



ОТЕЧЕСТВЕННЫЕ  
ТЕХНОЛОГИИ

A COMPLETE SOLUTION FOR  
MARINE DEBRIS  
INTO FUEL AND ELECTRICITY



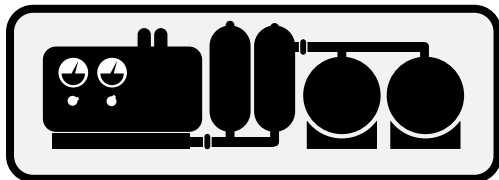
**PYROLY**®

mission ocean

[www.pyroly.com](http://www.pyroly.com)

# Solution

PYROLY-EKOPYR



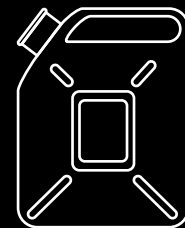
SHIP





**3 kg**

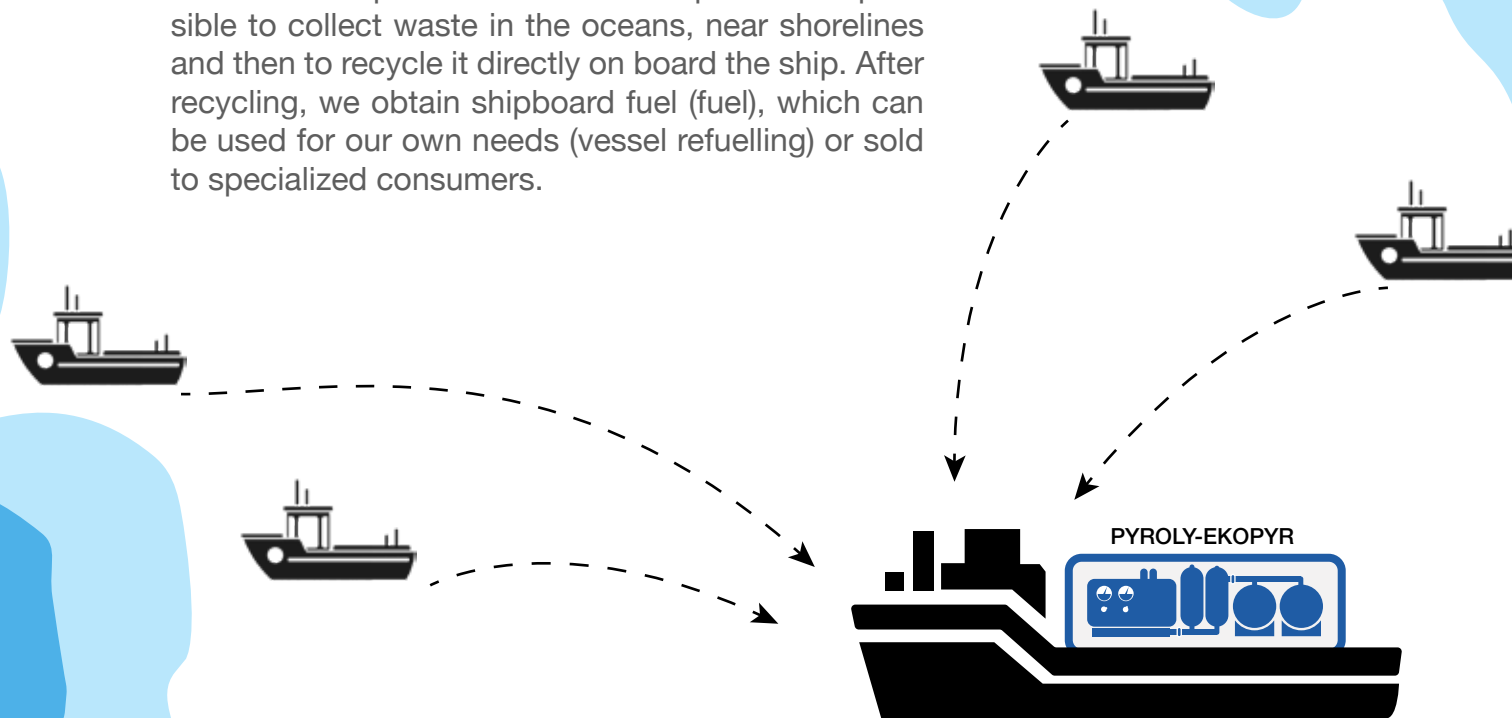
**1 L**



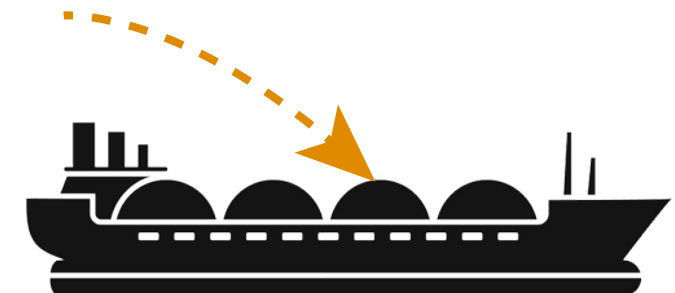
**DIESEL  
EURO5**

**DID YOU KNOW?**

The technology offered by our consortium allows PYROLY-EKOPYR complexes to be placed on ships of different displacement. This concept makes it possible to collect waste in the oceans, near shorelines and then