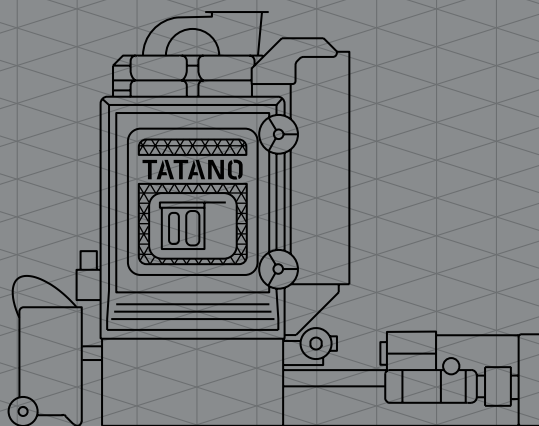


Biomass boilers **CLASS 5**



*Heating with wood pellet and
wood chips for big areas*



KALORINA LE-PA / Low Emission



TATANO
renewable energies



BIOMASS: ALL THE BENEFITS OF A LOCAL, CLEAN AND RENEWABLE ENERGY SOURCE

Today biomass is a rapidly growing proportion of renewable energy. The major advantage compared to other energy sources is the fact that the biomass is available locally, available all year round, can be easily stored and burns with a neutral CO₂ balance. This source of energy is the right solution not only for heating and the production of hot water in a residential environment, but also for the commercial and industrial activities; also the modern boilers that use it are easy to handle in the same way as gas or diesel technologies.

An ecological fuel (CO₂=0)

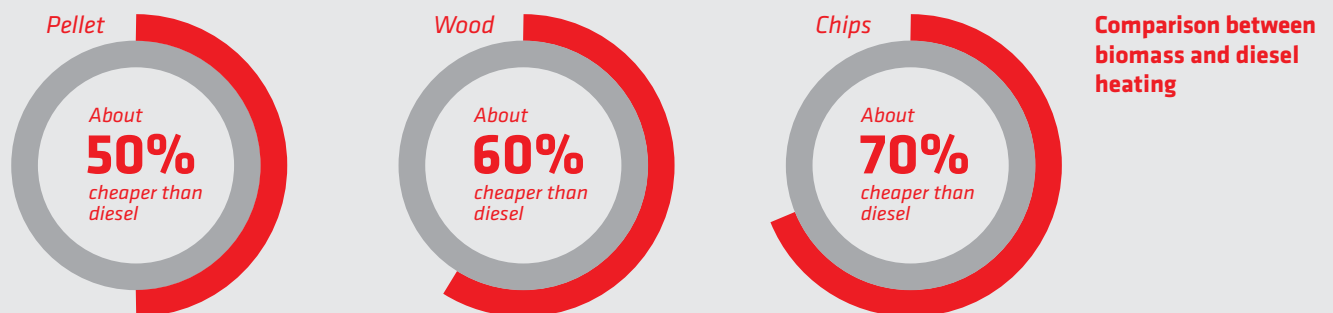
Choose the Biomass means warm up in harmony with the natural carbon cycle and with the minimal environmental impact. An eco-conscious choice for our present and future generations.

A responsible resource use

An investment for the future that will make us independent of the cost fluctuations of fossil fuels allowing us to significantly save on energy costs.

A gain for all

Use biomass allows us saving on heating costs, to strengthen the local economy (green fuel 0 Km) and to respect the environment. It can also take advantage of the incentives provided by the Energy Statement and the Energy Efficiency Certificates (TEE) and White Certificates, regional tenders, Industry 4.0 incentives or similar.



CLASS 5

The UNI EN 303-5: 2012 norm qualifies the latest generation boilers in Class 5 as respectful of the new requirements in terms of safety, emissions and efficiency allowing the access to the contribution of the Conto Termico, Energy Efficiency Certificates, regional tenders, Industry 4.0 incentive and measures that high-yield reward, low-emission products with an energy label.

