



ITI ENGINEERING SRL

COMPANY PROFILE







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HISTORY

Design and construction of the world's first industrial incinerator for burning waste and direct drying process applied in the wood industry.

1985

ITI becomes Europe's leading supplier for the design and construction of thermal power plants and industrial power plants. Primary customers: Sonae Group, Amorim Group, Gruppo Frati, Fantoni Group, etc..

80s

90s

ITI installs plants in Europe, Oceania, Africa and South America. Our plants and their applications become benchmarks regarding environmental impact and energy production from renewable sources.

00s

ITI designs and manufactures in Italy its first combustion system for urban waste which has a power capacity greater than 50 MW. We enter the market of power plants of small size with biomass combustion and production of 1 MWe.

10s

We make in Italy a combustion system for the incinerator Terni-ACEA with the record level of efficiency and completeness of combustion. In 2013 ITI becomes a registered trademark and continues its process of innovation always looking to energy and industrial needs and policies of sustainability.





MISSION

TO DESIGN INNOVATIVE SOLUTIONS

for energy, industrial and other issues. We always respect and often dictate the highest level standards in the field of plant and energy systems applied to renewable fuels and process waste.

TO BE A REFERENCE FOR OTHERS

with a particular eye to the policies of environmental sustainability, optimization of resources and raw materials as well as to the economic aspects of the process.

WE ARE PREPARED TO DEFINE

the best solution for each different customer situation regarding heat consumption or fuel quality, with the utilization of our experience in the energy plants technology.

TO ACHIEVE OUR TARGETS

we have the support of proved suppliers regarding each part of our plant.

