



# OUR EXPERIENCE, OUR BEST ASSET

Environmental  
Services



# ABOUT US

EMGRISA – Empresa para la Gestión de Residuos Industriales, S.A. is part of the Enusa Group (SEPI holding). Since 1990 we have provided a wide range of services aimed to preserve the environment and ensure an efficient use of energy.



## WHERE ARE WE?

- ◆ OFFICES
- ◆ OWN WASTE TREATMENT FACILITIES
- ◆ SUBSIDIARIES WASTE TREATMENT FACILITIES
- ◆ PROJECTS



# OUR SERVICES

## WASTE TREATMENT AND MANAGEMENT:

### Industrial Waste

Collection, transport and management of hazardous and non-hazardous industrial waste, prioritizing waste reuse and recovery.



#### Waste Transfer Station, Alcázar de San Juan (Ciudad Real).

Liquid waste storage capacity: 1,100 m<sup>3</sup>. Solid waste capacity: 1,000 ton/year.

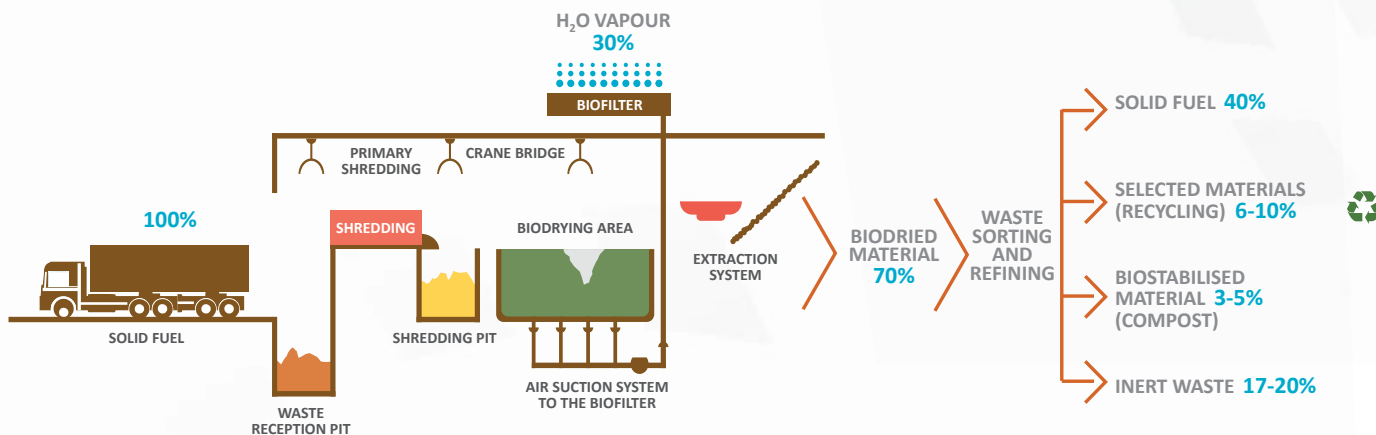
Laboratory and shredding unit. Lorry fleet with 5 vehicles, including 1 tank truck.





# Municipal Solid Waste

Design, construction and operation of MSW recovery facilities.  
Biodrying and accelerated oxidation technology using airflow.  
Odour free system and no contact with the waste.