Energy Statement

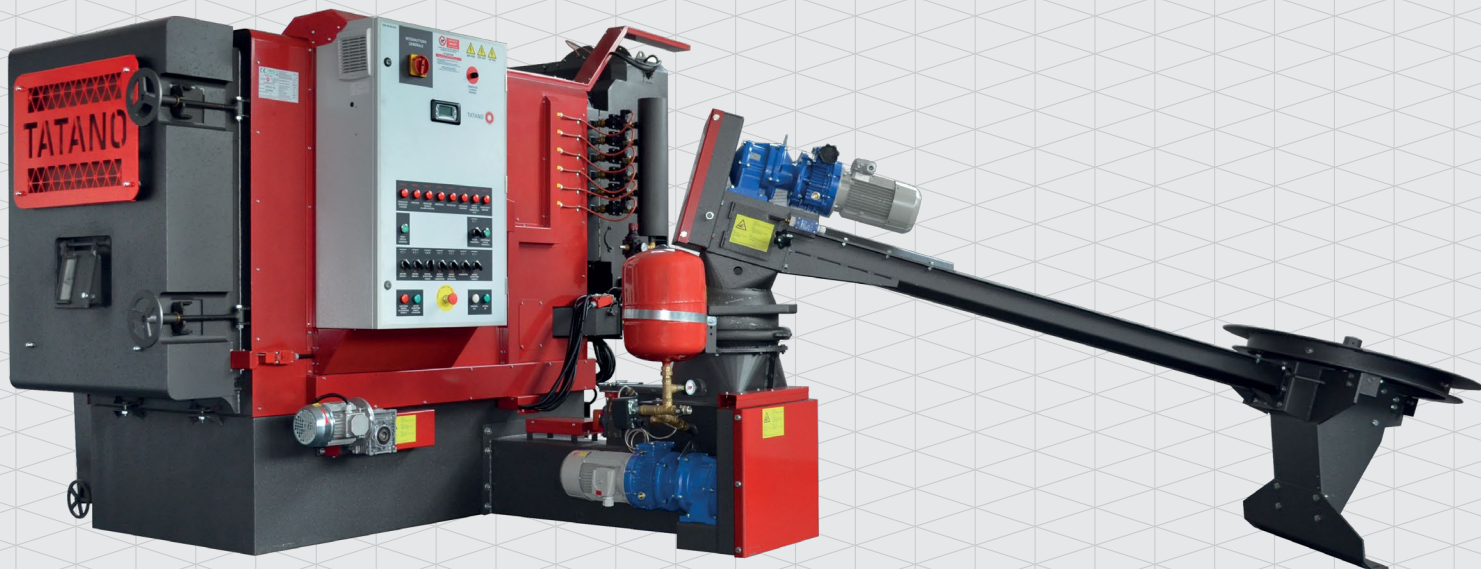
It is an incentive for energy efficiency and the production of thermal energy from renewable sources introduced in 2012 (Energy Statement 2.0, in force since May 31, 2016) intended for private customers (including via ESCO) and the public administration.

Kalorina LE-PA Low Emission

The new range of biomass boilers Kalorina LE-PA Low Emission, available from 135 to 474 kW, ensures higher performance with the minimum parameters required by the UNI EN 303-5: 2021- Class 5 thus accessing to the incentives provided by the Energy Statement (new incentive plan for the production of thermal energy from renewable sources), the Energy Efficiency Certificates, White Certificates, Regional Contributions and incentives provided for by the Industry 4.0 Plan or forms of incentives rewarding low-emission, high-performance products with energy labelling.

KALORINA LE-PA Low Emission

Class 5



REMOTE ASSISTANCE
REMOTE CONTROL
REMOTE ALARMS

Our technician may interact,
via an internet connection,
with your boiler to make
the necessary adjustments.

HEATING FOR BIG AREAS

RANGE OF POWER:

from 135 to 475 kW

SOLUTIONS IN CASCADE:

until 2 MW

RANGE OF MODULATION:

1:4 (from 25% to 100%)

APPLICATIONS:



Big places:
Commercial/Industrial areas



Farms



Sport centers



District heating networks



Requalification/New installations
with access to tax deductions

FUELS

- Wood pellet EN 17225-2
- Wood chips EN 17225-4

Required for the access to
CONTO TERMICO 2.0

OTHER KINDS OF FUELS:

- UNI EN ISO 17225-3
Wood briquettes and chips
- UNI EN ISO 17225-6
Olive husk, Minced shells
- UNI EN ISO 17225-5
Wood logs

KALORINA LE-PA, the new range of Class 5 boilers, guarantees high efficiency with extremely low emission coefficients and allows access to both the incentives provided by the Conto Termico, Energy Efficiency Certificates, White Certificates, Regional Contributions and to the incentives provided by the Industry 4.0 Plan or forms of incentives rewarding products with low emissions and high yields equipped with energy labelling.