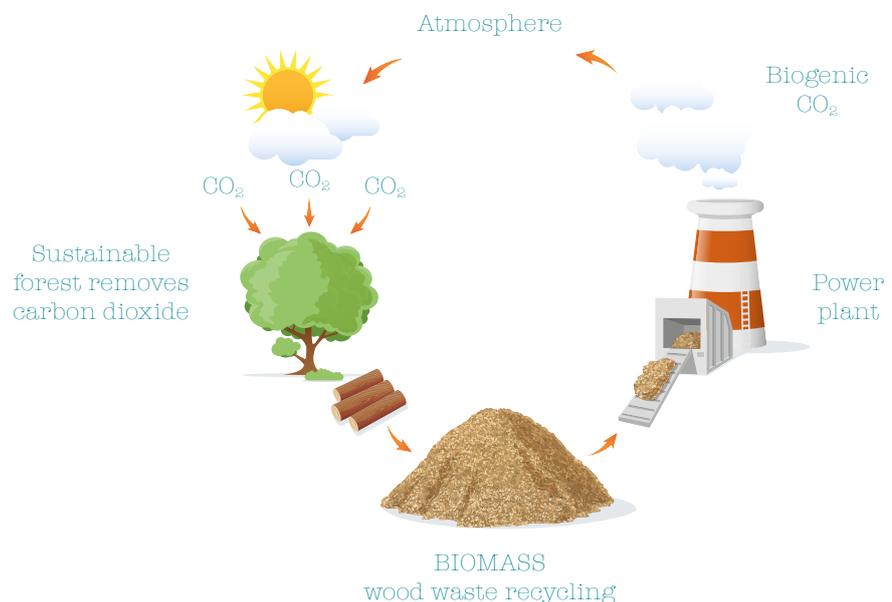
Biomass

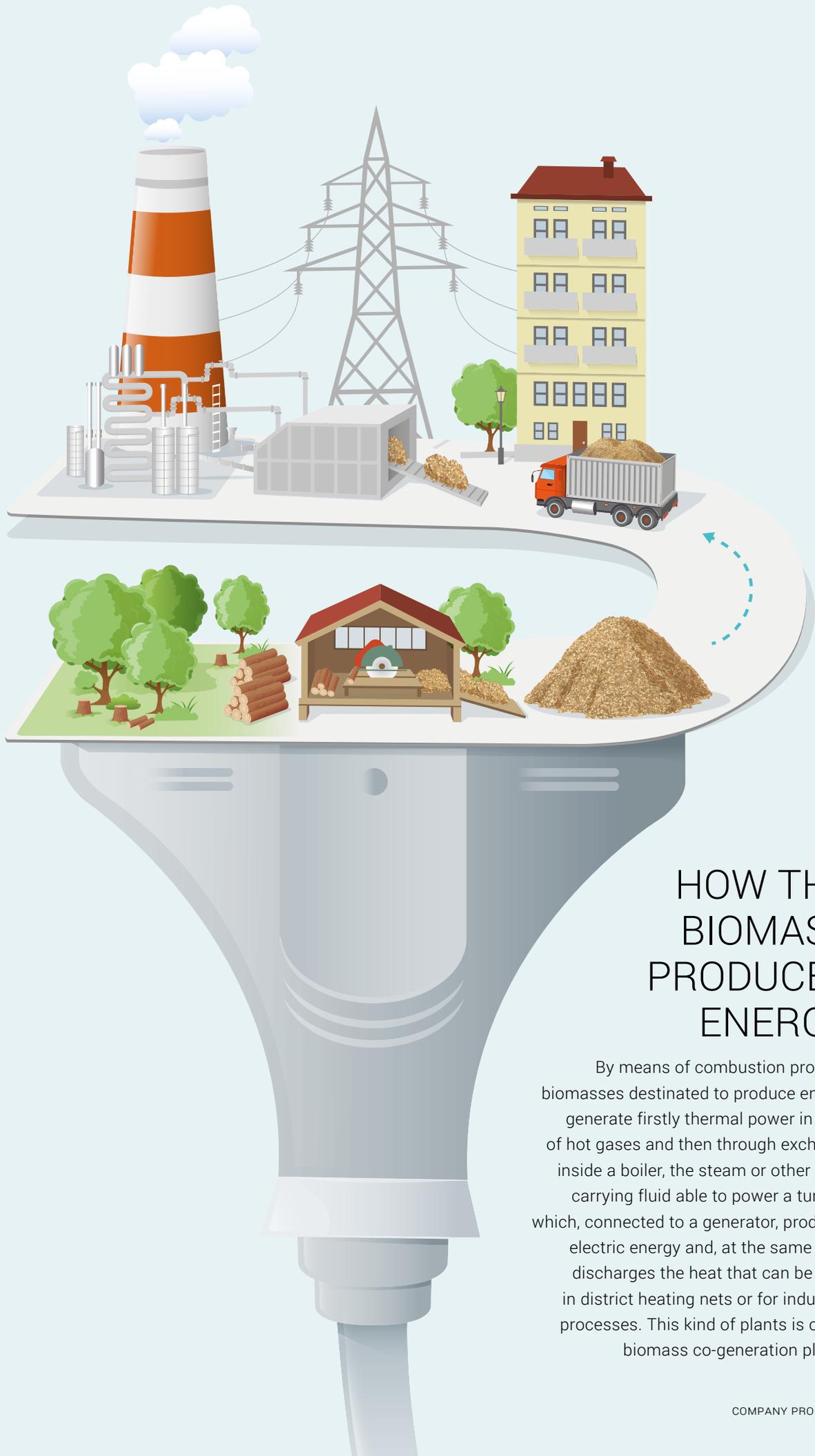
Biomass is biological material derived from recently living organisms.

In the context of biomass for energy this is often used to mean plant based material, but biomass can equally apply to both animal and vegetable derived material.

WHY BIOMASS

Biomasses make part of renewable sources of energy since the emission of CO_2 during energy production does not increase the level of carbon dioxide in the atmosphere and does not contribute to the risk of global climate change. The emitted quantity of CO_2 is exactly the same that was absorbed by plants during their vital cycle and that would be released back to environment after their death and further decay process.





