



ECONWARD TECH

Triple Impact Technology

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- Find it out

01 WHO WE ARE

▼ Innovation at the service of Circular Economy

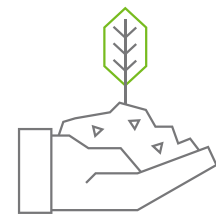
We provide an alternative solution that reduces organic waste disposal to landfills and generates economic and social values.

Efficient use of resources

WHO WE ARE

▶ The most efficient, frontier technology for sustainable Municipal Solid Waste management

We are a global technology company that has developed an innovative system for treating, recycling and recovering the organic fraction of solid waste and residuals.



Our technology transforms waste into a versatile biomass that provides environmental, economic and social value.



We have offices, labs and R&D Department in Madrid and California.



WHAT WE ARE DEALING WITH

▸ We provide a solution to the global waste challenge

- We treat the organic fraction of MSW
- We reduce waste disposal to landfills
- We minimise GHG emissions

WHAT DRIVES US

We contribute to achieving European and International targets of increasing recycling rates, the importance of renewable energies and the rapid decarbonisation of the waste treatment sector.

WHAT WE DO

- ▶ We research, design and develop new technologies

We invest over **80%**
of our resources in **R&D**

Autoclave system in ECONWARD's Industrial Plant
Rivas Vaciamadrid - Madrid, Spain.



WHAT WE DO

- 
- ▶ We transform organic waste into a biomass with various certified applications

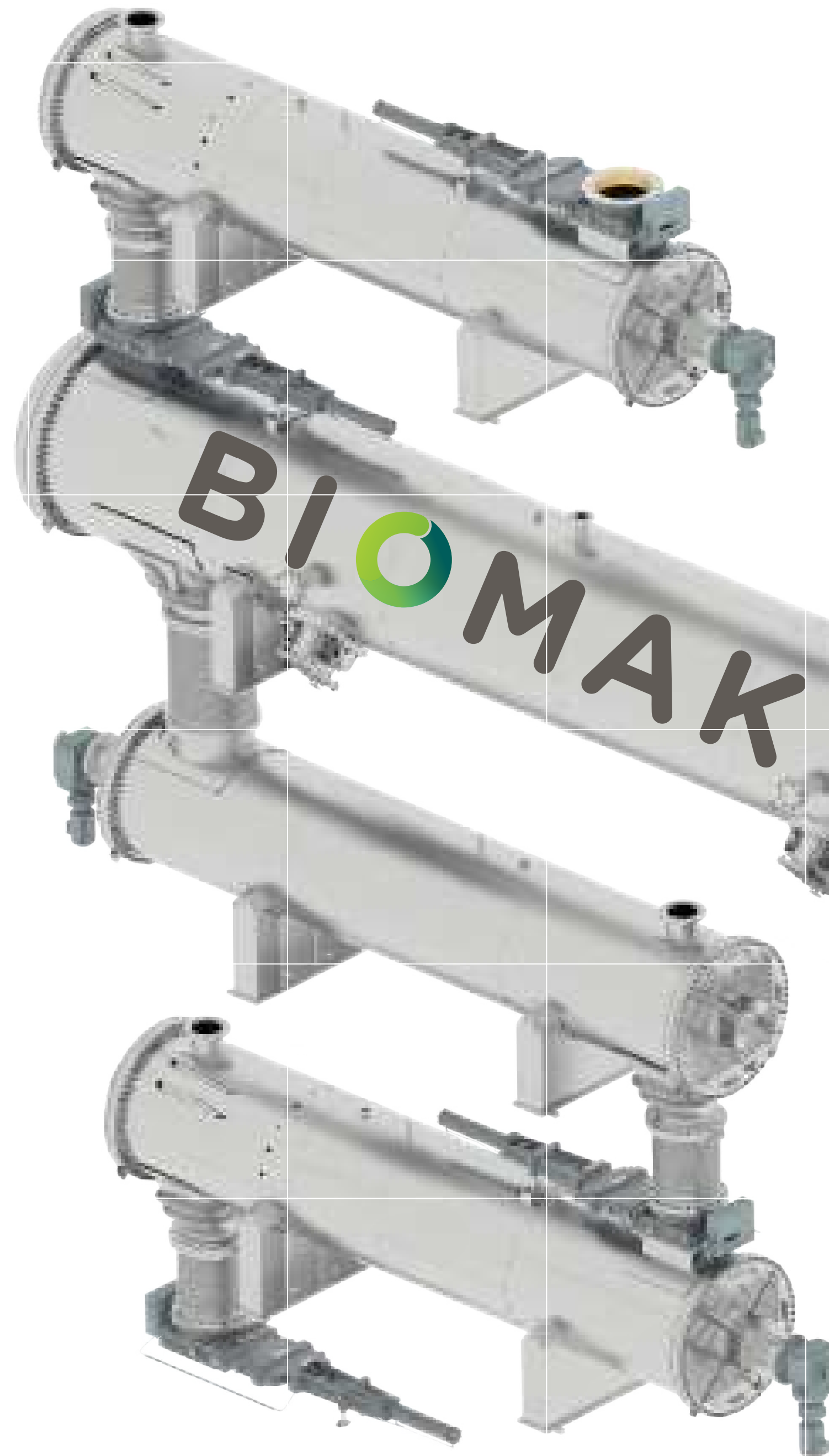
Hygienised, homogenous, biothermally stabilised, free of pathogens and chemically degraded.

