

REA DALMINE

A GREENER HEATING FOR BERGAMO

With **A2A**
Calore e Servizi



CUTTING-EDGE FACILITIES TO PROTECT THE ENVIRONMENT

Rea Dalmine is a member of the Greenthesis Group which manages the waste-to-energy plant in Dalmine, near Bergamo.

With its numerous strengths, **Rea Dalmine is considered a real point of reference for Italian and European waste-to-energy conversion.**

- Integration with the regional waste management strategy.
- Data published daily on the website www.readalmine.it
- Aesthetically pleasing architecture, in harmony with the surrounding environment.
- Plant open to the public.
- Connection to the ARPA Lombardia monitoring system "AEDOS".
- Connection to the monitoring system of the Dalmine Town Council.

The plant - consisting of two independent lines capable of disposing of up to 450 tonnes of waste per day - ensures flue emissions with **very low pollution values**, 90% below the limits imposed by European legislation.

Moreover, due to its innovative fume treatment line, the plant **does not use water in any part of the process**, thus preserving a vital resource and making away with liquid discharges. Its high-efficiency electricity production boasts **yields of more than 27%** and environmental impact values, for some parameters, 3 to 17 times below those of thermal power plants that use traditional fossil fuels.

Certified quality



FROM BERGAMO TO ITALY, FROM WASTE TO ENERGY

The Rea Dalmine plant takes in the waste of a **catchment area of 700,000 inhabitants** and can meet the annual domestic energy requirements of over 110,000 people.

The waste is essentially provided by the **town councils of the province of Bergamo** and the energy produced flows into the national grid.

The two lines ensure continuity of service to these Town Councils, which supply the urban

waste produced daily in their territory, ensuring the provision of a **public utility service**.

The plant also collects special waste from craftsmen's workshops as well as that from plants that treat sorted waste, such as the non-recyclable plastics conferred by the **COREPLA Consortium**: a body that deals with prevention, selection, exploitation and recovery of material and converts plastic packaging into energy.

A WORLD OF GREEN ADVANTAGES

- Among the lowest **environmental emissions** in Europe;
- **Waste treatment** with no liquid discharges due to the absence of water in any part of the process, considered a resource to be protected;
- **High energy recovery** as a result of the design solutions adopted for the combustion grid, the boiler and the fume purification equipment;
- **High flexibility** of the combustion system in terms of quantity, type and size of waste;
- **Reduction of pollutants** in circulation in the environment and already present in the waste;
- Long-term solution satisfying the disposal needs of the **territory**;
- Electricity production generates **low CO2 emissions** (in accordance with the principles of the Kyoto Protocol) and saves fossil sources;
- **Slag used** to replace aggregates for road surfaces and the construction of non-structural cement conglomerates.



UTMOST INNOVATION FOR MAXIMUM EFFICIENCY

The **Rea Dalmine** plant was built using proprietary latest-generation technologies. The **single, integrated design** eliminates problems of interaction between various areas of the plant and optimises every step of the process.

A highly flexible **moving grate with water-cooled steps** enables total combustion of waste with a high calorific value. The plant can treat **many different types of waste**: from urban and non-hazardous special waste to biomass and urban sewage sludge. Finally, an **innovative and entirely dry fume purification system** occurs through 5 steps that ensure a high level of purification and a concentration of pollutants compatible with the environment.

A LARGE PLANT IN FIGURES

- Employees > **45**
- Lines > **2**
- Annual capacity > **150,000 t**
- Daily capacity > **450 t**
- Waste pit capacity > **5,800 m³**
- Calorific value of waste > **6,700 ÷ 22,000 kJ/kg**
- Average annual electricity produced > **100,000 MW/h**
- Days of operation per year > **333**
- Hours of operation per year > **8,00 h**
- Average thermal energy produced > **90,000 MW/h**