to recycle it directly on board the ship. After recycling, we obtain shipboard fuel (fuel), which can be used for our own needs (vessel refuelling) or sold to specialized consumers.

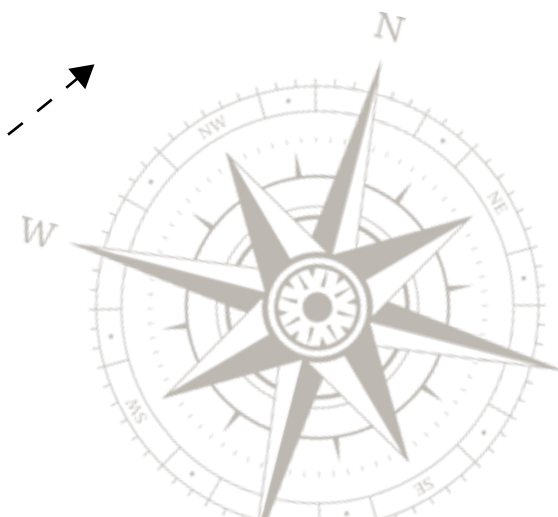
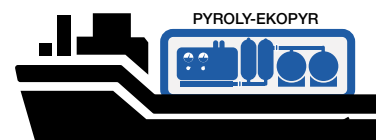
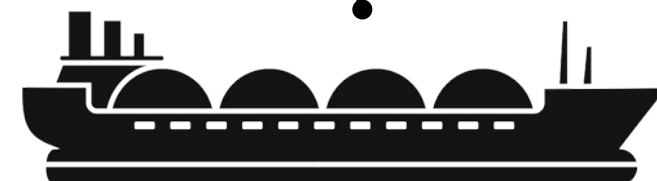
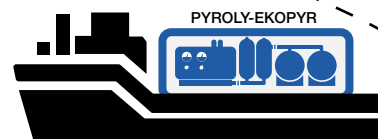
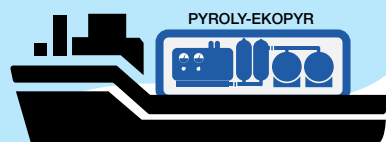


The PYROLY-EKOPYR complex vessel, is a floating refuelling and power plant that does not use third-party energy sources. Once the fuel tanks on the vessel are fully loaded with fuel, the plant discharges-transfers the fuel to the tanker collector.