- ▶ Why our technology works

02 HOW WE DO IT

Our Solution

Fully-automated autoclave system for organic waste treatment using a **thermal hydrolysis process** in **semicontinuous operation**



INLET CHAMBER

Pressurisation.

The load enters through a feed hopper, the hydraulic valve is closed and saturated steam is injected until the desired pressure and temperature conditions are reached.

REACTOR

Pressure-temperature stability.

After reaching the preset parameters, the organic matter changes its morphology and properties.

TRANSIT CHAMBER

The material keeps flowing.

An effective and efficient thermal hydrolysis is guaranteed.

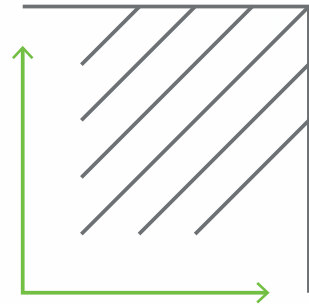
OUTLET CHAMBER

Depressurisation.

The material is unloaded at atmospheric pressure.

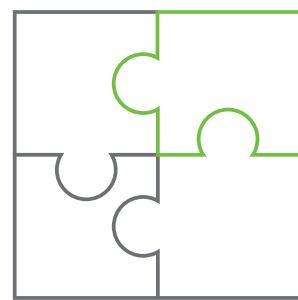
The system is synchronised to reuse the steam from the depressurisation for a new inlet chamber pressurisation process.

