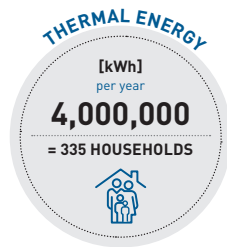
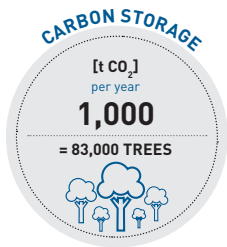


SEWAGE- SLUDGE RECYCLING ECO-FRIENDLY



PX1500 SH

Disposal or recycling of sewage sludge and industrial sludge is becoming increasingly demanding due to high environmental protection requirements and capacity bottlenecks.

PYREG CARBONIZATION TECHNOLOGY

YOUR SLUDGE RECYCLING SOLUTION

ADVANTAGES

Up to 90 % final mass reduction.

Energy efficient: The required energy is generated by the system itself, in addition, up to 600 kW_{th} of maximum thermal capacity can be used for other purposes.

Phosphorus recycling: The phosphorous contained in the sewage sludge remains available to plants after carbonization and can be marketed directly as fertilizer substructure.

The sewage sludge is completely recycled, **no „residuals“**.

Carbonization process is compliant with **EU environmental standards**.

CO₂ sequestration: The process of carbonization binds carbon on a long-term basis. After insertion of the phosphorous fertilizer in the soil, the carbon contained is removed from natural cycles for centuries.



SLUDGE



PYREG
NET ZERO TECHNOLOGY

SYSTEMS

	PX500 SH	PX1500 SH
Combustible rating	500 kW	1,500 kW
Annual throughput OS, 10% water content	1,100 t	3,100 t
Annual production OS, 20% water content	670 t	1,900 t
Annual carbon removal potential	320 t CO ₂	1,000 t CO ₂
Maximum thermal capacity	200 kW _{th}	575 kW _{th}
Annual excess thermal energy	1,400,000 kWh	4,000,000 kWh
Annual hours of operation	7,000 h	7,000 h
Daily labour	4 h	4 h
Power consumption	16 kW _{el}	48 kW _{el}
Size	l 12.0 m w 6.0 m h 5.0 m	l 13.0 m w 7.0 m h 7.8 m

OS = Original substance | Maximum figures based on 7,000 h/a. | metric tons | 58% oDS, 12 MJ/kg OS

PYREG systems are designed as a compact, decentralized recycling technology that can easily be integrated into existing material cycles and infrastructures. The process is based on the principle of dry carbonization. That means, the sludge is not burned, but carefully degassed and then carbonized (500 - 700 °C), by admission of a tightly targeted air stream. The excess thermal energy can be used onsite (e.g. for drying) or fed into a local heating grid.

REFERENCES

WWTP LORSBACH, GERMANY

Operation company:

Abwasserzweckverband Main-Taunus

Location site: Hofheim (Taunus), Germany

Waste Water Treatment Plant (WWTP), Service: 50,000 PE

PYREG unit in operation since 2020: PX750

Sludge treatment:

Anaerobic sludge stabilisation

The energy required is completely covered by the thermal energy of the PYREG plant and the combined heat and power unit.

100 % self sustainable process. Approx. 90 % volume reduction

The carbonizates are **EU-wide marketable** as phosphorus fertilizer.

WWTP SILICON VALLEY CLEAN WATER, USA

Operation company: Silicon Valley Clean Water

Location site: Redwood City, California, USA

Waste Water Treatment Plant (WWTP), Service: 200,000 PE

PYREG unit in operation since 2017: P500

Sludge treatment:

Drying (75 % volume reduction, 60 % less energy consumption vs gas dryer).

Carbonization with PYREG unit P500 (90 % final volume reduction, 100 % self sustainable process).

To market the carbonizates as natural soil conditioner to the customers in agriculture.