# PYROLY<sup>®</sup>

MISSION OCEAN

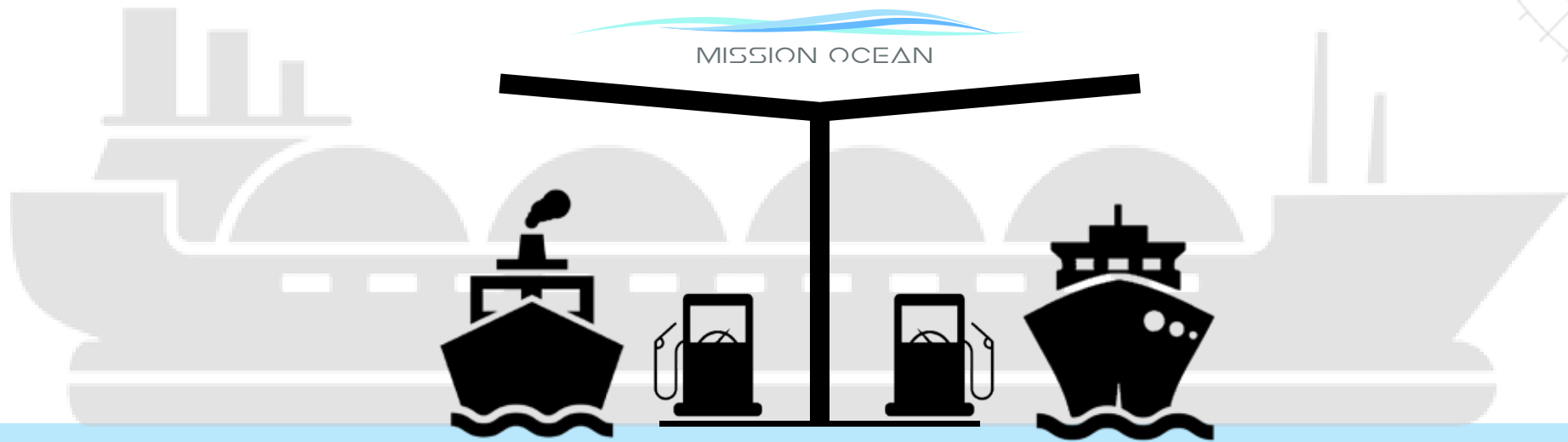


A tanker collector can collect finished product from several floating plants, as is done in the fishing fleet. The tanker collector delivers fuel to the port or refuels third-party vessels at a specific mooring point, depending on the contacts.

