



Reclyzer™ Biochar From Sewage Sludge - Revolutionizing Waste Management, Soil Health, and Carbon Sequestration

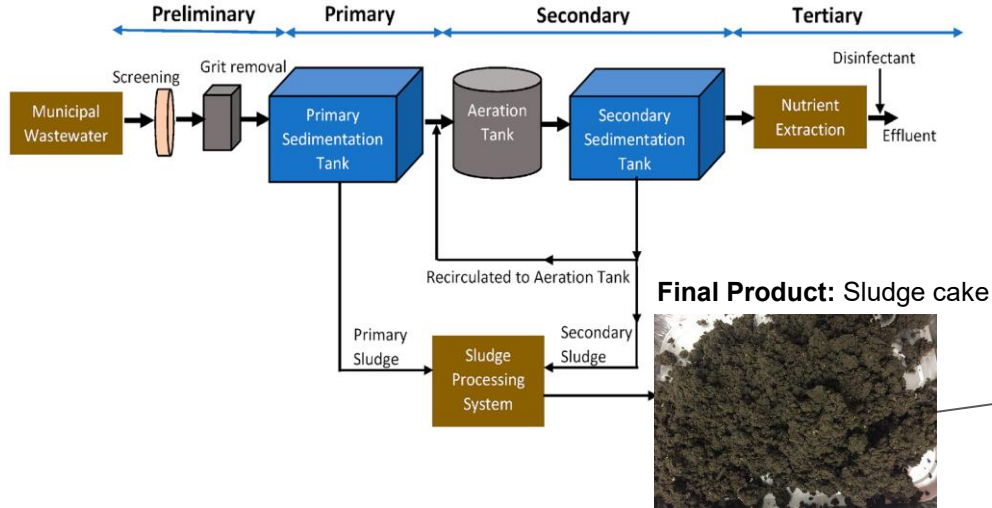
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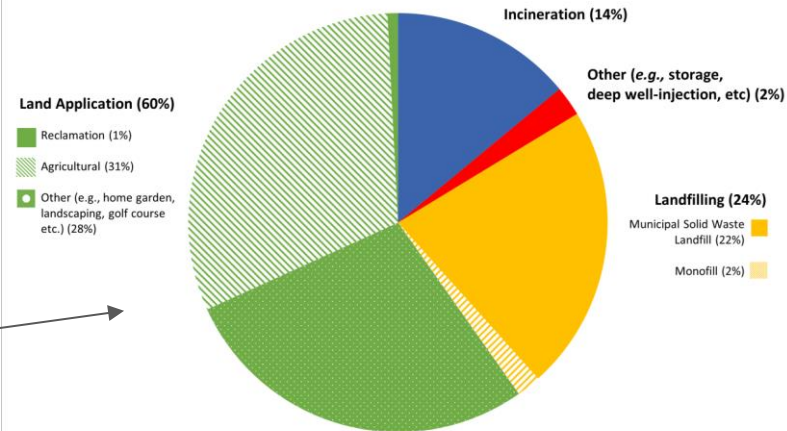
Sewage sludge is a hazardous wastewater treatment byproduct posing multiple environmental risks that need to be addressed.

- US Production: **13.8 million** tons (dry) of sludge produced annually¹
- Contains: heavy metals, pathogens, organic pollutants, and chemicals like PFAS
- Disposal Methods: incineration, landfilling, land spreading, and water discharge
- Risks: soil and water contamination, greenhouse gas emissions, public health hazards



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Biosolids Use & Disposal from
2023 Biosolids Annual Reports



SoilLogia's Solution

Reclyzer™ technology: converts sewage sludge into biochar using an advanced pyrolysis process.