ADVANTAGES OF THE SYSTEM

Safe and reliable

- The excellent quality of raw materials, the choice of components, safe systems and the design according to the most restrictive standards will ensure the high efficiency, the total reliability and the duration over time;
- Extremely convenient operation with reduced maintenance interventions.

Versatility

- **of applications:** ideal for the flexible use in both fields of the intermediate power for a continued use over the 8000 hours per year;
- **of installation:** depending of the spaces and of the local positioning (Possible heating solutions in containers);
- **of integration:** with solar energy systems (Certification Solar Keymark for solar panels);

- in the choice of fuels.

Economical

- High flexibility of use. The biomass is readily available in what comes from the short chain;
- Certified to access the Conto Termico and/or the Energy Efficiency Certificates (TEE), White Certificates and other measures rewarding products with energy labels, low dust content and high yields;
- Possibility to use the contributions provided for the Solar Energy Statement.

Ecological

- High efficiency and low emissions. Maximum respect for the environment;

- Maximum input of energy from renewable Sources and zero environmental impact with the integration of the solar panels.

Customized project

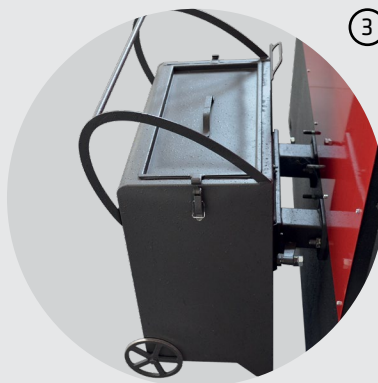
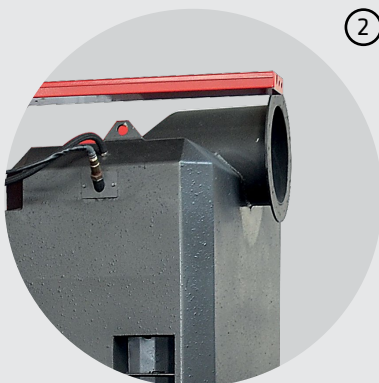
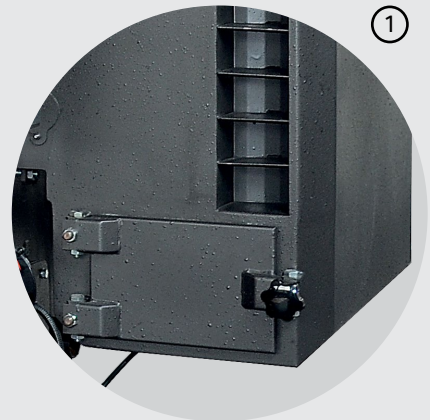
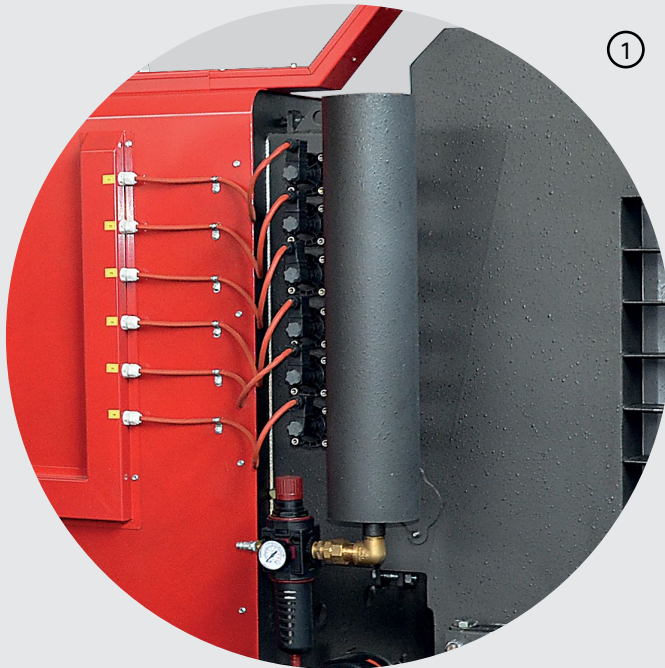
- Each system is designed for the specific needs of the customer and in compliance with the existing laws in different countries;
- Turnkey system: from feasibility analysis to commissioning.