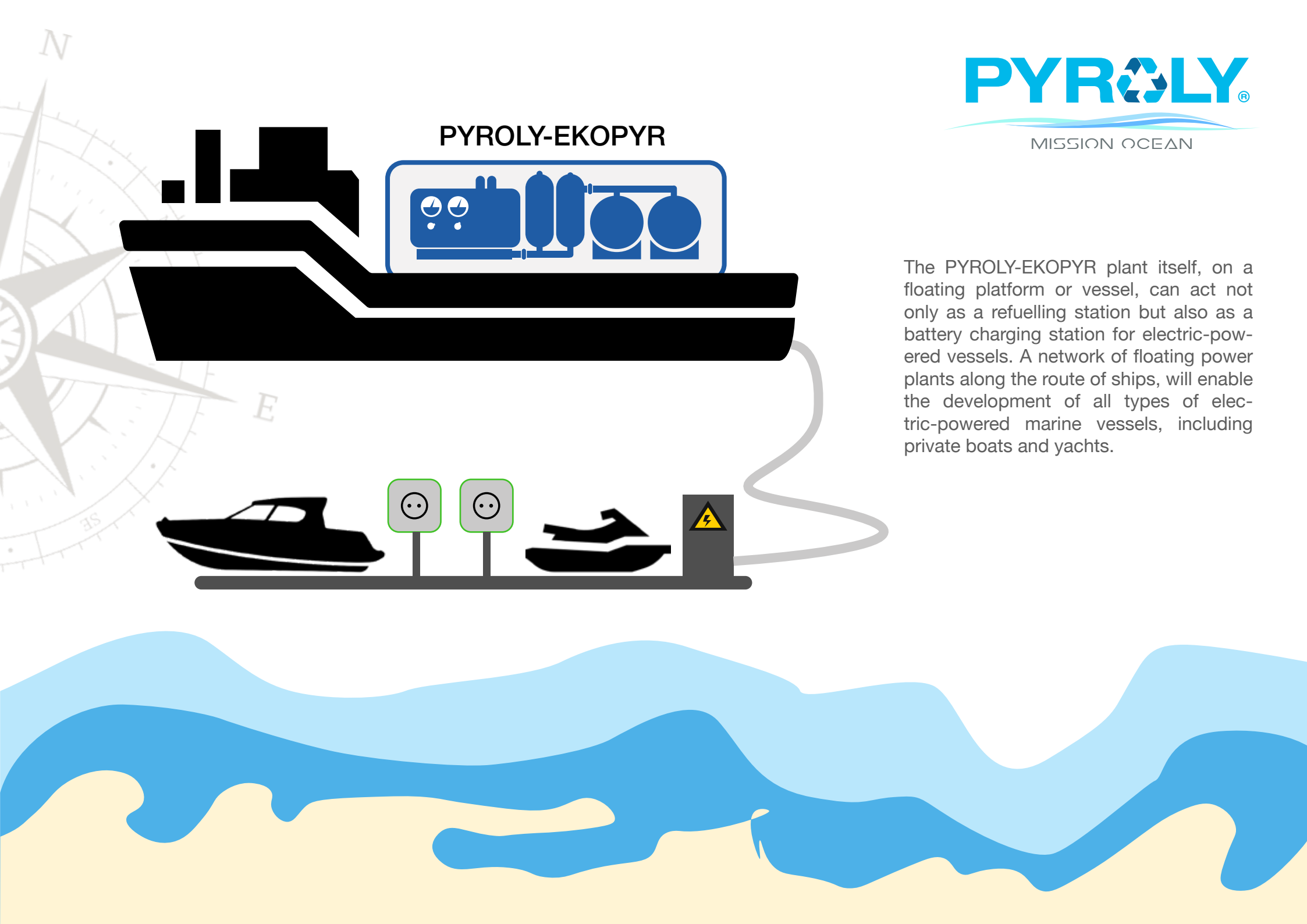
The collector tanker can act as a refuelling station directly on the ocean, which will noticeably increase the efficiency of cargo transport by sea or ocean and reduce the congestion of refuelling berths in ports.

