TREATING WASTE DIRECTLY ON BOARD

CERTIFICATIONS
ISO 9001NATO AH649
RINA
M.O.G.C. 231
APHIS
APHA

APPLICATIONS

_PRIVATE YACHTS
_OFFSHORE PLATFORMS
_MERCHANT VESSELS
_CRUISE SHIPS
_TANKERS
_FERRY BOATS

THE IDEA

Transform unsorted waste into a dry, stable product.

WASTE
CHARACTERISTICS

INFECTED WASTE
100 kg/m^3

MUNICIPAL WASTE
300 kg/m^3

ORGANIC WASTE
500 kg/m^3

DENSITY

100 kg/m^3 — 500 kg/m^3

INFECTED WASTE
humidity

MUNICIPAL WASTE
humidity

ORGANIC WASTE
humidity

HUMIDITY

20% — 70%

HOW IT WORKS

WORKING PRINCIPLES

+ **SAFETY**
Flame free!

+ **SAFETY**
The system does not work under pressure!

1.

WARM-UP
FRICTION

2.

EVAPORATION
BOILING

3.

HEATING
HIGH TEMPERATURE MOIST HEAT

THE PROCESS

SEVEN STEPS 30 MINUTES ONLY

Converter® equipment is authorized to treat waste through physical modification, reduction of volume, dehydration and reduction of weight.

1.

WASTE LOADING

The waste is loaded inside the chamber by hand in plastic bags and the lid is closed.

2.

100°C

CRUSHING

The rotor starts and accelerates gradually, as the material is finely ground and the temperature rises quickly to about 100 °C.

3.

100°C

EVAPORATION

The heat generated by friction in the material causes the evaporation of the waste moisture and the temperature remains firm at around 100°C.

4.

151°C

SUPERHEATING

Once all the moisture has been eliminated, the frictional heat causes the temperature of the material to increase to 151°C.

5.

STERILIZATION OR PASTEURIZATION

The temperature of the material is held firm at 151°C for 3 minutes, under moist heat conditions through controlled water dosage.

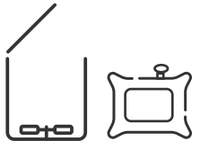
6.

100>60°C

COOLING DOWN

The waste is sprinkled with water in order to lower the temperature of the material to about 100°C. A vacuum pump then lowers the temperature further down to 60°C adiabatically.

7.



UNLOADING IN VACUUM BAG

The treated material is unloaded by centrifugal force through the opening of a servo-operated valve positioned at the bottom of the treatment chamber.

THE RESULT
LIGHT AND DRY

WASTE BIN IS AN IDEAL BACTERIAL CULTURE
Microorganism proliferation and spreading is the common problem connected to the management of the waste because it directly affect the human health.

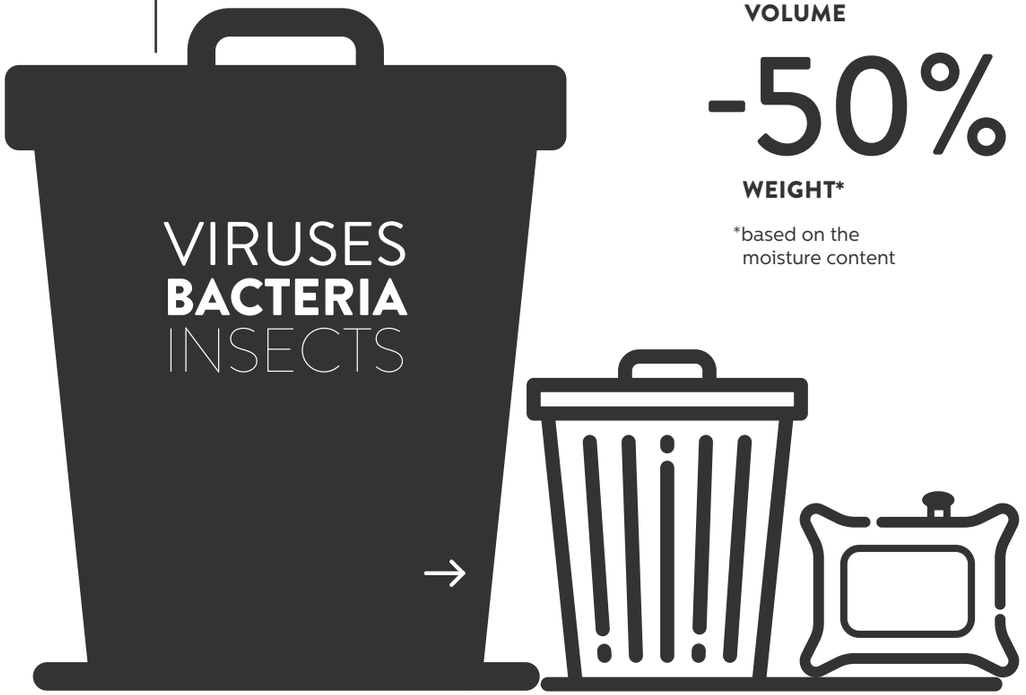
1 bacteria today → $5x10^{86}$ in 4 days

At the end of the treatment with the converter NV the final product is a completely unrecognizable, odorless and sterile flock or “fluff”.