Key features



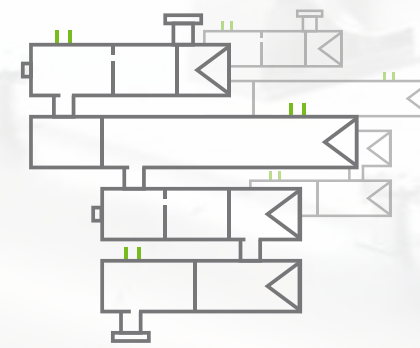
High treatment capacity

65,000 t/year per module



Optimised and compatible

With existing technologies



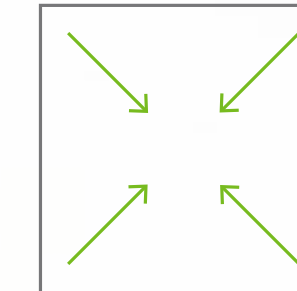
Scalable and modular

Adaptable, easy integration



Automated

In-house software development



Small footprint

270 m² of area required per module

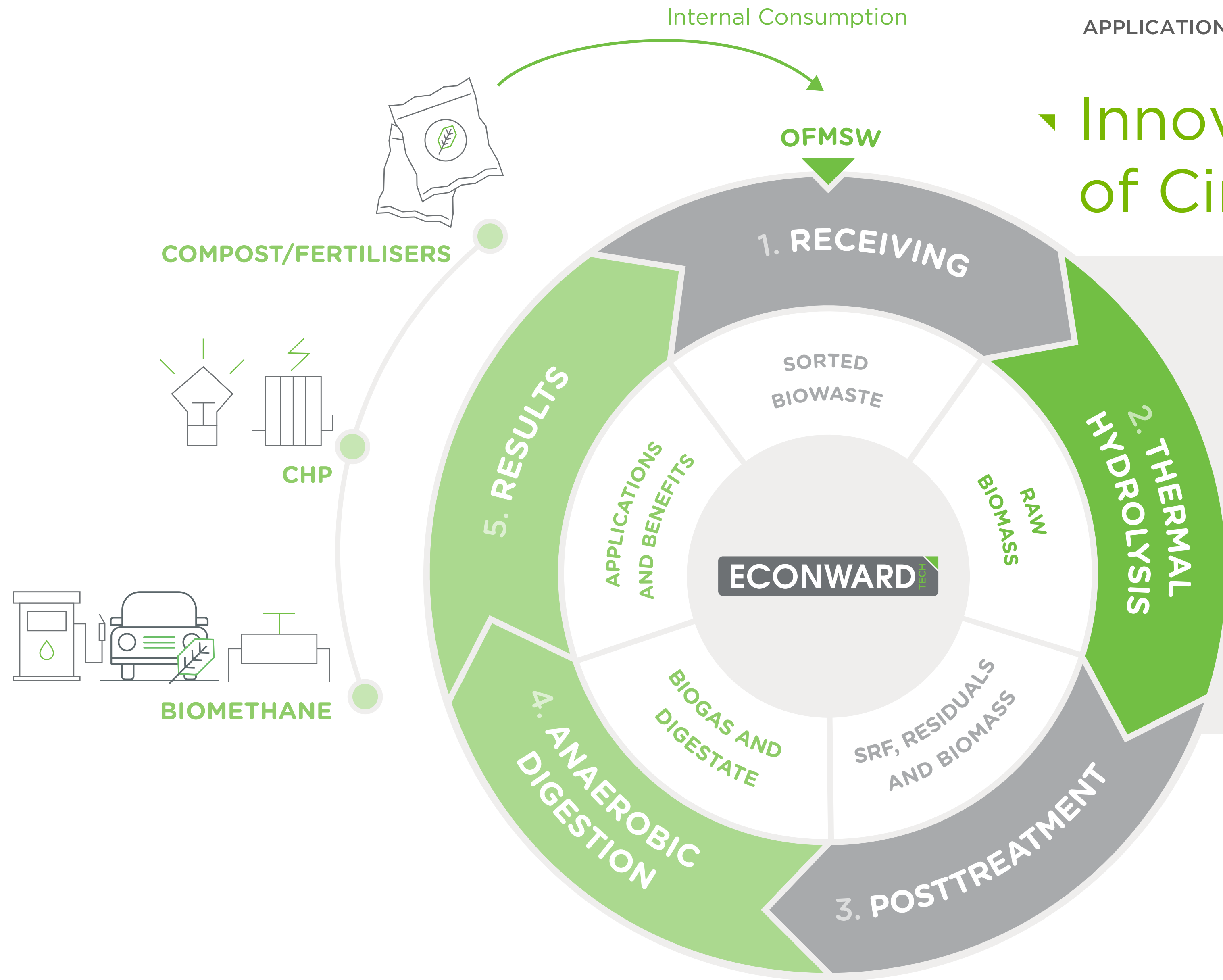


Low operating costs

Rapid Return on Investment