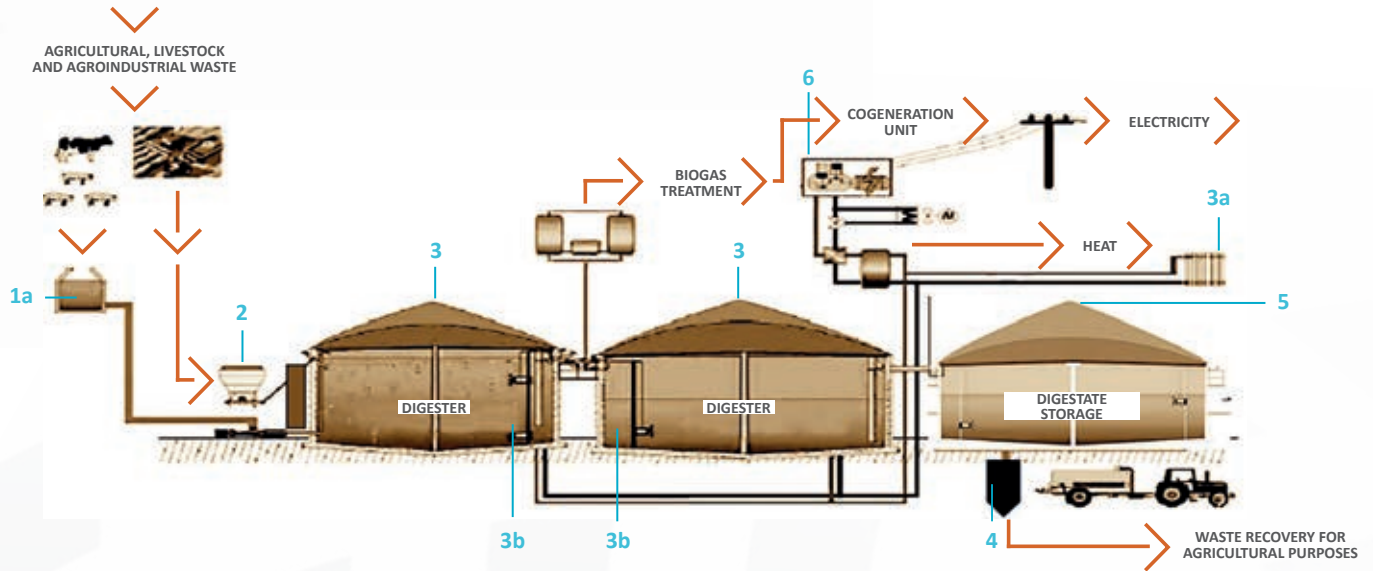
## Cervera de Maestre Complex (Castellón).

The most advanced biotechnological plant in Spain with processing capacity up to 120,000 ton/year. It serves 49 municipalities with a seasonal population of 300,000 inhabitants.



# Agricultural, Livestock and Agro-industrial Waste

Waste treatment for energy generation (biogas) and agronomic valorization of digestate. Ad hoc plants design. Support at all stages of the project (administrative processes, construction, start-up and operation).



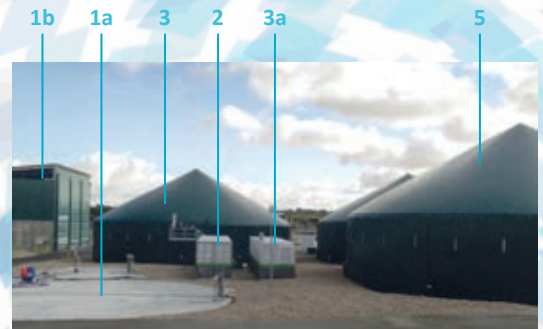
## Biogas Plant, Juzbado (Salamanca)

Treatment capacity: 70,000 ton/year. Power generation: 500 kW.

Operating time: >8,000 h/year. It is the first plant of its kind in Castille-Leon.

## PROCESS

- 1 Waste storage
  - 1a Liquids
  - 1b Solids
- 2 Supplying and mixing
- 3 Digestion
  - 3a Heating
  - 3b Stirring
- 4 Separation
- 5 Digestate storage
- 6 Cogeneration unit



# CONTAMINATED SOIL AND GROUNDWATER

Performance of all kinds of environmental site assessment on soil and groundwater contamination. Restoration measures are undertaken using the best available techniques. Design of solutions based on feasibility analysis and pilot tests.



## Experience

Over 350 soil and groundwater environmental assessments. More than 60 remedial design projects and 125 remedial action projects. Experience in a wide range of industries and with a great variety of contaminants (hydrocarbons, heavy metals, PCBs, HCH, explosives, etc.)

