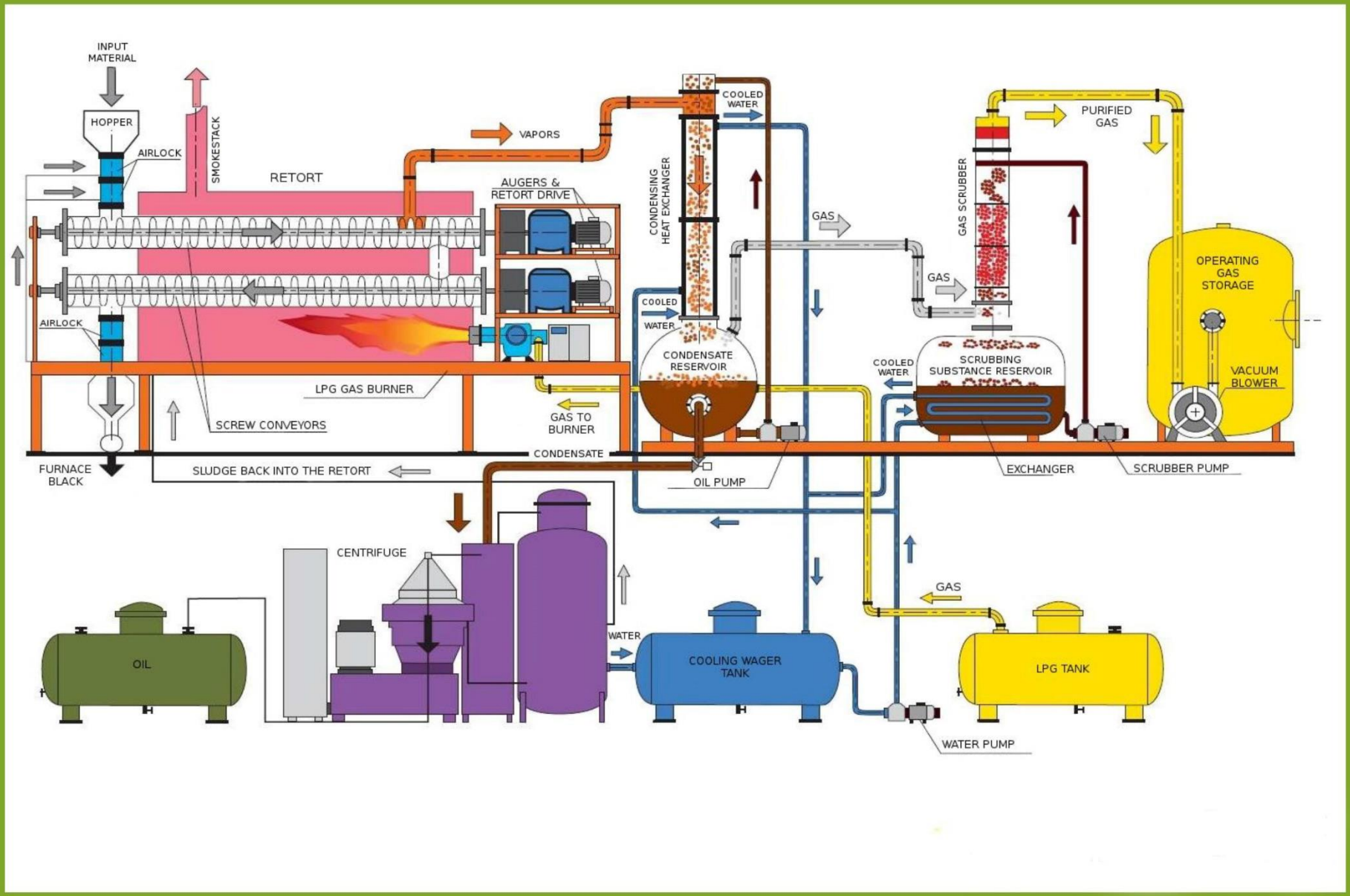
WASTE IS ENERGY

The gasification unit for thermal depolymerization of carbon compounds without oxygen access

The gasification unit for thermal depolymerization of carbon access

The technology of the thermal depolymerization of carbonaceous materials have been developed and constructed to dispose organic waste; at the input there are processed otherwise hardly process-able types of waste and at the output are marketable or further process-able products, such as gas, oil and carbon, respectively scrap metal. Wasteprocessed in this way becomes a useful raw material from which we can extract an energy, that would otherwise expire unused in landfills.

