of several key technologies of ADGEX company, the given Waste to Energy Solution is able to revolutionize all waste treatment and power generation industries, solving a number of pivotal challenges once and for all!

ENERGY BRICK



COMMERCIAL & INDUSTRIAL ENTERPRISES

LOW-RISE RESIDENTIAL BUILDINGS

URBAN INFRASTRUCTURE

REMOTE & HARD-TO-REACH REGIONS

WASTE COLLECTION AND REMOVAL

AFTER-TREATMENT OF SIDE PRODUCTS: ASH RESIDUE AND INORGANIC WASTE

COARSE INORGANIC FRACTIONS
- Burial
- Can be used in construction purposes (roadbeds, foundation pits)

FINELY DISPERSED ASH RESIDUE (4TH CLASS OF SAFETY)
- Mini-plant of building materials: production of high-quality cement and concrete, construction blocks, flagstone etc.)

METAL, GLASS
- Recycling and secondary use

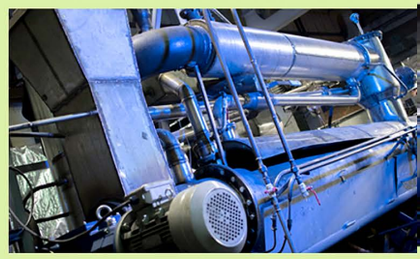
ENERGYBRICK CHARGING & STORAGE ROOM

ELECTRIC ENERGY GENERATION UNIT

greenBLAZE

WASTE TO ENERGY FACILITY

WASTE RECEPTION STATION → SHREDDING → THE greenBLAZE PROCESSOR



ADGEX

Advanced Green Expertise

ADGEX.COM

SUITE 701, LEVEL 7, 53 WALKER STREET,
NORTH SYDNEY, NSW 2060, AUSTRALIA