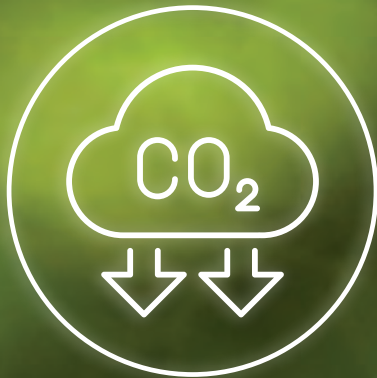




RECYCLING AND SUSTAINABILITY

APPLICATION SOLUTION FOR BIOMASS, BIOCHAR, GREEN CEMENT, BATTERY AND MORE

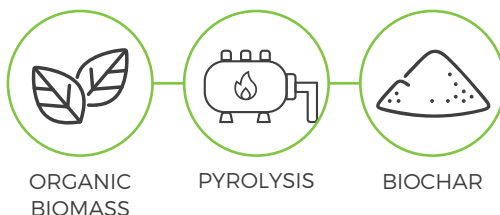


ENABLING PROGRESS

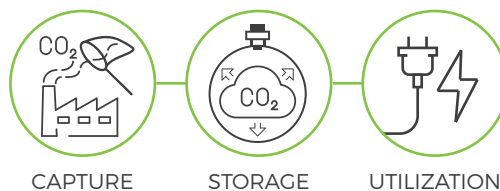
Recycling is a crucial process for **sustainable resource** management, and having the right equipment is essential to ensure efficient recycling for the right application.



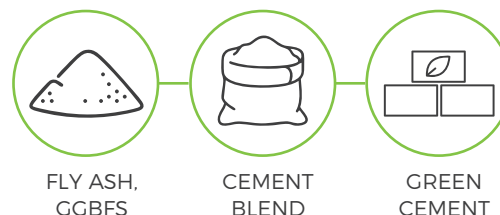
BIOMASS and BIOCHAR



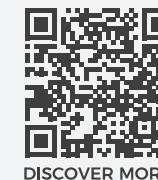
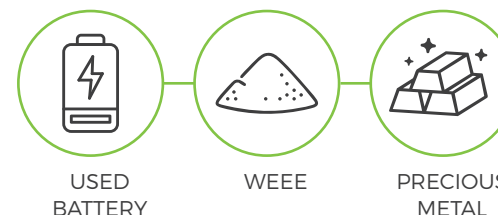
CARBON CAPTURE



GREEN CEMENT



WEEE and BATTERY



DISCOVER MORE



PARTICLE CHARACTERIZATION

- | **Surface area and pore distribution** in Biochar
- | **Particle Size and Shape** of different Biomass

- | **Particle Size and Shape** in CO₂ storage
- | CO₂ **breakthrough curve** measurement
- | Utilization and Storage **CCUS - CCU**: CO₂ **absorption** and recovery in ambient and high temperature
- | **Breakthrough curve measurement** for mixture gas (CO₂ and Water vapor)

- | **Pore Structure** analysis of Hardened Cement
- | **BET surface** are in Green Cement
- | The importance of **Particle Size** in production of Green Portland cement

- | Laser diffraction and dynamic image analysis to measure the **particle size and shape of electrode materials**, electrolytes and separators
- | **Density of electrode materials**
- | Gas adsorption to specify the **surface area and pore size distribution** of electrode materials
- | **Porosity of electrode** and separator materials



ELEMENTAL ANALYSIS

- | **Carbon, Sulfur and Hydrogen** content
- | **Nitrogen and Carbon** Analysis Using the **Dumas Method** Moisture content

- | Total and **Organic Carbon** determination in CO₂

- | **Carbon Hydrogen and Sulfur** determination in construction materials
- | **Moisture, ash or LOI** determination in green cement

- | **Nitrogen & oxygen** analysis of **silicon nitride** from Lithium-based battery
- | **Carbon Sulfur** determination of **lead components** from Lead-based battery



HEAT TREATMENT

- | **Ashing process** of Biomass
- | **Thermal Treatment** to convert Biomass in Biochar

- | **Heat Treatment** in Activation of Zeolite and Calcium Carbonate

- | **Heat Treatment** for **SCMs Cement**

- | **Thermal processing** of **carbonaceous material** up to 3000°C to produce high-quality electrode material
- | Synthesis of electrodes through **pyrolysis and Sintering** of **precursor material**
- | **Thermal processing** of **recycled battery** materials to extract reusable elements



MILLING & SIEVING

- | **Milling of organic waste** as wood, biomass, dried food waster

- | Optimization of **surface area** milling Zeolite, **MOF/PCP** and **Porous Carbon**

- | **Mechanochemical activation** of Clays

- | **Shredding and sieving** of battery material for segregation
- | Laboratory mills to **homogenize battery** recycling fractions





ENABLING PROGRESS



VERDER

GLOBAL REACH, LOCAL EXPERTISE



**HEAT
TREATMENT**



**ELEMENTAL
ANALYSIS**



**MATERIALOGRAPHY
& HARDNESS TESTING**



**MILLING
& SIEVING**



**PARTICLE
CHARACTERIZATION**



**PHARMACEUTICAL
TESTING**



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