Pyrolysis unit



Waste

situation and sustainability

More people
=more waste

More waste
= **more energy**

More consumption
=more waste

More waste
= **more heat**

More products
=more waste

More waste
= **more clean water**

Types of waste

organic materials or materials composed of organic compounds

Plastic

Petroleum sludges

Tires

Biomass

Municipal waste

Hospital waste

Waste separation for further processing

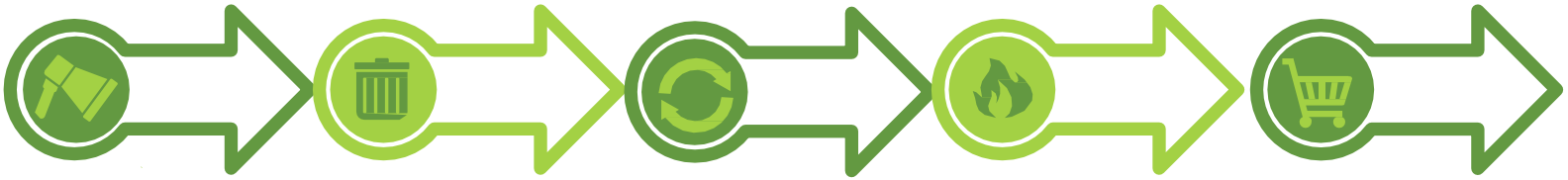
Separation can be carried out using a fully automatic or semi-automatic sorting line. Material such as glass and metal are separated.
Metal can be sold to waste collection yards and it is also very desirable raw material for the production of steel in metallurgical plants. Recyclable glass can be sold to glassworks manufactures for new glass production.

Infographic Style

Separation

Fully automatic or semi-automatic sorting line

Processing



Drying

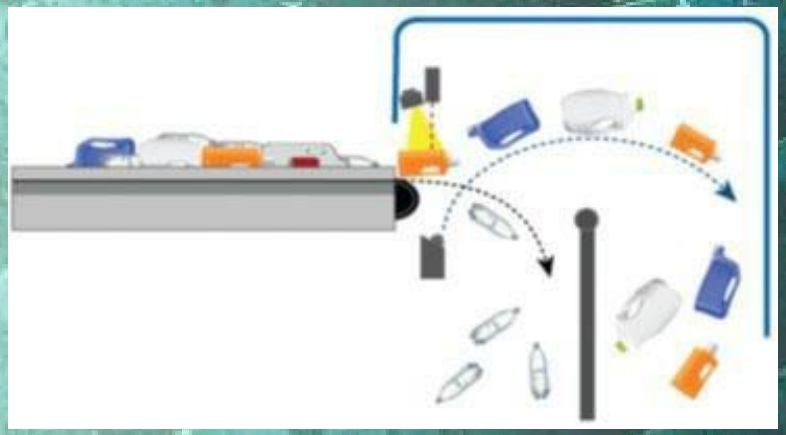
To guarantee the quality of the output material, it is necessary to keep the correct input humidity of the processed material, which should not exceed 20 %, the optimal value is 15%.

