



**TURN YOUR WASTE
INTO ENERGY!**

PREVER PLATFORM

Research and Study Platform
on Energy Recovery from Residues



IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

520 m²

located in the
heart of our
Nantes campus

PREVER is a research and innovation platform oriented towards the **development of new high-performance technologies for energy recovery from waste**, in a 520 m² space located in the heart of IMT Atlantique Bretagne-Pays de la Loire. Inaugurated in June 2014, it is equipped with **ultra-modern research facilities and pilots** that enable residue **to be converted into high value-added energy** in an optimal manner while limiting environmental impacts.

PREVER offers solutions for all types of waste. Backed by the department of energy systems and environment (GEPEA laboratory) at IMT Atlantique Bretagne-Pays de la Loire, **the Prever platform is dedicated to Research and Energy Recovery from Residues.** The platform, in close contact with research laboratories, will provide industrialists with a demonstrator to develop an appropriate solution for residue elimination through energy recovery.



Ultra-modern
research resources

Solutions for
all types
of residues

Which technology for which type of waste ?

RESIDUES

Analysis
Formulation

WHICH
REACTOR?

Development
of energy carriers

WHICH TYPE OF
CONVERSION?

Energy performance
study

WHICH TYPE
OF POLLUTION?

Environmental
Impact Assessment



Fully instrumented research pilots allow us to analyze the conversion of residue into electrical or thermal energy or cogeneration.

The technologies we use allow us to treat and destroy certain industrial and organic waste that is very common in the West of France. PREVER makes it possible to study and propose integrated solutions for any type of waste.

we are especially focused on:

- > Waste from the food industry (several hundred thousand tonnes/year) and agricultural waste,
- > ocean wood waste soiled by accidental pollution (of the «oil spill» type),
- > Floating wood waste (around 100,000 tonnes per year on the west coast of France),
- > Waste from plastics and composites,
- > Sludge from water treatment plants,
- > Packaging waste.

The energy recovery of residues depends on the performance of the technologies used.



3 spaces:

- Hall with reactors for converting residues into energy carriers
- Three internal combustion engine test cells
- A complete laboratory for the analysis and characterization of alternative fuels



Various technologies for energy recovery from waste are being studied and optimized:

- › Direct combustion,
- › Gasification,
- › Pyrolysis,
- › Solvolysis,
- › Biological pathways,
- › Transesterification.

What we can offer

- › Search for optimal solutions for energy recovery from your residues
- › Study and implementation of pre-industrial pilots
- › **Demonstration/testing**
 - Residue characterization and formulation
 - Elaboration of fuels or combustibles
 - Analysis and characterization of biofuels
 - Analysis and characterization of solid, liquid and gaseous biofuels.
- › **Energy and environmental performance of biofuels and biofuels on instrumented reactors**
 - Internal combustion engines
 - Turbines
 - Boilers

Some waste requires prior processing into liquid or gaseous form, depending on the type of energy recovery applied.



High-performance equipment at your service

> For the shaping of residues

- Grinder
- Dryer and press

> For the conversion of dry residue into a recoverable energy carrier

- Pellet Boiler
- Gas and biogas boiler
- Generating boiler
- Pyrolysis and gasification

> For the conversion of wet residue into a recoverable energy carrier

- Solvolysis or hydrothermal liquefaction

> Physical-chemical analysis laboratory

- Gas and liquid chromatography
- Chromatography-coupled mass spectroscopy
- Atomic spectroscopy
- Elemental analysis
- Thermogravimetric analysis
- Calorimetric bomb
- Cetane and octane number measurement
- Viscosity measurement, flash point
- Etc.

> Internal combustion engine cells

- 6 fully equipped and instrumented engine cells for the study of the energy and environmental performance of biofuels

> Various equipment and prototypes

- Micro gas turbine
- Cogeneration with vegetable oil



[Discover the platforms](#)

Let's study your need together!



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