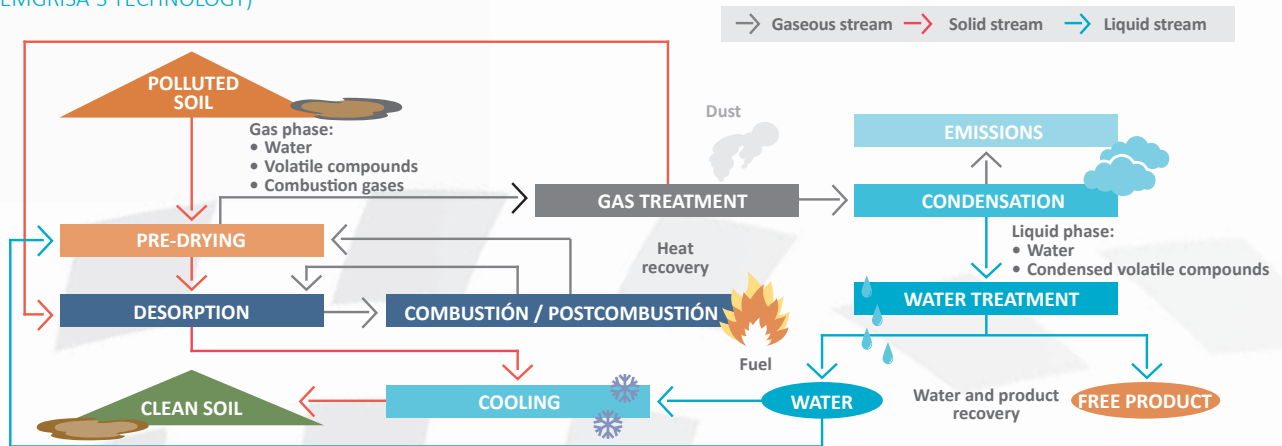




# ONSITE WASTE TREATMENT UNIT – THERMAL DESORPTION

Design, construction and operation of portable plants for the treatment of sludge and soils polluted with organic and volatile inorganic compounds. Own patented design with a high treatment capacity, an effective gas treatment system and low energy consumption.

## THERMAL DESORPTION (EMGRISA'S TECHNOLOGY)



### Thermal Desorption Unit

High treatment capacity: up to 30 t/h.

Energy consumption: from 5 kg/t.

Low emissions to the atmosphere in accordance with

Directive 2010/75/EU.

Suitable for different types of soil and organic pollutants.



# COMPREHENSIVE RESTORATION OF OPEN-PIT MINES

Planning and execution of environmental rehabilitation activities on former opencast mines. Development of environmental monitoring programmes. Implementation of emerging technologies for acid mine drainage treatment.



MAY 2004



JUNE 2014

## Ciudad Rodrigo Environmental Centre (Salamanca)

Environmental rehabilitation of the former mines of Saelices el Chico.

One of the most significant restorations conducted in the European Union and in Spain.

- Earth-moving: 22 Mm<sup>3</sup>
- Construction of new tailing dams and ponds; total current capacity 1.7 Mm<sup>3</sup>
- Pipelines and channels: 10 km.

## Technosols

Former open-cut mine restoration and acid mine drainage treatment through low-cost passive techniques.





# ENVIRONMENTAL ENGINEERING AND CONSULTING

Feasibility studies, basic & detailed engineering for waste treatment and remediation of contaminated soil and water. Environmental consulting and technical support to all kinds of organizations and industries.

## Basic Process Engineering

Waste treatment and refused derived fuel production facility.  
Getafe (Madrid).



## Pilot Plant and Testing

Treatment of dry-dock water polluted with heavy metals.  
Ferrol harbour (A Coruña).



## Multidisciplinary technical team

Our experts have an average of over 10 years experience in the environmental sector.



# RADIOLOGICAL STUDIES

The experience of the Enusa Group, in uranium mining and nuclear fuel manufacturing, is the best guarantee of our services:

- Site radiological assessments.
- Radiological Environmental Impact Assessment of NORM industries.
- Design and performance of radiological environmental monitoring programmes.
- Performance of radiological and physicochemical tests in a wide variety of environmental matrices (soil, water, sediments, biota, etc.).
- Complete radiological dose assessment, both individual (external) and environmental.
- Radon monitoring surveys (RD 1439/2010).



## Site radiological assessment

On site measurements, sampling and radiochemical analyses. Palomares (Almería).





# OUR VALUES

## **Safety Culture and Commitment to the People**

Health and safety of our workers and third parties is our top priority.

## **Quality Assurance**

Our results come from the commitment of our personnel, their proactive attitude and effort for continuous improvement.

## **Environmental Protection**

We protect the environment, not only as the ultimate target of our services, but also by minimizing the impacts caused by our business.

## **Innovation**

Our services include cutting edge technology in order to increase safety, quality and environmental standards.







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The Enusa Group belongs to the SEPI Group, a holding of companies comprising a total of 16 public undertakings where it holds a direct and majority stake. These companies had a total workforce of over 74,000 professionals in 2013. Moreover, the SEPI Group has powers over the Radio Televisión Española Corporation (RTVE), oversees a state-owned foundation, and holds a direct minority stake in a further nine undertakings, and an indirect stake in more than a hundred companies.