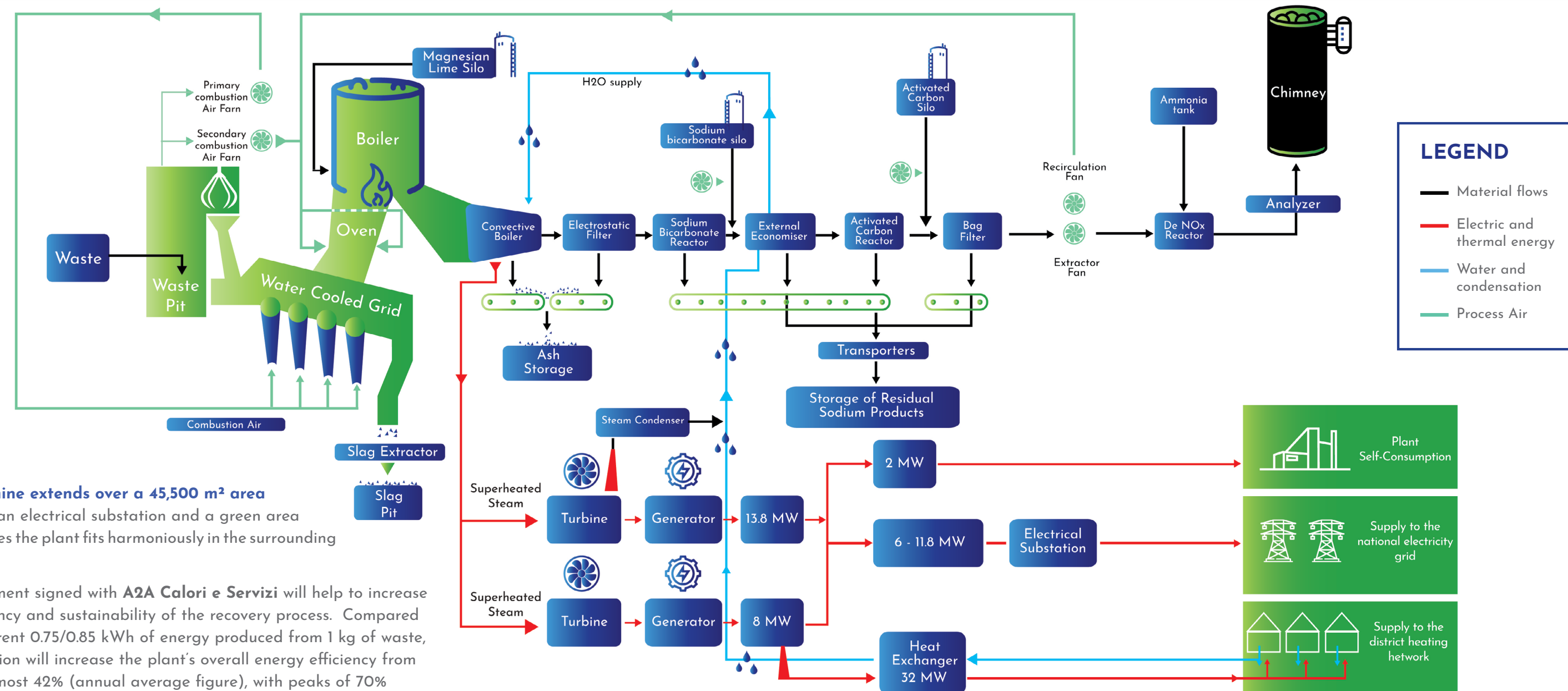
WASTE TREATED

- Urban waste;
- Non-hazardous commercial waste;
- Bulky waste;
- Non-organic fractions from mechanical separation plants;
- Fuel from waste;
- Biomass;
- Urban sewage sludge;
- Treated hospital waste.

Rea Dalmine is a member of the Greenthesi Group.
With thirty years of experience in the Green Economy, the Group is one of Italy's major integrated operators, with global experience in environmental services, including reclamation solutions, waste-to-energy technologies, wastewater treatment, management of sludge, biogas and biomethane production.

www.greenthesisgroup.com

OVER 45,000 SQUARE METERS OF ADVANCED TECHNOLOGY



Rea Dalmine extends over a 45,500 m² area including an electrical substation and a green area that ensures the plant fits harmoniously in the surrounding territory.

An agreement signed with **A2A Calori e Servizi** will help to increase the efficiency and sustainability of the recovery process. Compared to the current 0.75/0.85 kWh of energy produced from 1 kg of waste, cogeneration will increase the plant's overall energy efficiency from 27% to almost 42% (annual average figure), with peaks of 70% during the winter season.



THINK GREEN, ACT SMART

REA DALMINE

Registered Offices and Operational Site

Via Dossi - 24044 Dalmine (BG)

readalmine.greenthesisgroup.com

Phone +39 035 4157411 Mail. rea@greenthesisgroup.com