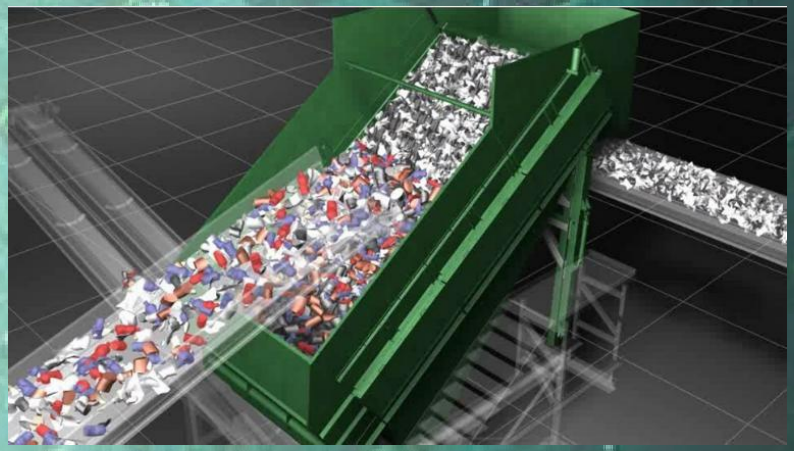
Pelleting

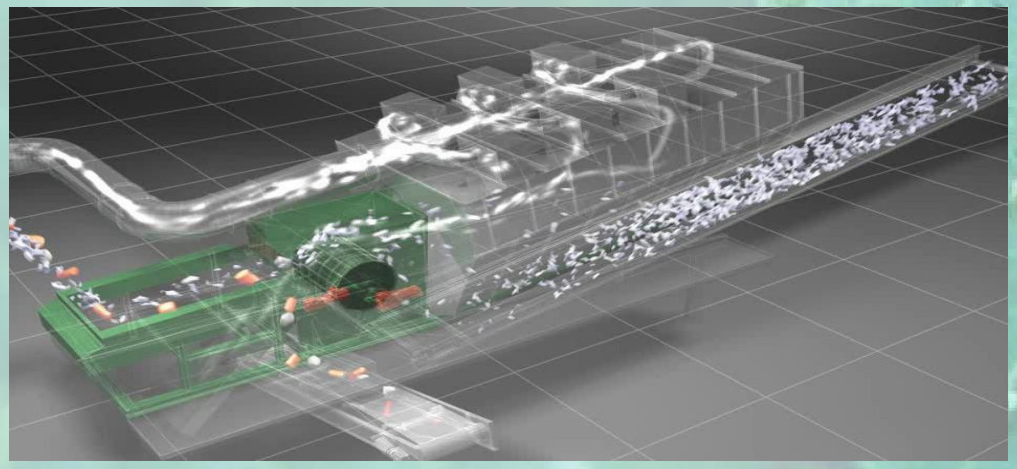
Products

Oil
Gas
Carbon
Heat

Sellection

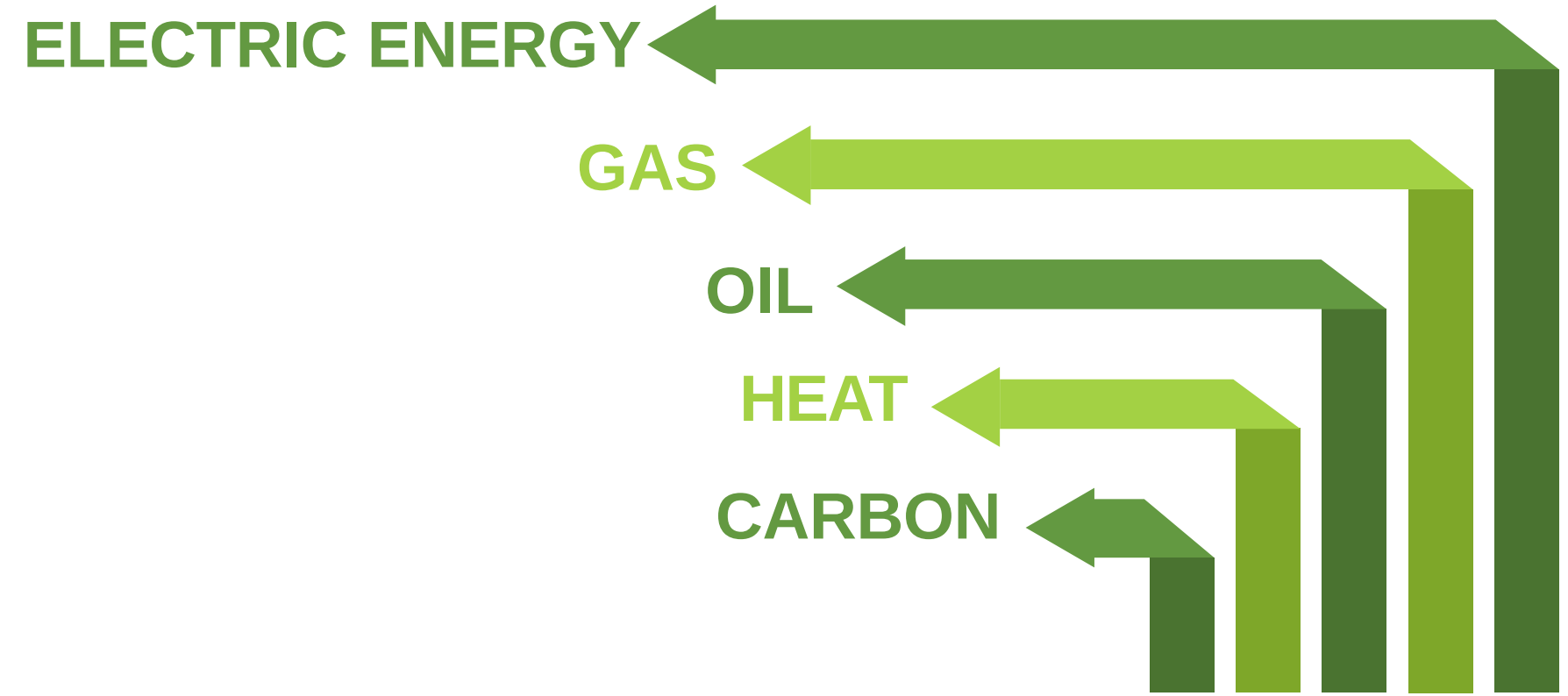