The weight is reduced by 50%, and the volume by 80%. If vacuum packed the volume is reduced further and the brickets can be stored for long periods, with no odour, dust or need to refrigerate.

WASTE MATERIAL

includes several hazardous substances which can be eliminated only through thermal processes.

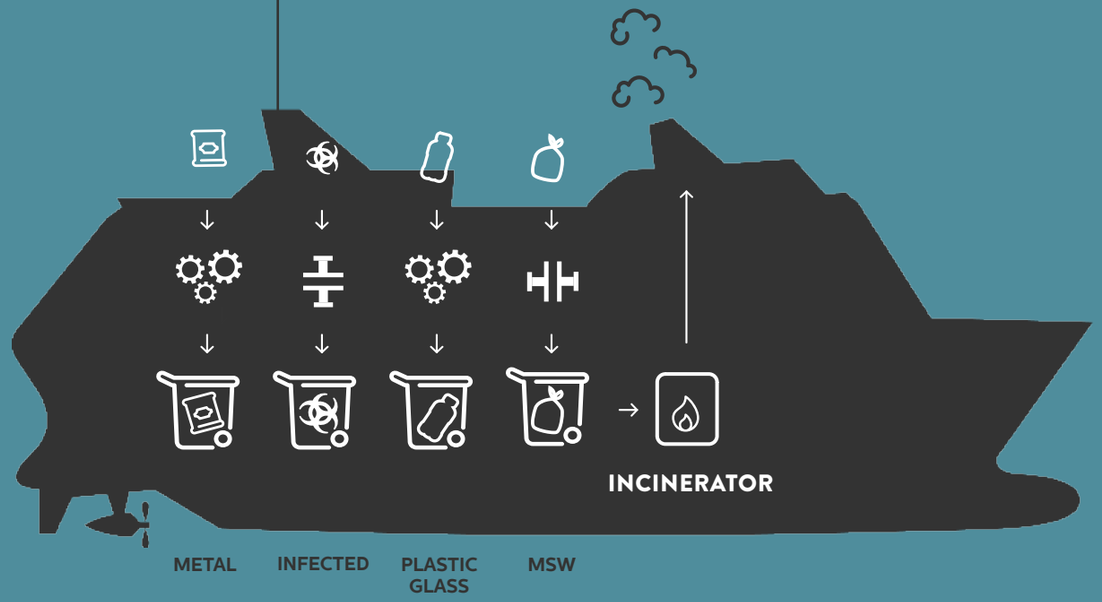


-80%
VOLUME

-50%
WEIGHT*

*based on the moisture content

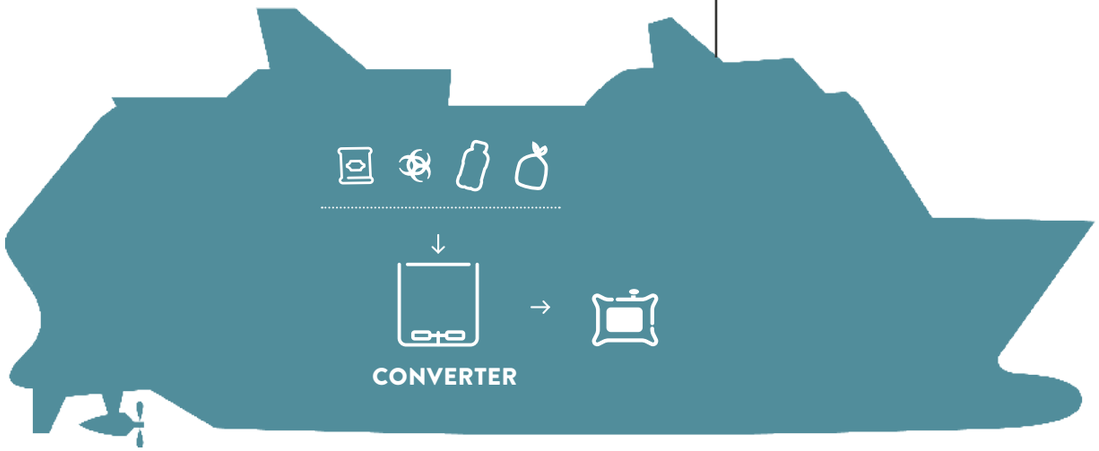
WITHOUT CONVERTER
Usually there are several systems to manage the different waste streams



EASY WASTE MANAGEMENT

NO POLLUTION - ON BOARD STORAGE

WITH CONVERTER
It is not necessary to do separate waste collection



UNRECOGNIZABLE
ODORLESS AND PASTEURIZED

90 DAYS

The waste can be kept without emitting odors for up to 90 days.

