



ecosistem

Industria per la valorizzazione del rifiuto

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The ecosystem is one of the most important Calabrian realities. Support in environmental sector, we operate in garbage area, environmental credit transfer, renewable energy and we realize and manage garbage and refluent water of civil and industrial origin.

ECOSISTEM S.R.L. born in 1988, exercises in ecology sector, safeguard natural resources through development of high innovation and technology in environmental protection for treatment of drugs, polluted goods, also recycling of recoverable garbage and dispose of not recoverable garbage. ECOSISTEM with qualified developed experience with advanced technologies, speed of intervention, availability of equipment and adequate terms of necessity, regulate applicable norms in material, allowed ECOSISTEM to grow up constantly and take a place in leader sector.



Collecting and transport

The ECOSISTEM is organized and equipped for transport, of specialized, dangerous and not dangerous garbage. We are able to satisfy the requirement of our client with programmable method and system of storage. The motor vehicle have a rolling system that allow the sample from containers and/or tank. Hereafter, the transport of garbage in suitable installation of treatment. The vehicle area is composed of trucks and tractor-trailer for specific transport. In specific, the society have motor vehicle and equipment that allow the transport in third counts of SPECIAL GARBAGE and URBAN GARBAGE – dangerous and not dangerous – to the solid or liquid state.

The company have a different vehicle area. The possibility to satisfy every different need in relation of physical state of garbage, every time renewable and with capacity to vary, is given. The vehicles are tested in regime ADR for the transport of dangerous goods and response the current norms. The diversification of transport is the strength point of the company. The ability to satisfy the requirement of thousands of clients and with thousands tons of garbage in movement, will not miss.



Credit transfer

Ecosistem has obtain the acceptance SOA in category OG 12 (document that shows the property of technical and economic requirements to participate in public contract), work an installation of credit transfer and environmental protection. Ecosistem has also a document that shows the entry in Albo Gestori Ambientali of Calabria at category 9 class B: credit transfer and polluted area, site work up to € 7,746,853.48.

Ecosistem is able to supply the followed services:

- Credit transfer of polluted areas and having all the necessary equipment for movement of the polluted land (mechanic shovel, tracked excavator, crusher and grind furniture);
- Credit transfer of asbestos for removal of cover in cement-asbestos and the credit transfer of contaminated areas. Thirty-year experience;
- Credit transfer of tank with intervention of extern type of tanks or basement tanks with different capacities, with personal and own equipment, also with respect in norms of internee spaces in ATEX places;
- Demolition of civil and industrial building with collaboration of specialized equipment for demolition and guarantee the regular start of recuperation or disposal of resultant materials.



Installation of selection

The installation of selection and press has an aim to separate the mixed garbage, collected from "multi-material" and obtain separate materials from adequate purity for followed use.

The selection of the material in the installation is semiautomatic. Paper, aluminum, glass, plastic materials and ferrous metals. It will provide also the storage of packing in paper and carton, plastic, wood, metal and exhausted rubbers that will be separate and following recuperate.

The installation will produce pressed and solid material, tentatively it will storage in bales with 2 mc in an appropriate storage area. Thereafter the products will assign to the circuit installation of Filiera consortium or in other authorized installations. For paper and carton the activity selection and pressure, constitute in recovery R3, therefore the material in bales ready for paper mill set up first-second material (MPS).



Electrical garbage

Between the authorized activities, we propose the collecting of electrical garbage. In the field of urban solid garbage our society intervene for companies account (city hall, community, consortium ...) and organize the recycling collection of electrical garbage (R1, R2, R3, R4, R5). It crops in fit containers that standing on the engaged territory. The containers will empty from the employees with adequate equipment, than it will transport in our installation for the authorized recuperation of Calabria to be treat.



Installation of polymeric production

In the ECOSISTEM platform is installed the installation of crushing, washing and extrusion of plastic with high density.

The installation will be used for washing of batteries that are pre-grinding with an average of ca. 10-15 cm. The material is contaminate from internal separator like PVC and other types like wood, sand, ground, remainder of lead and acid. This installation can also work with bottles, flacons and blown boxes in HPDE.

It not exist only plastic with high density, it exist also the treatment of plastic with low density. That will be used to grind, washing and film extrusion in polyethylene (LDPE-LLDPE), the origin from agricultural film (greenhouse and mulch). Our place has an agricultural vocation.



Installation to drain fango of depuration

ECOSISTEM has an installation to drain mud with humidity in entrance drives at 80 % and left humidity in exit lower than 10 %.