FEATURES

- | | | |
|---|--|---|
| <ul style="list-style-type: none">- Automatic ignition with the maintenance of the brazier. It ensures a low energy consumption;- Combustion chamber lined with refractory material and high alumina content;- It ensures high strength and high combustion efficiency;- Minimum heat loss thanks to the complete and effective isolation;- Automatic adjustment of the power according to heat requirements; | <ul style="list-style-type: none">- Integrated safety heat exchanger;- Integrated multi-cyclone filter to minimize dust levels;- Smoke extractor to maintain the correct depression inside the combustion chamber, extremely silent;- Automatic cleaning of the exchange surface and combustion chamber with cleaning auger for ashes discharge in the box;- Double combustion control with the temperature sensor (water/smokes) and lambda sensor; | <ul style="list-style-type: none">- Digital Electronic regulation with multifunction touch screen. Remote management via GSM/Wi-Fi (optional);- Wide range of accessories for the fuel storage and levy with the possibility of connection to the right, left or rear side.- CLASS 5 EN 303-5: 2021 Certification, with approval to the new Machinery Directive. Maximum degree of safety on board. |
|---|--|---|

STANDARD ACCESSORIES

- 1 Multi-cyclone filter with integrated clearing (kit PA) + Ash box
- 2 Smoke extractor
- 3 Ash box of the combustion chamber
- 4 Boiler panel + Application for the management via smartphone



COMPONENT OF THE SYSTEM

Accessories for the fuel storage

the big range of accessories supplied by a whole supplier allows A perfect integration between the components and a reliable and safe functioning of all the system.

Our experience in the overall planning allows us to choose between all available accessories the most efficient solution for your project.

The drawdown mechanisms from the hopper and transporting of the fuel are very important and that's why Tatano offers the most suitable system according to the rooms layout and the type of fuel used.

- 1 **SIL-MAX (L 800)**
More autonomy with pellet functioning
- 2 **Cylindrical hopper (L 1235)**
A wide selection of fuel type
- 3 **SCB02**
More autonomy of system operation
- 4 **Articulated feeder**
More autonomy of system operation





PROJECTS IN CLASS 5

Examples of projects in Italy and abroad



PROJECT IN CLASS 5 Energy efficiency certificates (TEE) for the La Spezia social health structure

The project carried out at the "Campo del Vescovo" social health facility located in Rocchetta Vara (SP) consists in the replacement of two LPG boilers in cascade with a biomass boiler Tatano mod. Kalorina K400 EPA-LC complete with forced draft, multi cyclone filter and lambda probe.

Partner: SSE Liguria s.a.s.



PROJECT IN CLASS 5 Julia Alpine Refuge Sella Nevea, Italy

A latest generation Tatano boiler Kalorina K90 LE-PA (Low Emission) (Class 5 EN 303-5: 2012) of 90 kW, set up inside a mobile container, ensures the thermal needs of the 49 beds, for an area of about 500 square meters.

The system is equipped with pneumatic cleaning, integrated multi-cyclone, forced smoke extraction and 2000 L technical water puffer.

The environmental impact is also minimal: the project, blending perfectly into the surrounding environment.



PROJECT 33 MW Eco-sustainable greenhouse Popesti-Leordeni, Romania

Energy requalification project consisting of a thermal plant of n. 11 multi-fuel boilers, Kalorina K23300 EPA Q FMC LC (3000 kW), supplemented by 6 puffer with a total capacity of 3000 m3 of technical water for heating the 12 ha of hydroponic greenhouses.

An innovative thermal system designed on the basis of the specific needs of the customer: the use of alternative fuels, in particular agricultural waste: corn cobs, cereal waste, sunflower husk, husk pellets that will allow the implementation of a "zero kilometer".

Technical data

Model: Kalorina K400 EPA LC

Power output: 400 kW

Fuels: chips certified EN14961-4

Storage: hopper built on the central overlying floor. Monthly autonomy.