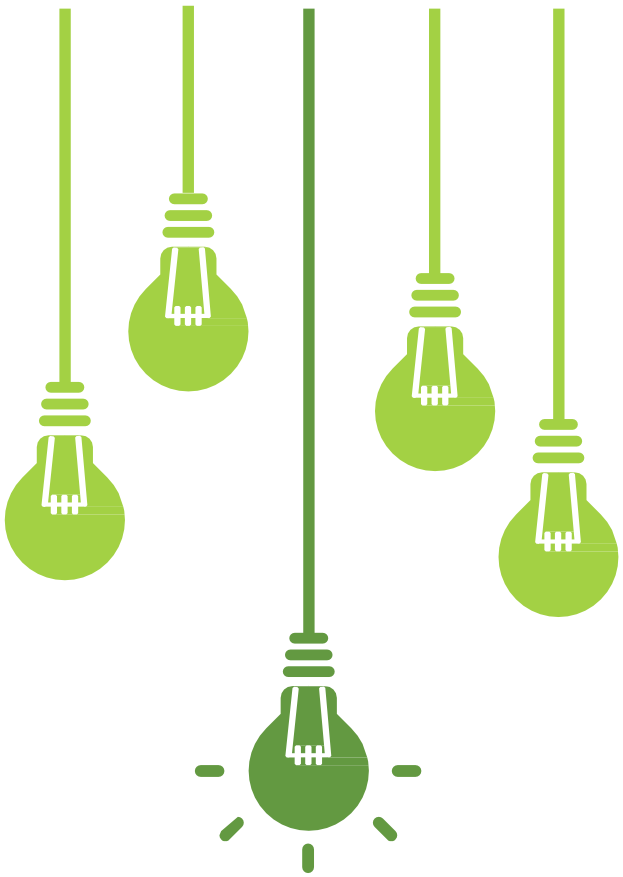


Pelleting

Thermal polymerization enables the conversion of worthless waste into valuable raw materials