The functional of the installation allow to reduce the volume of mud in exit and to get an ideal solid combustible (calorific value lower than 5,000 kcal/ kg).

The machine is innovative in transmission of heat happens substantially for convection and not for radiation, to privilege the high-speed parameter compared to the temperature parameter. It will use primary energy of low quality (water 80°C), so economic. The thermal energy will supply from two groups of cogeneration of high performance that work with gas methane.

Solid secondary combustible

The installation that we use is an installation with a potentiality of 44,220 t/a. Particularly it is provided a productive cycle, starting from the dry garbage which isn't recyclable. A material of composition and homogeneous piebald, ready for cogeneration of energy. To get CSS the garbage will subject to some series of treatment to reduce the present of inert or low caloric materials (metal, silica...) and to increase the combustible valor of the garbage.

The product in exit with drain mud is solid secondary combustible and on norm UNI CEN/TS 15359.



Production of energy

Respect for environment passes from the drawn one of clean energy sources with a production of 3.6 MW.

Therefore on roofs of warehouse, platforms and parking lots we have realized installations for a photovoltaic production with a power of 2,185 kW.

The energy is an alternative energy for the combustible fossil, rich, renewable and good for green economy, also distribute, clean, it not produce gas emissions during the functional. We produce wind energy for 20 kW.

The Ecosystem installation is given of two gas methane installations with high rentable and will use for production of electric energy and for an installation that drain mud.

From this process will produce 1.050 kW of electrical energy and 1.300 kW of thermal energy this will use for drain of depuration mud of 1.200 kg/h.

The system allow the reduction of dependence from outside furniture and to get drain mud with a major grade of 95% in connection with a starting humidity of 80%.

The technology that we use is from last generation and will allow to get much inferior legal limits. The polluted emissions are in terms of Cox and NOx.



Installation for stability of solid garbage

This process will use to modify physical and chemical drugs that we find in garbage, consequently the own garbage. The aim is to return the garbage suitable for following final storage in dump or to reuse for production of cement and other works.

The process of stability-solidity reduce the mobility from polluted garbage and the surface of contact between garbage and percolate waters. With a chemical and structural fixation in the inside of an inert matrix. The phase of stability reduce the danger of garbage through convert of contaminating less soluble, less mobile and less toxic with reference to new criteria of dangerous garbage.

The phase of solidify transform the garbage in a solid material with high structural integrity and so reducing the pollution in materials.

Such process can find application through industry in productive and depurative cycle in which the garbage is produce or in zones of dump for treatment of new arrival garbage. At least polluted areas will get credit transfer.

The stability-solidity installations are authorized for 97.000 t/a and are composed by two lines.



Recuperation of land and inert

The installation for soil washing allow the selection of granulometric and washing of garbage that are in solid phase (ground, dross, sediments...). The transfer, total or partial, will make it easier.

The solid will set out from a process of selection and go on from a chemical-physical treatment. This will concentrate the drain mud and will allow the recycling of washing waters.

The soil fractions with major granulometry (sand and gravel), after treatment, will go to recuperation; the particles with smaller dimensions containing the major part of contamination will drain, than will follow the stability-solidity treatment (D9).

Division and recycle of reusable materials

The process of mechanical work and division concern the application of ensuing dross from process of combustion and allow to get different fractions in:

- Compound minerals;
- Ferrous materials;
- Not ferrous materials;

This typology of treatment is good to reduce the emission of heavy metals and of composed soluble in the environment but is also important the after recycle of the material after treatment. The installation of mechanical division composed by one line of 10t/h. Passing by several machines the garbage will reduce and separate.

The process will divided in two phases: the first one regard the reception of refusal with inspection in entrance and the second one regard the treatment with mill to hammers, removal of ferrous metals and not ferrous and finally other metals.

Installation of chemical- physical treatment and organic and emulsion treatment

The installation have a tank battery for storage of liquid and oily garbage, with a capacity over 6.500 mc and a capacity of treatment 387.00 mc/a.

The installation equipped with advanced technology allow the management from PLC and from mobile positions in remote. This will allow treatment – means of process chemical-physical, rainfall, oxid-reduction, neutralization, evaporation and biologic treatment.

For the oily emulsion the treatment allow to break oily from water or connection hydrogen and finally to separate the oily phase from water phase.

The existant complexity allow application on several typologies of garbage and in short time it has become a reference point of refineries, industries of chemical-organic process, galvanic and work of general metal.

The liquid garbage that cannot be treat in our installation has hydrocarbon. They will transfer in storage tanks ideal for liquid flammable garbage classified HP3. This flow is guided than to thermodestruction in Italy and outside



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