1. Environmental Protection: Reduces greenhouse gas emissions (CO_2 , CH_4), lowers PFAS and odor emissions, and diverts sludge from landfills and incineration.
2. Carbon Negative: 1 ton of biochar captures up to **2.3 tons of CO_2e** , generating valuable carbon credits
3. Soil Regeneration: Improves soil structure, water retention, nutrient efficiency, and microbial activity — reversing degradation over time.
4. Sustainable Agriculture: Reduces the need for synthetic fertilizers, supports organic and regenerative practices, and enhances crop resilience and yields
5. Removes Contaminants: Eliminates odors, heavy metals, pathogens, and PFAS
6. Economic Value from Waste: Turns sewage sludge into a marketable soil amendment, lowering municipal disposal costs and creating a new revenue stream.



SoilLogia's Approach

Reclyzer™ technology: converts sewage sludge into biochar using an advanced pyrolysis process.

Environmental Benefits

1. Reduces Emissions: conversion prevents CH₄ and CO₂ release
2. Carbon Negative: 1 ton of biochar captures up to **2.3 tons of CO₂e**
3. Long-term stability: biochar remains stable for centuries to millennia
4. Carbon Credits: help industrial decarbonization
5. Removes Contaminants: eliminates odors, heavy metals, pathogens, and PFAS

Reclyzer™ Biochar Value

1. Soil Amendment: reduces soil degradation and enhances organic matter and microbial health
2. Boosts Crop Productivity: recycles essential nutrients back into the soil
3. Waste Utility: converts sludge into a usable agricultural resource
4. Economical Agriculture: reduces long-term soil care and input costs

SoilLogia's advanced pyrolysis system can scale to meet the growing demands for carbon offsetting.

BST-50 Pyrolyzer: from **Beston Group Co., LDA**, continuously processes **3.5 tons** of feedstock per hour

3D Layout of BST-50 System



1. Dewatered sludge



2. Dried sludge



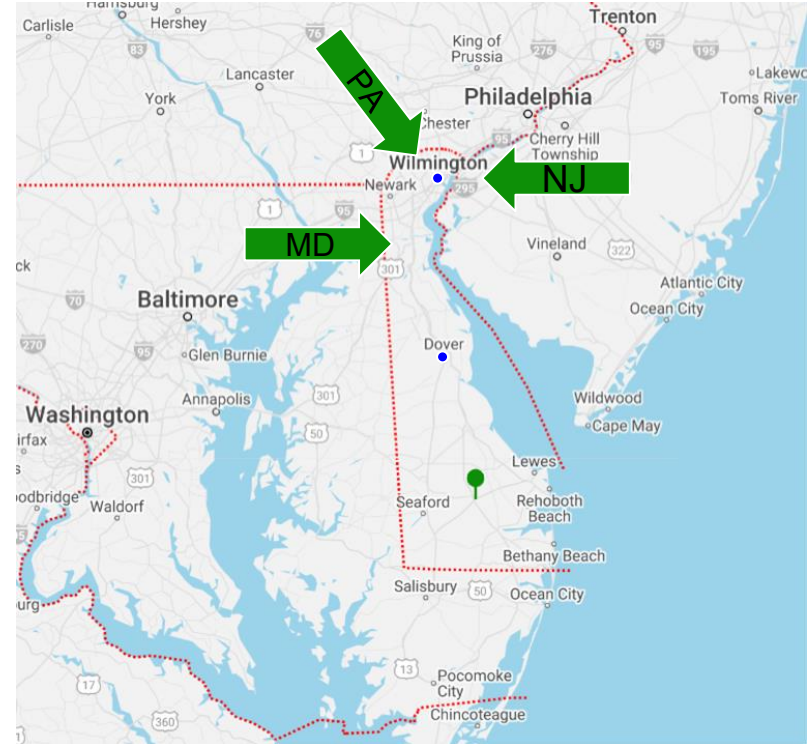
3. Sludge-biochar

Required Facility and Equipment



SoilLogia is strategically located in the state of Delaware to leverage regional resources and infrastructure.

- Biosolids sourced from Maryland, Pennsylvania, Delaware, and New Jersey
- Production and lab facility to be built on acquired land in Georgetown, DE
- Administrative HQ will be a rented office in Dover or Wilmington, DE for management and staff



Market Opportunity

Rising Demand: Increased focus on net-zero goals and sustainable soil practices drive demand for organic amendments like biochar.

