

COMPOSTING IN CERRIK MUNICIPALITY

CERRIKU RECYCLES





WASTE MANAGEMENT IN MUNICIPALITY CËRRIK



- ▶ Cërrik municipality has an average population of about 48,000 inhabitants and an area of 192 km²
- ▶ Cërrik municipality has an economy mainly focused on agricultural production and services
- ▶ With an average municipal waste generation of 3,000 tons/year
- ▶ It has an overall service coverage of 90% and good quality of service performance, the ambition is to move towards waste reduction and recycling, avoiding landfill and reducing the amount of waste sent to the incinerator.
- ▶ The Municipal Waste Management Plan was approved by the Municipal Council in May 2021, setting out objectives towards the circular economy.
- ▶ As a typical agricultural area, the majority of its waste composition is organic and green waste (more than 50%) which was a great concern for the community and as a top priority the construction of a composting point was set as measure for their reduction.



COMPOSTING PLANT IN CERRIK

- ▶ With the support of the GIZ program, in May 2021, the construction of the Composting Plant, focused mainly on green and food material, was completed.
- ▶ The plant was built for a capacity of about 600 tons/year, today 300 tons of green waste are processed per year.
- ▶ A team of 5 trained workers are operating in the plant run by the municipality of Cerrik.
- ▶ Some laboratory tests have been done on the final material and it turns out to be a quality and safe material to be used as fertilizer.



- ▶ The composting point was built exactly on the former city waste collection site.



ASS COMPOSTING?

- ✓ We reduce the amount sent to the incinerator.
- ✓ The cleanest city.
- ✓ We reduce the need to buy artificial fertilizers
- ✓ We ensure the improvement of soil quality
- ✓ We ensure the increase of soil porosity and its water-holding capacity
- ✓ We enable nitrogen and phosphorus that feed the soil
- ✓ Our municipality can use it to enrich the soil for parks and green spaces
- ✓ We prevent the decomposition of organic material which creates methane (a gas 20 times more harmful than CO₂)



The starting material.

- ▶ Materials accepted at the composting point:
- ▶ Shrubs/branches from businesses operating in Cerrik Municipality.
- ▶ Greenhouse waste.
- ▶ Branches pruned seasonally by families.
- ▶ Low vegetation and grass.
- ▶ The quantity flows change in 2 periodic moments. Low generation season in winter and high season in spring and autumn.



OTHER MATERIALS FOR RECYCLING

- ▶ In addition to prioritizing composting, the Municipality is also implementing the collection of other recyclable materials.
- ▶ The process of collecting other recyclable waste started in August 2021 and has already managed to serve a significant area of the territory by collecting cardboard and plastic.