HOW THE BIOMASS PRODUCES ENERGY

By means of combustion process, biomasses destined to produce energy, generate firstly thermal power in form of hot gases and then through exchange inside a boiler, the steam or other heat-carrying fluid able to power a turbine, which, connected to a generator, produces electric energy and, at the same time, discharges the heat that can be used in district heating nets or for industrial processes. This kind of plants is called biomass co-generation plants.

TAILOR MADE

ALL OUR INSTALLATIONS
ARE DISTINGUISHED
BY RELIABILITY
AND TAILOR-MADE
ENGINEERING.

Since we put the customer's and environment interests first, **we offer to every client the very specific and the most appropriate solution to its particular situation and requirements.** We engineer, manufacture, deliver and assemble power plants of different capacities (from 2 Mw to 100 Mw) for energy production from combustion of different types of wood based biomass and other solid fuel. Our plants operate all over the world, helping our clients to solve wastes issue and reduce electricity consumption and the related costs.





A COMPLETE SYSTEM

ITI IS IN CONSTANT PROCESS
OF GROWING.

We have decades of experience in the field of energy producing plants. Our highly qualified staff has tripled lately and our design engineers are able to realize the most appropriate technical solutions starting from the lay-out and finalizing with control system. ITI's activity is related to manufacturing and supply of complete systems for energy production, based on heat recovery deriving from wood waste combustion.



INDUSTRIAL THERMAL PLANTS

Our plants offer high quality and efficiency that are the result of the following factors:

- **many years experience** in field of thermal plants for wood-industry;
- **tailor-made** by us engineering and construction of combustion systems;
- **proved technology** for execution of the plants for thermal oil and steam;
- **engineering and development** of automatized control system for optimization of plant's efficiency.

IA PROVIDES

COMBUSTION SYSTEM

The core of our plants is combustion system. Since we started from the very first years of wood-panel industry (particle- or fibre-board), we have developed our proper know-how regarding the biomass and wood wastes combustion process.

We supply:

- feeding systems for furnaces;
- moving stokers;
- injector burners for sawdust and flour;
- combined burners for biodiesel/dust and flour;
- collecting and conveying systems for ashes;
- combustion and post-combustion chambers.