**PYRALLY®**

MISSION OCEAN



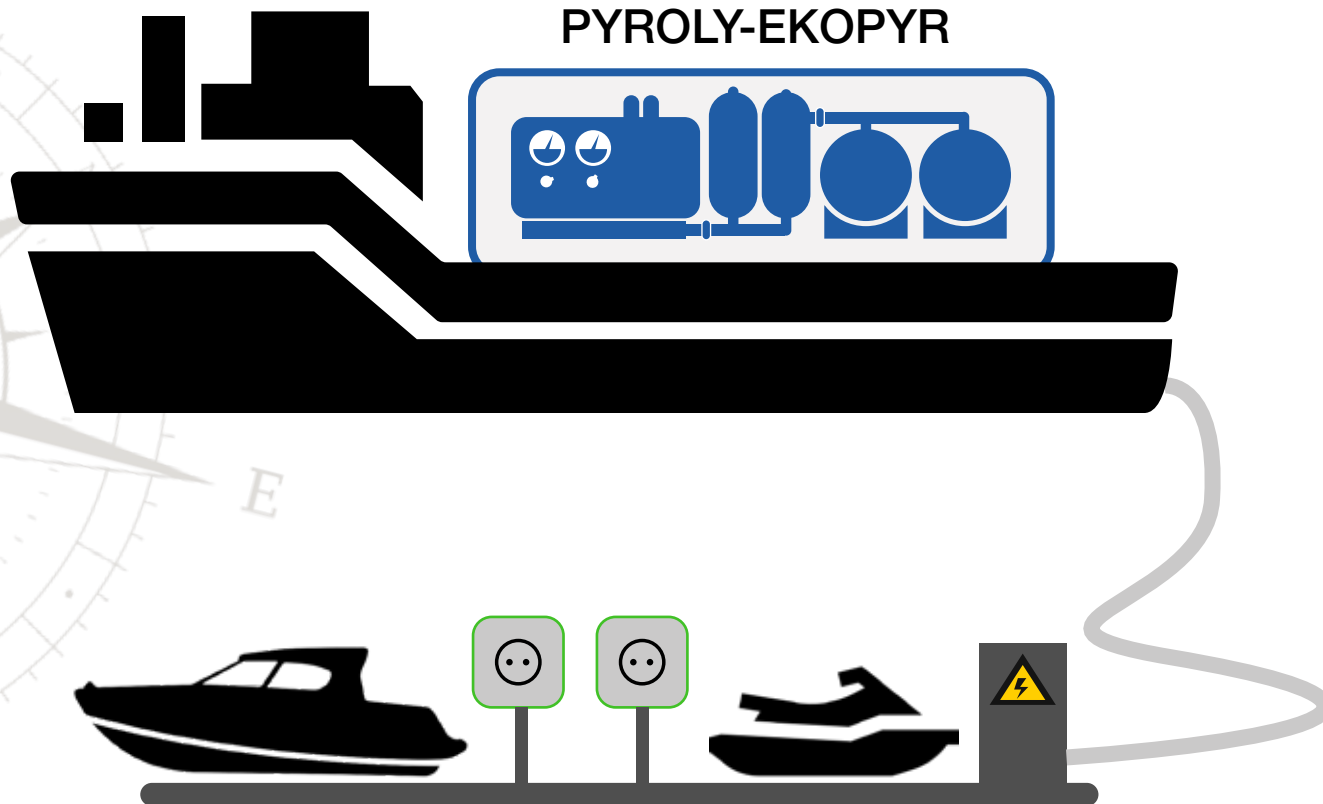




# PYROLY<sup>®</sup>

MISSION OCEAN

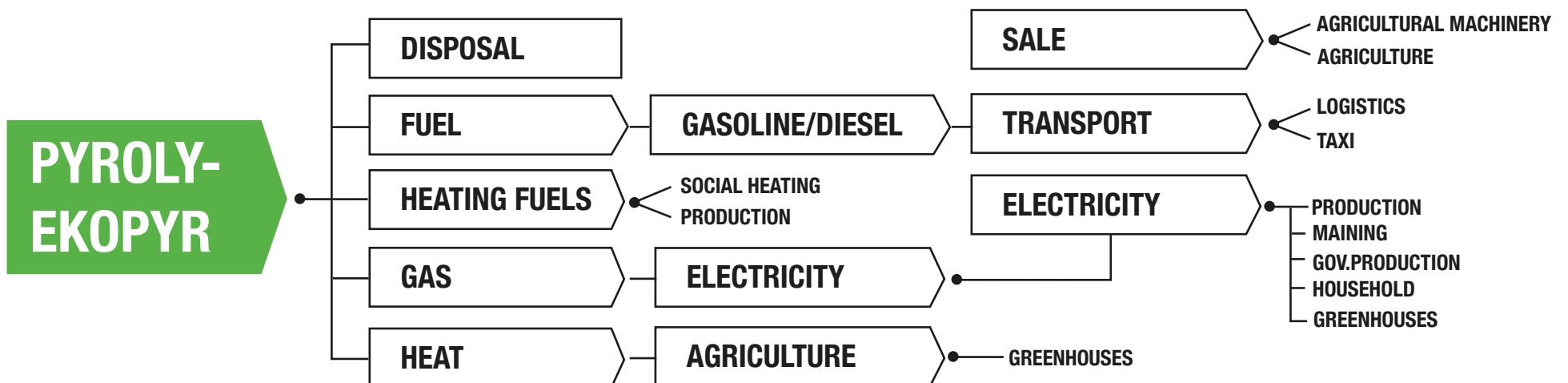
## PYROLY-EKOPYR



The PYROLY-EKOPYR plant itself, on a floating platform or vessel, can act not only as a refuelling station but also as a battery charging station for electric-powered vessels. A network of floating power plants along the route of ships, will enable the development of all types of electric-powered marine vessels, including private boats and yachts.

## ACTIVITY

Having their own products from the disposal of various wastes, an investor can develop various infrastructure projects and attract both private and public investment. Each activity area inevitably becomes a leading one due to the availability of independent fuel or energy, which makes up the largest part of the costs determining the final price of a product or service.



