



Company Vision and Mission

biochar can be used as a solid fuel or mixed with soil as a soil amendment, improving soil quality, promoting crop growth, and contributing to carbon sequestration.

- To become a leader in high-quality biochar technologies.
- To achieve “carbon neutrality” or “negative carbon emissions” in everyday life.
- To make sustainable contributions to climate protection.

Solutions and Innovation

- Transform agricultural residues into high-value biochar products, achieving a circular economy through agricultural waste recycling.
- Utilize microwave pyrolysis technology combined with intelligent equipment services to develop high-quality biochar, secure carbon credits for market trading, achieve net-zero carbon emissions, and enhance farmers’ income.

Innovative Processes and Products

Biochar Production (Pyrolyzed Biomass Coal)

- Low Temperature ($\approx 280^{\circ}\text{C}$): Converts biomass into solid fuel and high-value biochar.
- Medium Temperature ($400\text{--}600^{\circ}\text{C}$): For soil remediation, amendment, adsorption, and steelmaking; provides benefits such as negative carbon emissions, carbon credits, and carbon neutrality.

Biogas Power Generation

- High Temperature ($\approx 800^{\circ}\text{C}$): Produces combustible gas suitable for power generation.

Advanced Carbon Materials Applications

- Ultra-High Temperature ($\approx 1000^{\circ}\text{C}$): Biomass undergoes secondary carbonization, then microwave expansion into expanded graphite and microwave plasma graphene.



Microwave Pyrolysis System

Developing Advanced Carbon Materials and Graphene from Agricultural Waste



Microwave Pyrolysis

Sustainable Environmental Contributions

Taiwan generates approximately 8 million tons of agricultural waste each year.

The application of biochar increases permanent carbon storage and aligns with the 0.4‰ soil carbon enhancement target promoted by France at the COP21 Paris Climate Summit.

In agricultural fields, biochar improves soil physical and chemical properties, reduces production costs, and can also serve as a material for renewable energy and environmental restoration.

Multi-Win Business Model

Using microwave pyrolysis technology, organic residual materials are efficiently converted into biochar, achieving zero-emission carbon sequestration.

This helps enterprises reach their net-zero carbon reduction goals, forming a win-win business model that benefits the environment, client companies, and our own profitability.



High-Grade Biochar Made from Various Plant-Based Feedstocks