- ▶ The most efficient biowaste and biomass valorisation

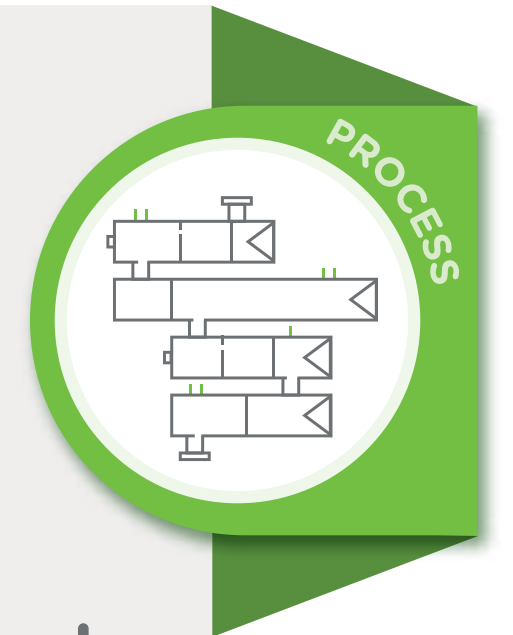
03 APPLICATION



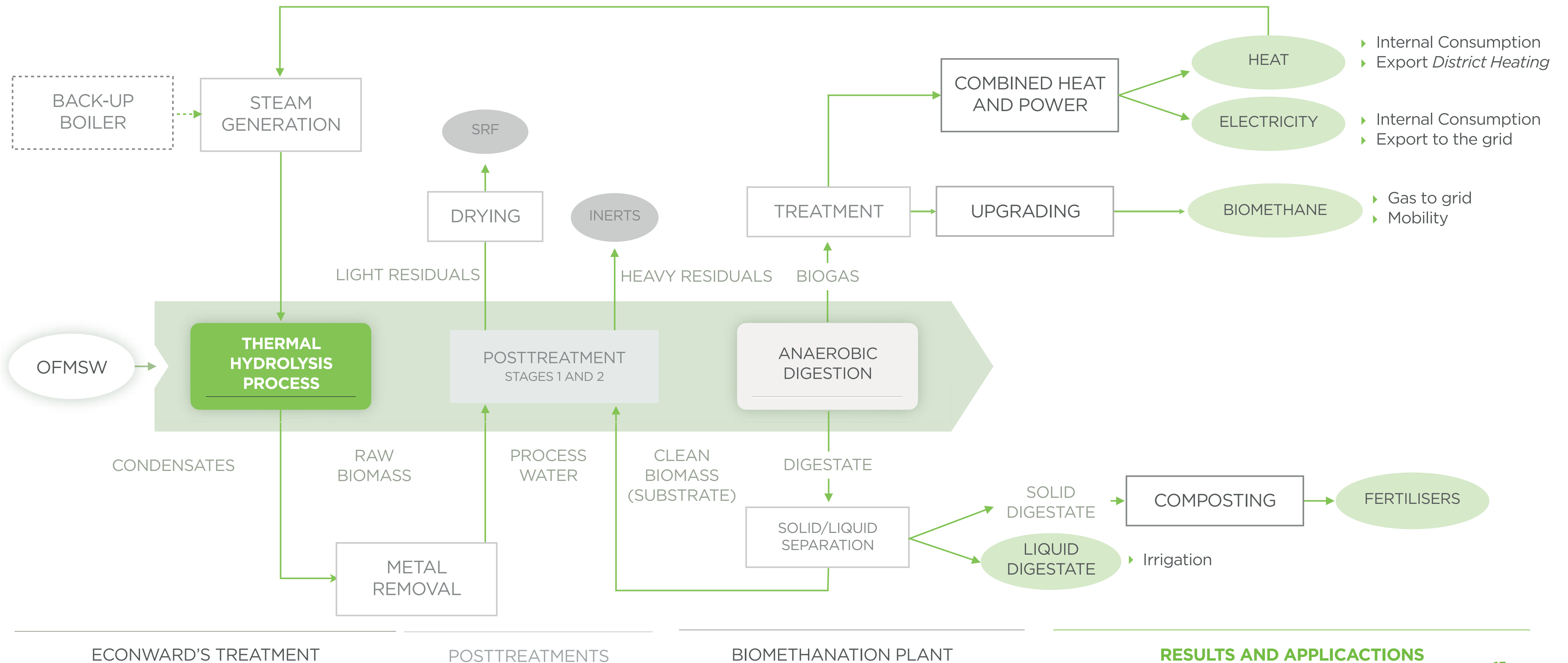
APPLICATION

▶ Innovation at the service of Circular Economy

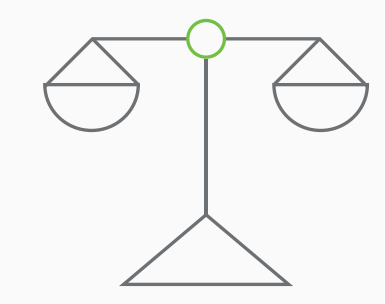
- ▶ **Treating** the OFMSW and Residuals.
- ▶ **Reducing** waste disposal to **landfills**.
- ▶ Producing an **optimised biomass** for high quality valorisation
- ▶ **Minimising GHG** emissions.



