



REKAYASA

# COMSPAIN

Compañía de Manutenciones Especiales España, S.A.



COMSPAIN



**TECHNOLOGY  
AND EXPERIENCE**



# ENVIRONMENTAL



*Refining trommel  
for compost.*



*Vibrating  
screen for  
classification  
MSW gross.*

*Automatically controlled fermentation  
park. Plant of Valdemingomez.  
Client: Dragados-Madrid (Spain).*



## COMSPAIN AND THE ENVIRONMENT

Comspain has developed a world-class technology in the field of treatment of the urban solid waste, covering various stages of the process: handling, classification, production of combustible and compost, including product refining systems as well as treatment and purification of gases and effluents which meet the environmental legislation.



The Sogama environmental complex of urban solid waste treatment in Cerceda, county of A Coruña (Spain) is a good example of latest urban solid waste treatment plant using the best technology.

This plant has a treatment capacity of 600 000 tons/year with two lines of production of 40 tons/hour each, where the classification, recycling and milling operations are carried out in a first stage.

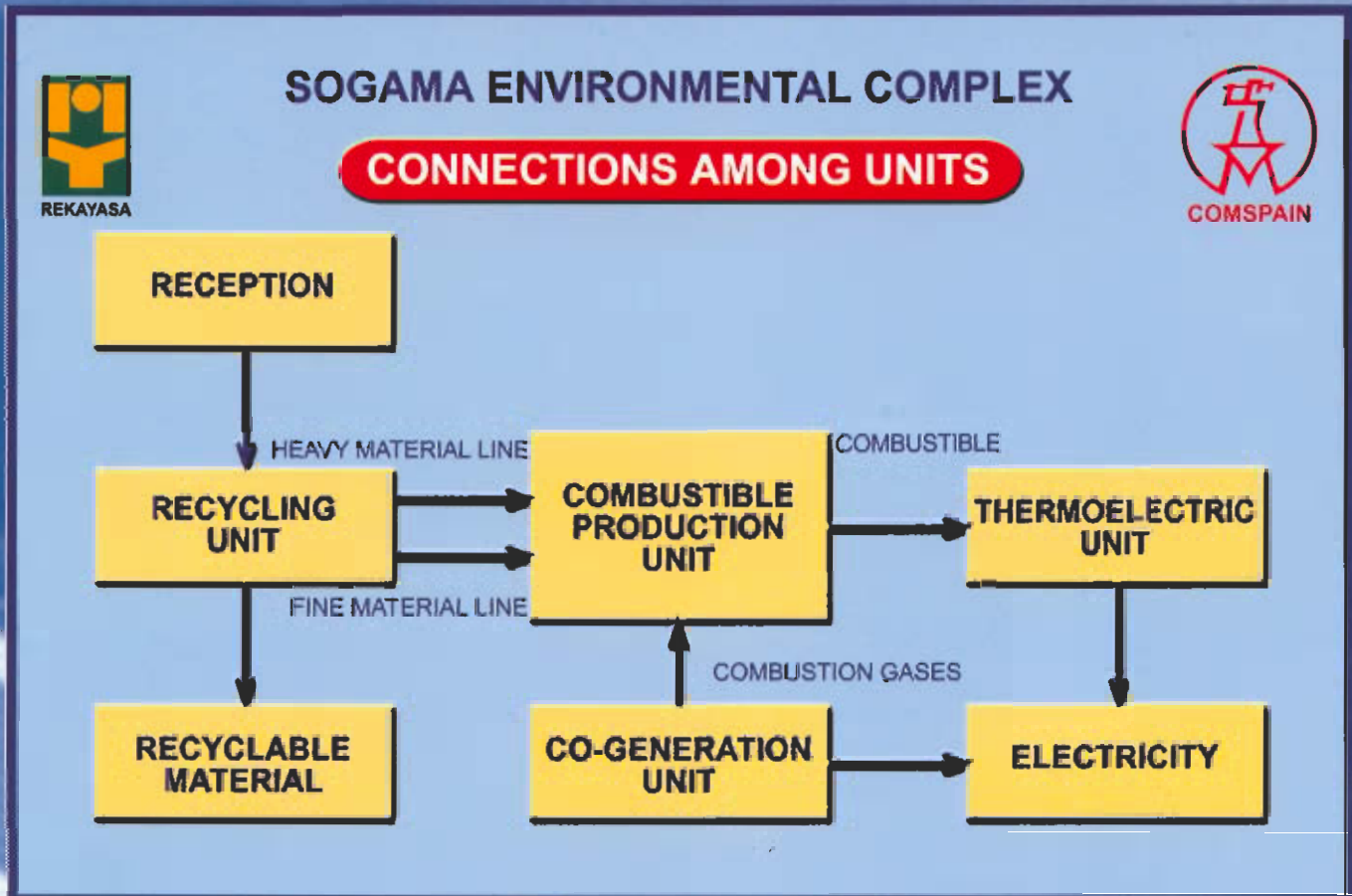


*Partial view of the Environmental Complex of Cerceda. A Coruña (Spain).*

This plant shows the so-called step of : "production of the combustible derived of residuals (CDR)" where Comspain has planned, designed, built and start up, the first and only installation of Industrial Drying of Residuals in the world. Here, the CDR is produced with the appropriate properties for its later incineration in boiler.