Storage volume: 160 m³

Extraction/Transport: leaf spring (SCB02)

ANNUAL SAVINGS

23% for the first 5 years

43% after depreciation

TEE (White Certificates)

Total Grants value:

14000 year x 5 years= 70.000 euros

Technical data

Model: Kalorina K90 LE-PA (Low Emission)

Power output: 90 kW

Fuels: wood Pellet Class A1 certified

EN 17225-4

Storage: articulated feeder

ANNUAL SAVINGS

55% compared to fossil fuels

Technical data

Model: Kalorina K23300 EPA Q FMC LC (n.11)

Power output: 33 MW

Fuels: corn cores, cereals waste, sunflower pellet

Storage: mobile floor with rakes (driveway version)

Extraction system: centralized, with mobile rakes

ANNUAL SAVINGS

60% compared to fossil fuels

PROJECTS IN CLASS 5



PROJECT IN CLASS 5 Wood chips drying plant Ivrea, Italy

The Giardinord wood chip drying plant is supplied with a Kalorina K500 LE-PA (Class 5) boiler pre-installed inside a container. The aim of the project is the reduction of costs and the enhancement of its processing waste which, transformed into a resource, becomes the raw material of the new plant.

Technical data

Model: Kalorina K500 LE-PA
Power output: 500 kW
Plant capacity: 2500 kg/h

Fuels: wood chips (EN 17225-4)
Storage: direct/leaf spring (SCB02)

ANNUAL SAVINGS
50% compared to fossil fuels



PROJECT IN CLASS 5 Heating for greenhouse cultivation Alexandria, Romania

The expansion of the plant for the Prestoagri agricultural greenhouses, dedicated to the cultivation of aromatic plants in pots, with the integration of the second generation boiler, Kalorina K500 LE-PA (Low Emission) 500 model kW which will allow them to extend the cultivated area to 6000 sqm. The complete system from the storage to the exhaust of the combustion gases has been customized according to the specific needs of the customer, since the company invests in the production of the briquettes of agricultural plant residues necessary to feed the plant, thus creating a zero kilometer supply chain.

Technical data

Model: Kalorina K500 LE-PA (n.2)
Power output: 1000 kW

Fuels: cereals waste, agro-pellets, briquettes of agricultural plant residues
Storage: articulated feeder

ANNUAL SAVINGS
50% compared to fossil fuels



PROJECT IN CLASS 5 Industrial warehouse heating Targu-Mures, Romania

The energy redevelopment project of the existing thermal system at the Swan Windows company is a virtuous example of the transformation of a processing waste into an energy resource. Furthermore, with the installation of two latest generation boilers, model Kalorina K375 LE-PA (Low Emission), not only an alternative energy source to traditional fossil fuels, but also helping to respect the environment, with the use of renewable sources at zero kilometer and with emission values well below the restrictive legal limits (10 mg/Nm³ dust and 1.2 mg/ Nm³ TOC, at 6% O₂/Test Report 2000762/Wessling certification body).

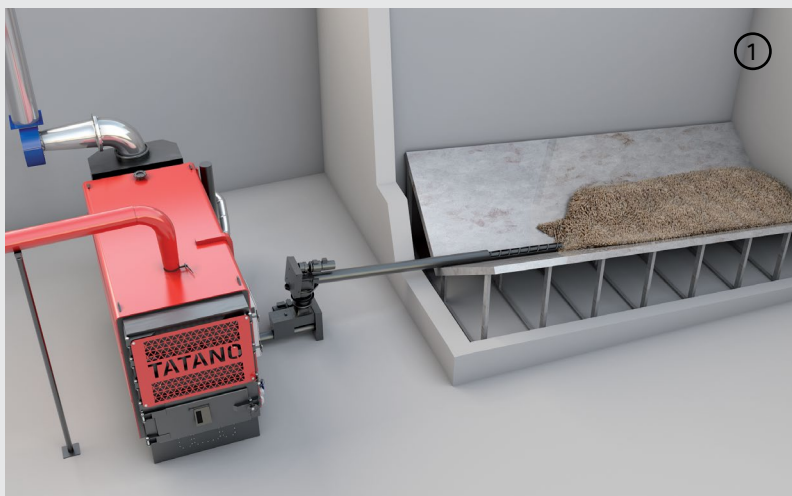
Technical data

Model: Kalorina K375 LE-PA (n.2)
Power output: 750 kW

Fuels: sawdust, shavings, wood chips
Storage: standard (L 1235)

ANNUAL SAVINGS
65% compared to fossil fuels

IDEAS FOR THE DESIGN



Suitable solutions for all your needs!

1 - SYSTEM WITH ARTICULATED FEEDER

The system is optimal for the assay and the horizontal transport of the pellets and of the granular biomass, from the storage hopper to the boiler through the drop shaft up to the auger.