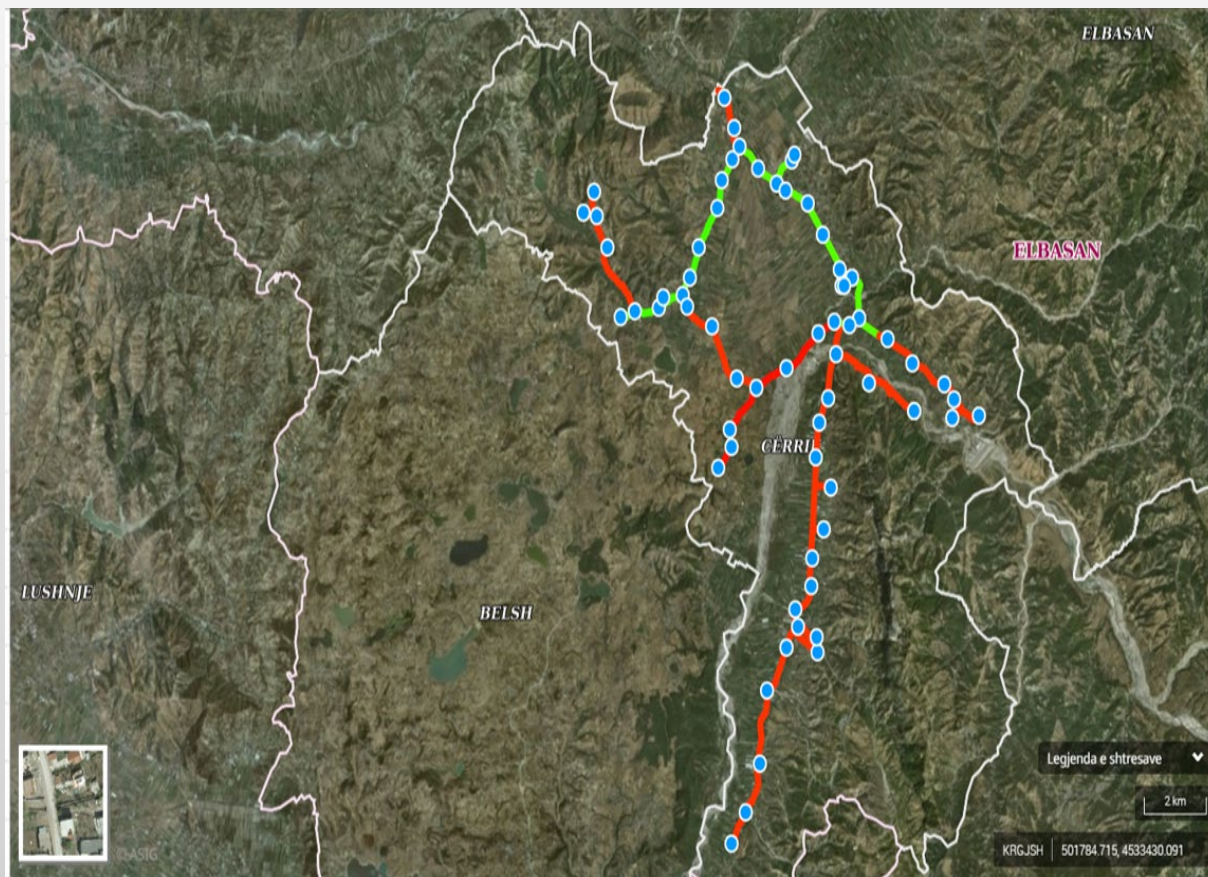


Targetgroup

- ▶ The finished compost is intended for sale, covering the necessary services for the municipality, promotion, but also educational institutions..
- ▶ The public is all accepted to use the compost for their needs, starting from agricultural but also decorative family use



Geographical coverage area with service



- ▶ **24 points:** Area covered by service.
- ▶ **37 points:** Area not covered by service





OUR OBJECTIVES.

Thanks to the three-year cooperation with the Municipality of Lubeck, which has an experience of over 35 years in the field of compost, we have made a detailed study about our point and we have reached the results that we are ready to expand our activity and the coverage area with the service. Now we have a qualified staff and a product that is much in demand in the market.

- And we have to :



Machine fault.

- The machine with the highest transport capacity.
- Grinding machine up to 50m³/hour.
- Site for the final material



Further opportunities for improvement



Price range: 30.000,- € up to 50.000,- € per machine.

Main benefits:
High throughput! Small machines allow up to 50 m³ /h.
Decentralized processing!
Small spaces sensible utilized.
Processing in other areas of Cerrik.



Next level improvements

Further opportunities for improvement



Improved collection vehicle.

Build-in loading crane
and dumper load
floor.

Normally one man operated.