It is necessary to highlight that Comspain has developed a world-class technology in this process, by giving two particular characteristics:

- Broad knowledge of dryers design, with an experience of more than 27 years and endorsed by the combined experience of a more than 60 years-old group.
- The dedication of the last 20 years on the design and exploitation of residuals treatment installations for all Europe.



*Diagram of functional blocks of the installation.*

## EXPERIENCES IN DRYING AND KNOWLEDGE OF THE USW

These two premises factors have allowed the development of an appropriate technology for the difficult treatment of residuals, combined with the experience in the field of the drying.

A brief description of the present areas in an Environmental Complex is shown as follows:

### RECEPTION

This is the residuals reception silos for temporary purposes. Using octopus-cranes these residuals will be introduced in the treatment lines.

### CLASSIFICATION

Here the organic fraction is separated from inert product as well as paper, glass, cardboard, metal and aluminum.



*Belt conveyors of organic material to the drying area.*

## DRYING

There are three main processes that are important in the production process as well as preparation of the combustible for the incineration boiler:

- **DRYING AREA:** reduction of organic fraction humidity in order to increase the efficiency thermal of the boiler.
- **DEDUSTING AREA:** elimination of dust dragged by the co-generation gases through series of cyclones in parallel.
- **WASHING AREA:** dust is scrubbed to 50 mg/m<sup>3</sup> level, in which smell is also eliminated. Such process is done through a mix process (acid-base washing).



*Battery of dedusting cyclones.*



*Drying drums.  
3,6 m diameter x 25 m Length.*

## STORAGE AREA

The combustible (or compost) is stored for the purpose of over-all process flexibility, especially in the case of difficulty in the prior stages.

The prepared control system allows carrying out the operations by piling up the product in heaps as well as simultaneous collection in a completely automatic and simple way.



*Washers with Venturi and cyclonic effect.*

*General view of CDR storage.*



*General view of feeding belt conveyors to boiler. Shown also: incinerator, system of treatment of gases and chimney stack.*

## INCINERATION AREA

Once the combustible derived of residuals (CDR) is produced, this will be fed to a sand fluid bed boiler, in which the residuals will be incinerated to temperatures of 900° C. Also a system of treatment of gases and reception of particles and emissions to the atmosphere was installed, as well as a system of collection of clinker and ashes.

Comspain has developed special technology that will have a wider application.

- The "pasteurization" of the residuals by extend-controlled treatment to limited temperature, with elimination of pathogen bacteria.
- The drying for suitable organic fraction residuals for their later use as combustible, with a controlled humidity and improving their handling characteristics and the boiler performance.
- The drying process prior to Thermolysis. The drying operation is not only recommended for the production of an appropriate combustible for the incineration process but also to the thermolysis process.



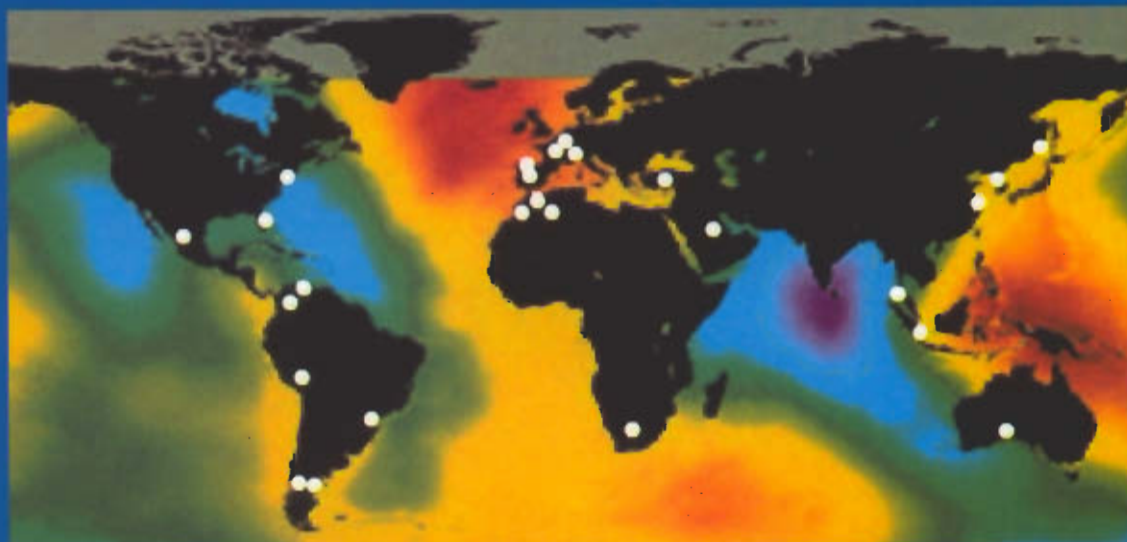
*Drying drum.  
4,6 m.  
of diameter x  
29 m. length.*

The thermolysis is a reaction that dissociates, in an inert atmosphere, components of the residuals to temperature range between 450° C and 600° C.

With cracking operations the waste is converted into gas, hydrocarbons and solids used as combustible.

Both drying processes can be carried out with co-generation as alternative source of contribution of hot gases and with the corresponding electric power generation.

COMSPAIN is present all around the world



Representatives, Subsidiaries & Associated Companies



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