▶ ECONWARD's plant design

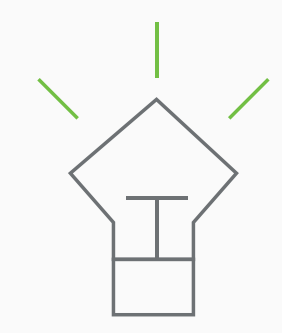


▼ An integration model which optimises AD plants' operation



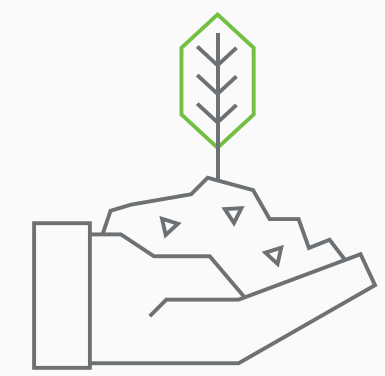
High process stability

Accurate estimation in biomethane production



Energy efficiency

Internal consumption or export to grid



Excellent quality digestate

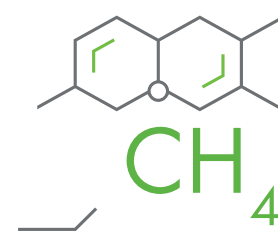
Hygenised and free of pathogens
Class B compost

- ▶ A greater process stability generates an increase in biogas quality and quantity. These benefits are translated into greater mechanical simplicity and lower operating costs of the facility

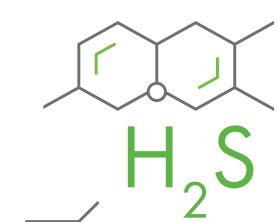
We produce 98 Nm³ of methane per tonne of organic waste received in pit



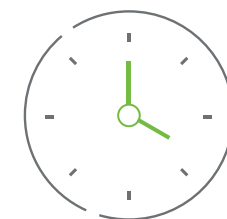
147 Nm³ Biogas/tonne
of organic waste
received in pit



CH₄: 67%



H₂S: 200-1,500 ppm

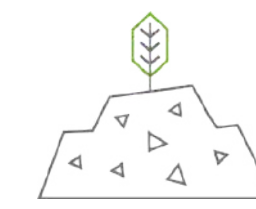


HRT: 15 days



Organic Loading Rate

5-7 kg COD/m³
per day



Material
Biodegradability

86-91% COD
90-92% VS



Absence of inhibitory
or toxic compounds

- ▶ Some good reasons

04 WHY ECONWARD

▼ R&D Activities

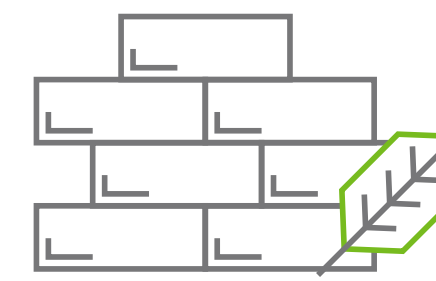
We research and invest in developing different applications for our biomass due to its significant potential uses.

The known versatility of ECONWARD's biomass ensures better use and valorisation.



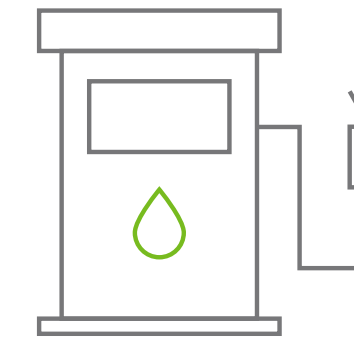
Green Chemistry

Extraction process to obtain high added-value compounds.



Bioconstruction

Biomaterials for infrastructure and building.



Biofuels

Renewable energy and mobility solutions.



▾ Sustainable Development Goals

We clearly contribute to protecting the environment to make the world a better place for all.



We are certified



ISO 9001



ISO 14001



ISO 45001

Strategic alliances

Members of:



R&D Activities:



We foster the Circular Economy Principles

Signatories of *'Pact for a circular economy: The commitment of the economic and social agents 2018-2020'* to promote the transition to the Circular Economy in Spain.



WHY ECONWARD

ECONWARD TECH

▶ We are ready

▶ Human Capital

Our talent is made up of highly qualified professionals from the Energy and Waste Management sectors.

▶ Solvency

We belong to a large group of investors that supports our growth and soundness.

▶ International Presence

We have offices and labs in Madrid (Spain) and California (United States)

Let's lead the change!

Contact us for a custom case study

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