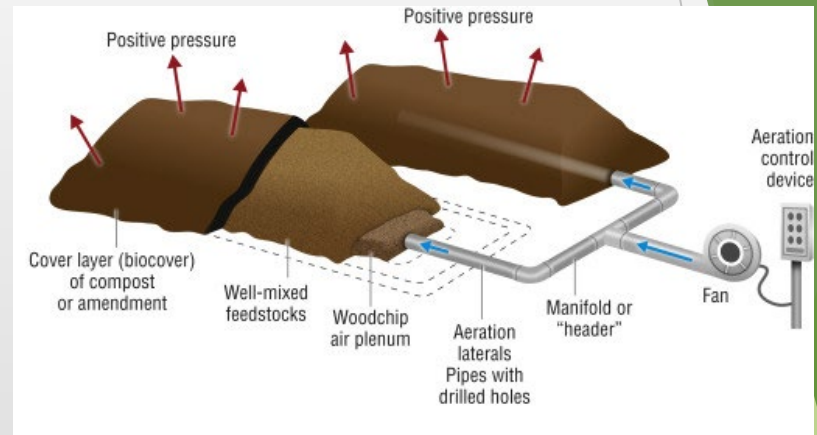
Recommended to buy as a used car.

Price range 30.000,- €
up to 150.000,- €.

Next level improvements

Efficient in time and space utilization.

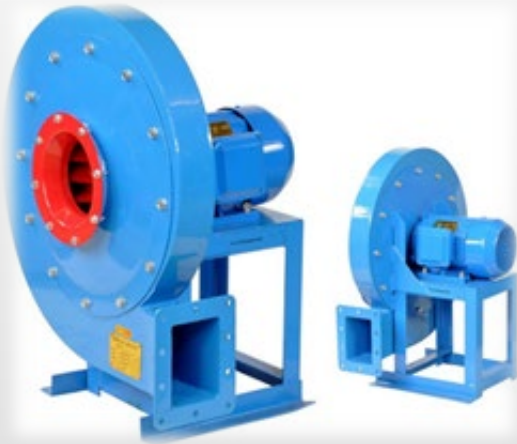
- Difference in the method of composting, from the traditional one where the material is composted for 6 to 9 months to the method with aeration where the process lasts 4 to 6 weeks.



| Parameter | Windrows | Aerated piles | IVC in containers | IVC in tunnels |
|-------------------------|---------------|------------------|-----------------------|----------------|
| Active composting phase | 8 to 12 weeks | 4 to 6 weeks | 3 to 4 weeks | About 3 weeks |
| Turning required | once a week | 3 times in total | Depends on the system | No turning |
| Maturation phase | 6 to 8 weeks | 2 to 4 weeks | About 4 weeks | 4 to 6 weeks |

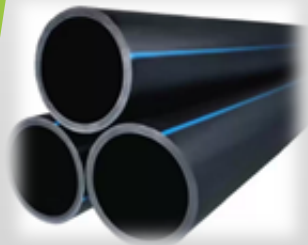


Most cost-effective improvement



Technische Daten:

| | |
|----------------|-----------------|
| Leistung: | 2,2 kW |
| Spannung: | 400 Volt |
| Drehzahl: | 2900 U/min |
| Luftleistung: | 860 - 1160 m³/h |
| Druck total: | 2554 - 2310 Pa |
| Frequenz: | 50 Hz |
| Stromaufnahme: | 4,8 A |
| Schutzklasse: | IP 44 |



Estimated project costs:

2 Highpressure fans ~1200,- €,
HDPE pipes ~4000,- €,
Installations ~2500,- €
Semipermeable membrane / fleece ~1200,- €
In total: ~8900,- €

Main benefit:

Energie consumption is very low! Ventilation is running 10 min per hour.
This adds up to 17,6 kWh per day

Low cost optimization

Creating a safe market

- ▶ We are working on the certification and creation of our brand for the final material.
- ▶ The creation of a safe market with buyers of large quantities.



THE RESULTS.

- ▶ We compost up to 2000m³ per year.
- ▶ We cover the entire territory of the municipality with the service and have a cleaner city.
- ▶ Reduces the cost of sending waste to the incinerator.
- ▶ The composting point covers all its own financial costs.



Since Cerrik is the only municipality in Albania that has advanced so far with composting, we don't have a professional exchange in Albania. Therefore, for the continuation of the project and the achievement of its goals, cooperation with EBL Lübeck is of great importance even after June 30, 2024





Thank You!
😊