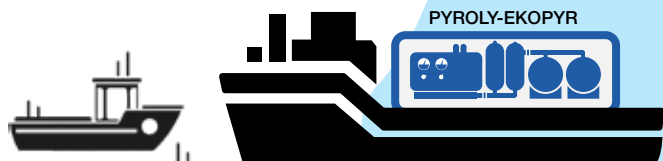


# PYROLY<sup>®</sup>

MISSION OCEAN



Social projects can use fuel and electricity produced from ocean debris and on land. This would solve the problem of energy supply for small islands.



Coastal areas with tropical climates in the Pacific and Atlantic regions, will become attractive for investment as they solve the problem of employment, production and agriculture on their own fuel and electricity.



## SETTLEMENTS

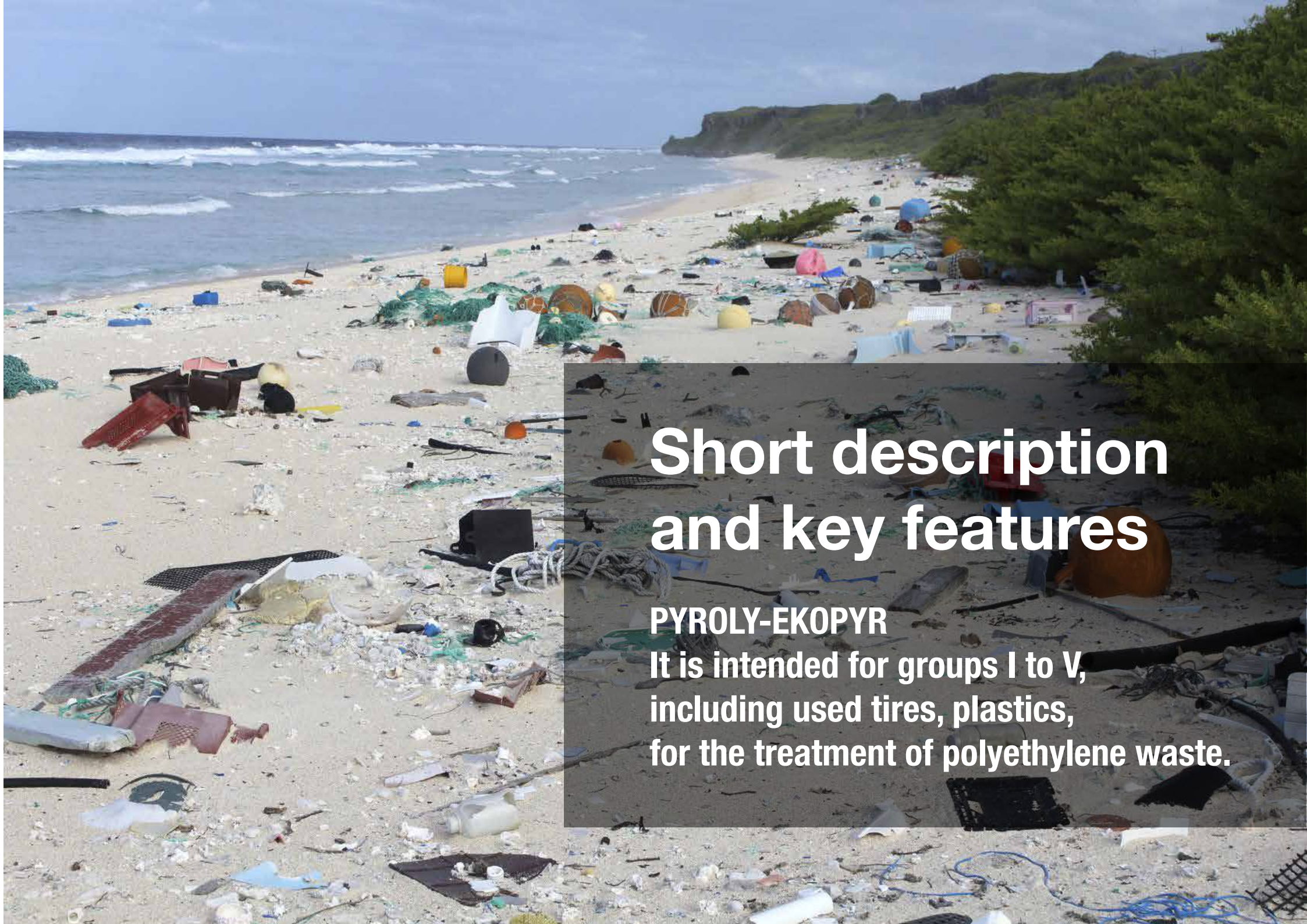
The social processes in the modern world imply inevitable global migration, for many underlying reasons but with one conceptual trend – away from megapolices. The constant growth in prices for housing facilities and its imminent depreciation with time will sooner or later make the owners consider the existing problems. The housing, the heating, the electricity, the fuel. These are the unavoidable issues to be solved by any owner without much support from the government. The activity of settlement will greatly depend on the residents' mode of life and the ways they make their earnings. However owning an Ecopir unit will provide the vital components of life support, and here we are not talking about survival, but about wealth.