Advantages:

- Reduced spaces to stow the annual supply of pellets and complete emptying of the storage hopper.
- Convenient and quick filling of the deposit via the refuelling from the tanker.
- Extremely quiet and no maintenance required. Absolutely reliable.



2 - SCB02

The SCB02 extraction system represents the excellent solution which can offer important advantages in the fields of application of medium and big powerse.

Advantages:

- Optimum use of the storage room space.
- Flexible application and simple installation.
- Robust design resulting in wear resistance over time.

SPECIFICATIONS

ARTICULATED FEEDER

HOPPER FOR THE FUEL STORAGE:

- Rectangular shape
- Adjacent to the boiler room or in the immediate proximity of the boiler room.

THE DEVICE IS SUITABLE FOR PELLET COMPLIANT WITH:

Classes A1, A2, B
As per the specifications of EN 17255-2

GRANULAR BIOMASS:

Exhausted olive husk, grapes, minced shells, cereals waste

SCB02

FUEL STORAGE HOPPER:

- Square, round and rectangular deposit next to the boiler room.

THE DEVICE IS SUITABLE FOR CHIPS COMPLIANT WITH:

Calsses A1, A2, B 1, B2
As per the specifications of EN 17255-4

THE COMPANY AND THE SERVICES



*Tatano: cutting edge technology
for eco-friendly heating
solutions.*

The Company is specialized in the design of biomass systems known for the high degree of innovation, efficiency and contribution to the environmental protection. From the single family house to large residential complexes, from commercial and industrial buildings to local heating networks, the company offers heating systems and energy efficient solutions for all requirements.

TATANO SERVICES: ALL FROM ONE SUPPLIER

Consulting and design

- Advice on the most suitable installation solution;
- Basic design and detail engineering and site planning;
- Supply and assembly;
- Regular implementation.

Maintenance, assistance and training

- Customized assistance with programmed maintenance contract;
- Service network for servicing customers with highly qualified personnel;
- Diagnosis and remote monitoring;
- Renovation and modernization;
- Training courses.

Energy Network

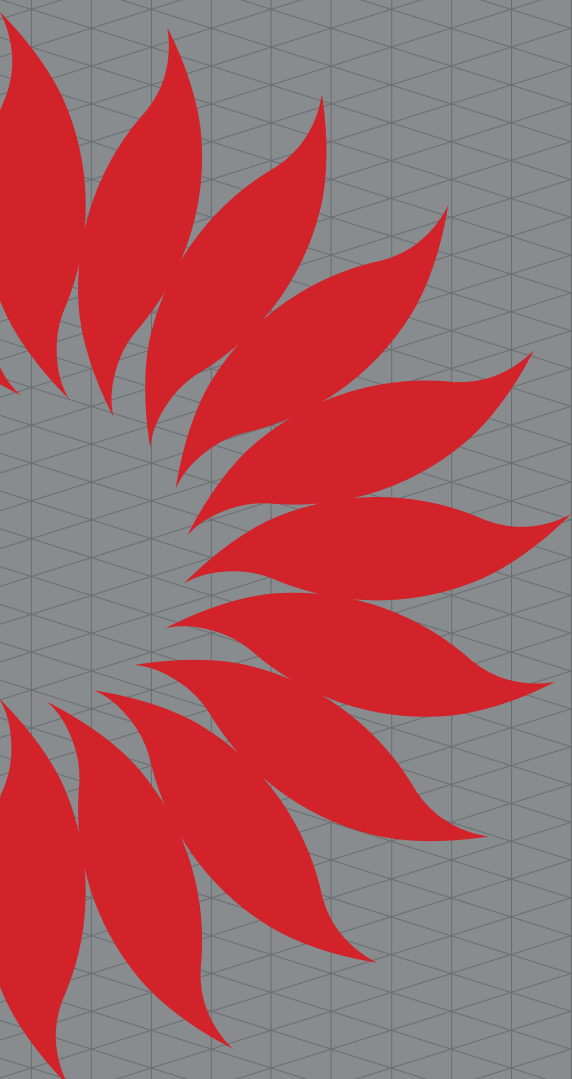
It is the ideal structure for the search of sustainable energy solutions.

The following are the figures involved:

- Manufacturers and suppliers of biomass;
- Design studies (EGE);
- Energy Service Company (ESCo);
- Managers of Energy Services (GSE);
- Installers and service centers.



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