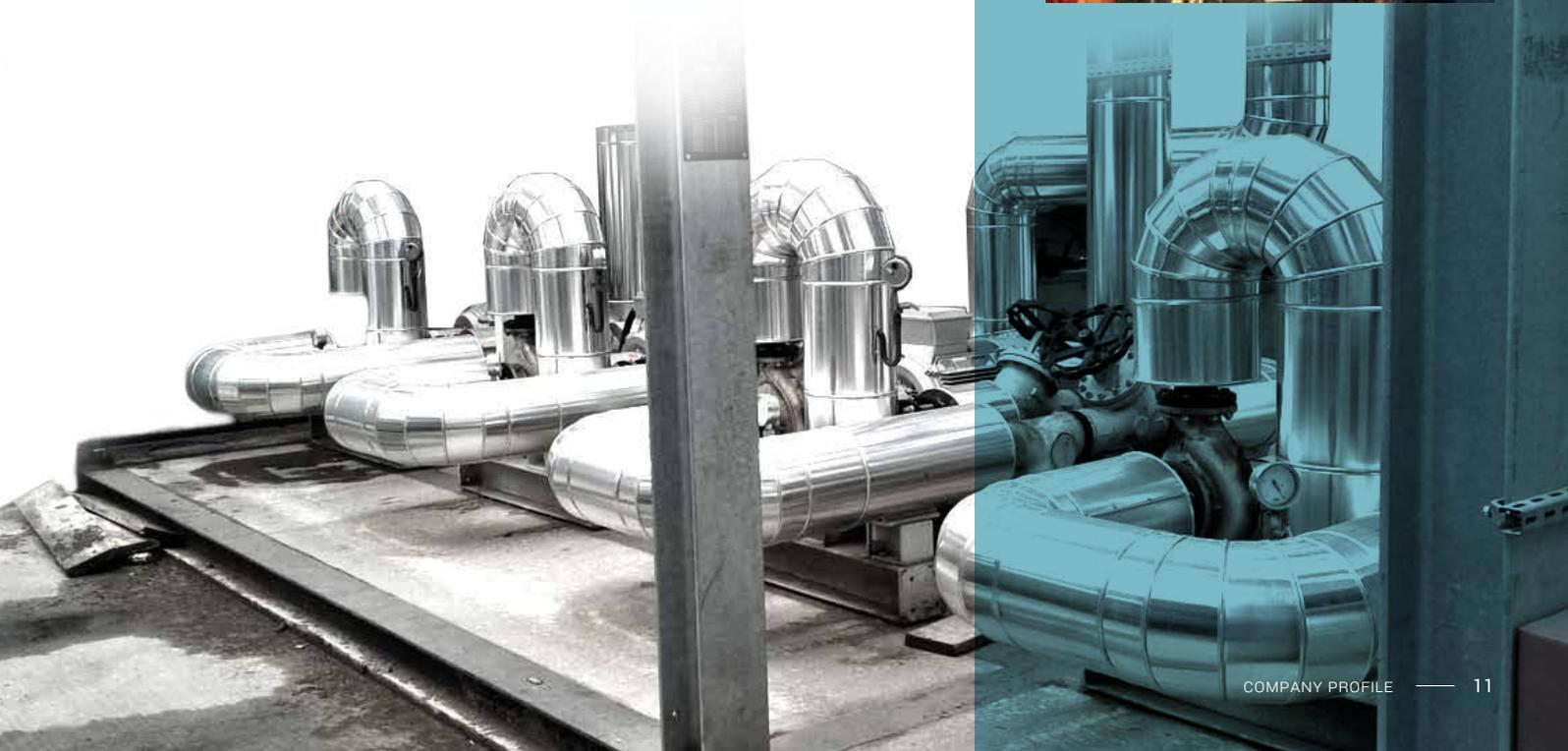
 PROVIDES

THERMAL OIL

Thermal oil technology is widely used for heat transfer in wood-based panels industry.

The plant of this type is used for:

- **heat recovery and distribution;**
- **thermal oil plant for energy generation by means of ORC turbine units.**



 PROVIDES

STEAM

ITI's Reference list includes many installed steam generation plants after biomass combustion.

We offer solutions for:

- **super heated steam for energy generation by means of turbine;**
- **saturated steam for industrial use (wooden fibre production; press cycles).**

We are able to offer steam boilers with direct and indirect heating, super heaters, economizers, etc.



 PROVIDES

HOT GAS

High efficiency for thermal plant means maximum recovery of heat **from exhaust gas** from furnace.

We have long experience of utilizing this process for wood drying on particle board, MDF, pellets etc. plants, when the hot exhaust gas after waste wood combustion is directly utilized for drying.

Especially for MDF plants, we have developed our own technology and system, which is characterized by **high performances**, high efficiency and **high safety**.



 PROVIDES

CO-GENERATION PLANTS

According to the guide lines regarding the world wide improvement of the efficiency of the energy production, considering as strategical the biomass combustion to decrease the use of fossil fuels, we have designed and realized several plants with **co-generation system**.

Our special experience in thermal oil system places our company in a primary position for the supply of **ORC plants** (Organic Rankine Cycle) in connection with turbine units supplied by proven manufacturers.

Also in case of plants using turbines units designed for a more traditional steam technology our boilers are well designed for the optimum performances of the system.

In any case our target remains the **highest efficiency** in terms of plant's availability and it is achieved through the maximum attention in design, and control system.



 PROVIDES

ADDITIONAL SERVICES

Our experience allows to obtain maximum results both technical and economic in activities related to the exercise of the plants and sometimes requested by customers:

- optimization of control and supervision systems;
- organization of the maintenance process;
- staff training;
- engineering development of the project in relation to authorization issues, environmental, etc.





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