PRODUCTS

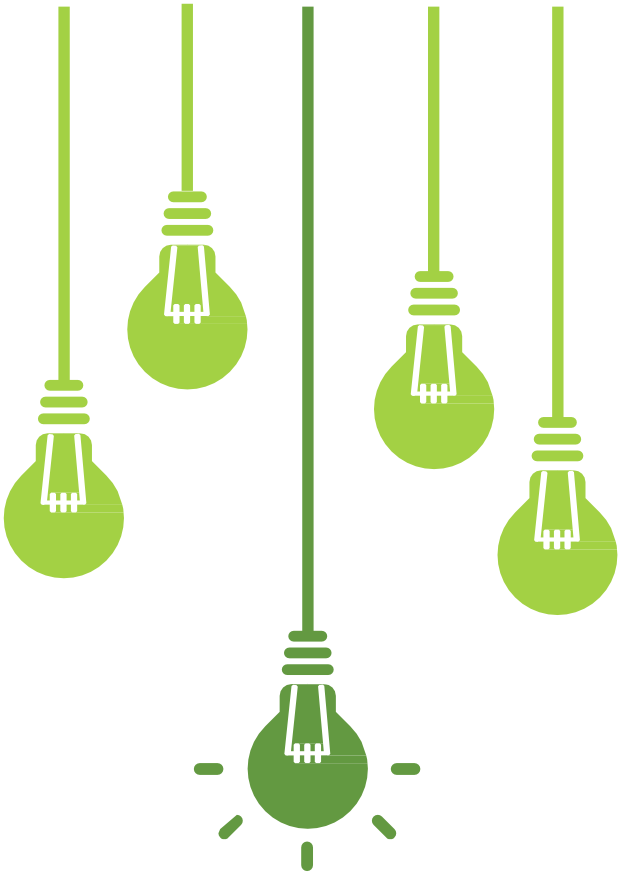


OIL

So-called crude oil (Syncrude) is a product of the condensation of furnace gases, which can be defined by the density as light, medium and heavy form. Through fractional distillation in the rectification column, we can obtain two fractions of oils labeled as # 2 and # 4, also called extra light gas oil (ELTO) and light gas oil (LTO).

Oils are comparable with diesel fuel. Oils are very desirable material, which can substitute petroleum products, creating a marketable commodity for refineries. Gas oil in the composition is similar to the low sulfur crude oil. Oil can be used as a fuel to produce electricity and thermal energy in generation systems, such as cogeneration units, combustion turbines, and existing boilers in power plants and heating plants.

PRODUCTS

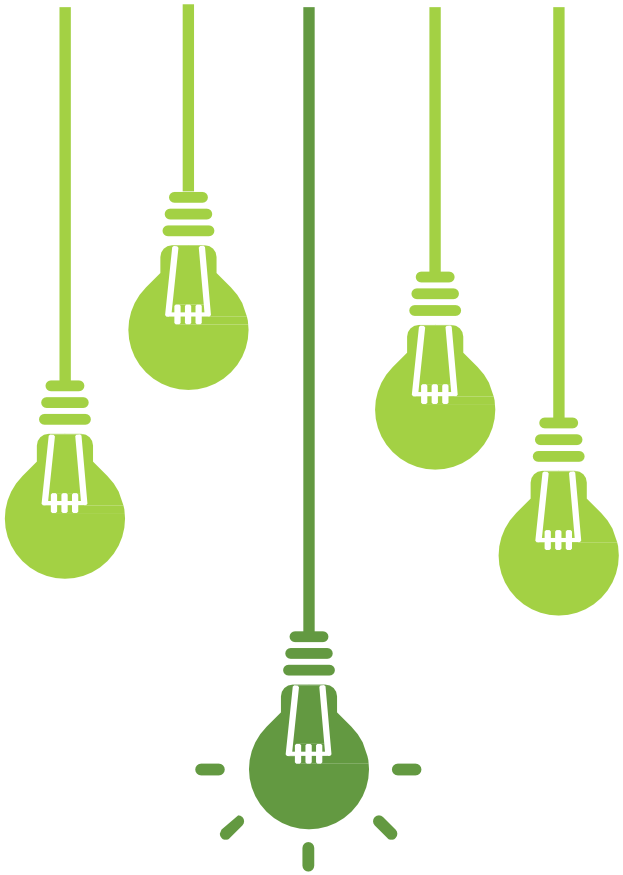


GAS

The produced gas is formed out of hydrocarbon vapors and gases generated by the gasification in oxygen-free retort.

The gas can be used as a re-feed for further processing, but above all for the production of heat and electricity. Gas is used for captive use - in particular in a burner, which is located in the reactor. This reduces costs and minimizes the dependence on outsourced natural gas. Surplus gas, which is not consumed in the burner, is used to produce electrical and thermal energy by means of a cogeneration system. The gas can also be bottled and further used in the chemical industry.