## GREENHOUSE FARMS AND AGRICULTURE, IN GENERAL

An PYROLY-EKOPYR unit in combination with greenhouse farms allows for a new level of performance, eliminating the costs associated with northern locations. Vegetable farmers reach low product prices due to the natural favourable climatic conditions. Vegetable farming in northern areas implies additional costs for greenhouse heating. Whereas, due to the production mechanisms, PYROLY-EKOPYR units, have to constantly dump excessive high temperatures of a few hundred degrees, allowing to transfer the heat to greenhouse radiators, using the pipes. This provides the competitive advantage of southern farmers to northern manufacturers. However, electricity is one of the most significant components of the product cost, and its price is continuously growing. The electricity produced by our units allows for northern farmers to reach incomparable competitive edge. The logistic costs may be also covered by fuel produced by PYROLY-EKOPYR units.







# Short description and key features

**PYROLY-EKOPYR**

It is intended for groups I to V,  
including used tires, plastics,  
for the treatment of polyethylene waste.

# ECOLOGY



- ☐ *Works without releasing combustion products into the atmosphere*
- ☐ *Does not leave residual products*
- ☐ *There is no chimney*



To ensure the ecology of production, the complex uses a combination of three filtration systems and harmful substances.



Two-stage purification of pyrolysis gas before entering the gas piston power plant and pyrolysis reactor.



These cleaning and filtration systems completely eliminate the possibility of gases and liquids entering the environment.



# TECHNOLOGY

High profitability is achieved due to the high-tech production of the production unit and there are practically no technical risks. Rapid internationalization and independence from the developed infrastructure, allows to organize activities in any place where garbage accumulates.



- *Does not require a waste sorting step.*
- *Without third party electricity, water and gas consumption.*
- *Possibility to switch to different types of output products.*
- *Online change and quality control.*
- *Opportunity to develop activities based on your products.*
- *Creating additional jobs.*
- *Increasing the competitiveness of existing companies.*
- *Fast commissioning and warranty service.*

The most acute problem at the moment is environmental problems, even in less developed countries. The constant rise in the price of fuel and electricity is a vital problem today and, in the context of the global crisis, is having catastrophic consequences. Energy is always a priority for modern humanity, ensuring the functioning of the vital infrastructure of modern society.



-  ***Profitability 3 years***
-  ***Surplus raw materials***
-  ***Highly demanded end products***
-  ***Result of industrial production: fuel, electricity, heat, etc ...***











A 3D architectural rendering of an industrial facility, likely a waste-to-energy plant. The scene is set in a large, bright hall with a high ceiling and skylights. In the foreground, there is a large red horizontal cylindrical tank on the left and a black industrial unit with a control panel on the right. The control panel features a small screen, several buttons, and indicator lights. Behind these units, there are tall yellow vertical structures, possibly heat exchangers or chimneys, supported by a black metal framework. The overall design is modern and functional.