↓

FLUFF

↓

RDF

3.5 ÷ 4.5 MWh/t*

* nominal value

AUTOMATIC VACUUM

↓ **NO ODORS**
NO LEACHATE

↓ **NO WASTE**
MANAGEMENT

↓ **NO WASTE STORAGE**
EASY FLOCK
LESS SPACE REQUIRED

↓ **NO REFRIGERATION**

NO POLLUTANT EMISSIONS
Liquids present in the waste are separated and condensed

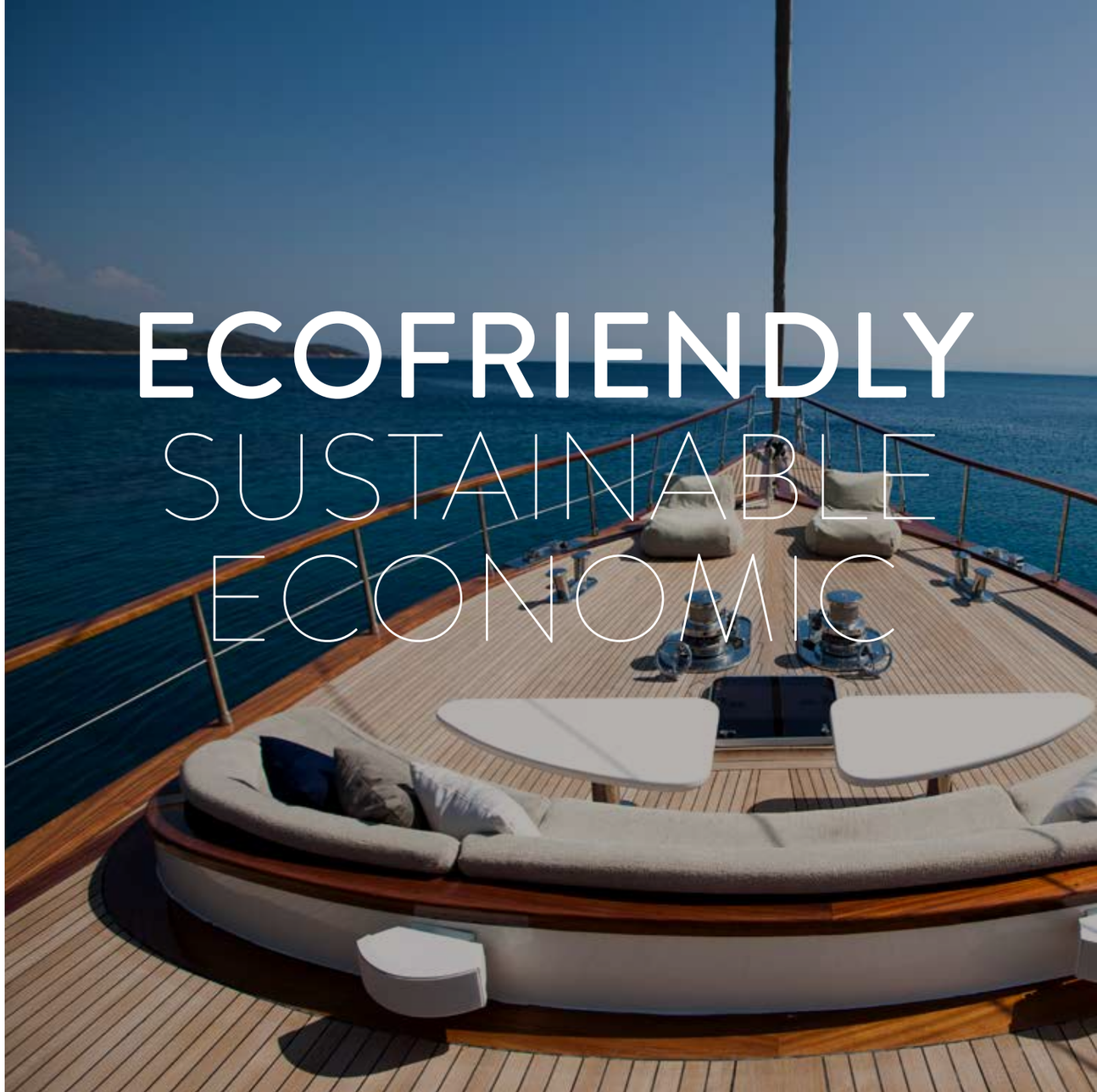
NO WATER CONSUMPTION
Can be reduced down to zero

SAFE STOCK
No dust
No odor
No fermentation

EASY TO USE
No special license is needed to operate

NO WASTE SEGREGATION
Time saving

LOW ENERGY CONSUMPTION



ECOFRIENDLY
SUSTAINABLE
ECONOMIC