PRODUCTS



CARBON

It is a solid residue; whose properties resemble coal. The finest carbon is produced from rubber and natural rubber waste. This carbon contains from 75 to 93% of carbon, the amount of sulfur is about 2% and calorific value is 27 MJ.kg-1.

Carbon can be used for filters, improving the quality of soil and fertility, in the textile industry (for disinfection and isolation effect). It has a wide application such as nonexpensive household fuel, a source for the production of activated carbon, or as a material for tires production in the rubber industry.

USE OF HEAT

Water heating

Drying imput materials

Heat Exchange (cooling)

Desalination

USE OF ELECTRIC ENERGY

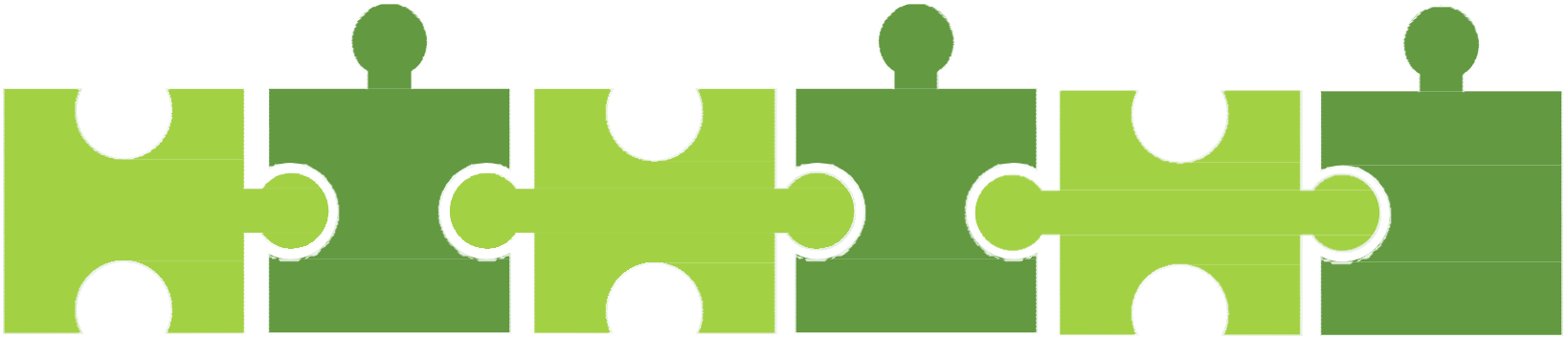
Consumption

Energy for cleaning waste water

Public elecricity network

Desalination

Benefits



Clean environment, reduce environmental burden	Reduce pollution of seas/ oceans	Reduce contamination of surface and groundwater	Reduce diseases caused by dogged plastic	Creating products from waste	Employment opportunities

Complex service

Tailord projects

We offer full service to lead the project from the beginning to the end.

Analysis

First, we analyze the environment and prepare detail documentation.

Choice of units

We will make the best combination of units depending on the local needs.

Finance

We guide you to find the best way to finance the project. The investment return is planned for 3-6 years.

Building

We can help to select a suitable place where we can build the whole project.

Services

We also offer services after the project is implemented. Possibility of joint operation of the facility (Joint venture).

Systems

Waste collection

Supply of collecting containers for separated waste and transport.

System for the disposal of new waste and old landfills

Drying system

The waste needs to have optimaly humidity 15% (max. 20%) before the process of separation. For drying we use the waste heat from unit.

Separation system

Fully automatic or semi automatic separation systém.

Utilization of secondary raw materials

Separated raw materials such as glass, iron, etc. can be automaticly separated and sold.

Pelleting system

Sellected waste is compressed to pellets.

Depolymerization system

Biogas stations

Waste gas collection system

Production of electricity

Production of electricity is provided by conegeration unit.

Oil

Oil can be sold in various industry.

Carbon

Carbon can be sold in various industry depanding on the quality.

System of desalination water from seas/oceans

Environmental Multi-Stage Flash (EMSF) is the innovative technology for production of very clean, drinkable water using vacuum distillation.

Treatment of landfill water and waste municipal water

Thank you

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