Large Market Size & Growth:

- Carbon Offset Market: \$331.8B (2022) → \$1.6T by 2028 (31% CAGR)
- Soil Amendments Market: \$6B (2023) → \$11.1B by 2030 (9.3% CAGR)

Key Target Segments:

- Corporations - seeking verified carbon credits to offset emissions
- Farmers and landscapers - improving soil health and reducing input costs
- Municipalities - managing sludge sustainably and cost-effectively

Competitive Advantage:

- Advanced pyrolysis technology designed for sludge conversion
- Maximizes carbon capture and nutrient recovery
- Generates carbon credits to support climate goals
- Improves soil health and agricultural productivity

Revenue Model & Market Strategy

- **Revenue Streams**: Carbon credits
- **Pricing**: Carbon credits at **\$170/ton CO₂ eq**
- **Distribution**: Direct sales and wholesale partnerships
- **Scalability**: Start in Delaware, Pennsylvania, and Maryland; expand to other states
- **Partnerships**: Collaborate with governments, wastewater facilities, tech companies, farmers, retailers, and universities

SoilLogia has demonstrated significant traction and has a clear path forward.

Key Achievements:

- Developed Reclyzer™ biochar
- Completed successful field trials, demonstrating soil improvement potential
- Secured partnerships with wastewater facilities for raw material sourcing

Current Progress:

- Undergoing carbon credit verification and licensing
- Engaging farmers to adopt Reclyzer™ for soil improvement

Next Steps:

- Forge corporate partnerships for large-scale carbon offsetting
- Expand market reach to maximize environmental and economic impact

Funding Request

We are seeking **\$4,376,051.76** in funding to scale production and operations in **Year 1**. The funds will be allocated as follows:

Item	Total
Capex	\$2,678,462.40
Opex	\$1,126,800.00
Contingency (15%)	\$570,789.36
Total Investment	\$4,376,051.76

- **The buffer fund of \$570,789.36** will be used to address unexpected needs or fluctuations in cash flow.

Financial Projections and ROI

Carbon Credit Revenue Projections (millions of USD \$)

Year	Total Costs	Total Revenue
1	\$4.4	\$4.3
2	\$1.2	\$4.3
3	\$1.13	\$4.3

Return on investment for investors holding 30% equity: USD 1.3 million per year over the 8-year lifespan of a single pyrolysis unit.

Impact & Investment Opportunity

Investment Options:

- 1. Carbon Credit Purchase:** Secure a future supply of high-quality, verifiable carbon credits at a fixed price
- 2. Equity Stake:** Invest directly in Soilogia's pyrolysis facility and share in the revenue from Reclyzer™ biochar sales.
- 3. Combined Option:** Blend both strategies for greater financial and climate return.

Media Engagement

USA Today: Reclyzer Biochar – Transforming Waste into Wealth: SoilLogia's Mission to Foster Climate Health Without Compromise. [Learn more](#)

Economic Insider: Transforming Waste into Opportunity: Antonio Timoteo, Ph.D., Advances Soil Health and Net-Zero Carbon Goals with SoilLogia LLC. [Learn more](#)

Quantum Commodity Intelligence: Biochar Start-up Seeks \$6 Million in Seed Funding for Flagship Plant. [Learn more](#)

Biochar Today: SoilLogia to Raise \$6M in Seed Funding to Scale Sustainable Biochar Production. [Learn more](#)

Management



Antonio Timoteo, Ph.D.
Chief Executive Officer



Hongjun Wang, Ph.D.
Chief Science Officer



Sara Duarte, Ph.D.
Carbon Project Developer



Austin Lieber, Ph.D.
Chief Sustainability Officer



Marc Presume, MSc.
Chief Operating Officer



Keith Thompson
Biochar Specialist



Wayne Omagamre, Ph.D.
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