## RECOVERY OF WASTE FOR FUEL AND ELECTRICITY PRODUCTION

**PYROLY-EKOPYR**

50 / 100 / 200 / 800 / 1000

**PYR<sup>OLY</sup>**  
MISSION OCEAN

|   | PYROLY-EKOPYR-50     | PYROLY-EKOPYR-100   | PYROLY-EKOPYR-200   | PYROLY-EKOPYR-1000  |
|---|----------------------|---------------------|---------------------|---------------------|
|  <b>DIESEL EURO-5</b>          | 168 tonnes/ month    | 336 tonnes/ month   | 790 tonnes/ month   | 4050 tonnes/ month  |
|  <b>GASOLINE AI92</b>          | 91 tonnes/ month     | 222 tonnes/ month   | 440 tonnes/ month   | 2100 tonnes/ month  |
|  <b>ELECTRICITY PRODUCTION</b> | 3 Mwh                | 6 Mwh               | 12 Mwh              | 60 Mwh              |
|  <b>HEAT ENERGY</b>            | 2 580 000 Kcal       | 5 160 000 Kcal      | 10 320 000 Kcal     | 51 600 000 Kcal     |
|  <b>HEATING FUEL M100</b>      | 33 tonnes/ month     | 108 tonnes/ month   | 211 tonnes/ month   | 1020 tonnes/ month  |
|  <b>HEAVY TAR</b>              | 30 tonnes/ month     | 45 tonnes/ month    | 90 tonnes/ month    | 448 tonnes/ month   |
|  <b>SOOT</b>                 | 130 tonnes/ month    | 240 tonnes/ month   | 345 tonnes/ month   | 2160 tonnes/ month  |
|  <b>TECHNOLOGICAL CARBON</b> | 150 tonnes/ month    | 180 tonnes/ month   | 360 tonnes/ month   | 1760 tonnes/ month  |
|  <b>OWN CONSUMPTION</b>      | 0,35 Mwh<br>400 Volt | 0,7 Mwh<br>400 Volt | 1,4 Mwh<br>400 Volt | 5,6 Mwh<br>400 Volt |
|  <b>PRICE €</b>              | 4 290 000            | 9 750 000           | 19 860 000          | 89 600 000          |
|  <b>INVESTMENT RETURN</b>    | 4 years              | 3.5 years           | 3 years             | 2.5 years           |



## **ECOLOGY**

Citizens, particularly those living in a megapolis face the problems they cause by themselves. Landfills in suburban areas are painful to see. Waste disposal costs keep constantly growing – being another challenge for all of us. The possibility to turn wastes into fuel, electricity and heat drastically changes our attitude to the issue.

## **SOCIETY**

The opportunity to get the pyrolysis products serve the population needs will help significantly decrease social tension in any country. Large societies of active young people will get the chance to use their potential to protect the environment and keep it pure. Heat and electricity supply in the outskirts of the country will boost the authorities profile.

## **ENERGY**

Electricity production by waste recycling will solve the main issue of green energy – instability in supply due to constantly changing weather conditions. The tandem of gas generators based on PYROLY-EKOPYR units compensates for the supply gaps in power generation based on wind and, particularly, solar batteries.

## **EMPLOYMENT**

The production of fuel, heat and electricity, the establishment of settlements and new heating lines, the development of independent farming, transportation, the creation of new greenhouse farms, roads construction, food production, the liquidation of landfills, environmental management – all these sectors will noticeably increase the employment level.

Представитель в Европе:



**ОТЕЧЕСТВЕННЫЕ  
ТЕХНОЛОГИИ**

**ООО НПО "ОТЕЧЕСТВЕННЫЕ  
ТЕХНОЛОГИИ"**

141402, Московская обл. г. Химки,  
ул. Ватутина 4, корп.2/371

ОГРН 1185029008340

ГРН 2185029239129

ИНН/КПП 5047210651/504701001

[info@scitechno.ru](mailto:info@scitechno.ru)



**CATALANA**  
Technologies and Development

**Catalana OÜ** Reg.No. 10651017  
Environmental permit registration number  
KL-509045

Mihklisaun 1 / Kooli 18E  
Lagedi Harjumaa 75303 ESTONIA

[info@pyroly.com](mailto:info@pyroly.com)



[info@pyroly.com](mailto:info@pyroly.com)

**PYROLY**

[www.pyroly.com](http://www.pyroly.com)