

BIOCHAR

Producers
and Suppliers

UK Industry Guide



Foreword

Tim Miller

**Director of Engagement
Energy & Bioproducts Research Institute (EBRI), Aston University**

Aston University has been researching biochar, a sustainable form of charcoal, for decades and we are really keen to raise awareness of its benefits and unique properties to the wider audience.

We thought that a good way to do this and raise the profile of UK business at the same time would be for us to publish this 'Producers and Suppliers' industry guide. The guide will help showcase businesses in the UK connected to the biochar market and covers a range of companies from retort/kiln producers, biochar producers, through to biochar retailers.



The rising demand for this carbon capturing material and its many applications opens up a whole range of interesting and exciting opportunities for companies and entrepreneurs connected to the biochar industry, as well as for those involved in research and development such as at our Biochar Hub at the Energy & Bioproducts Research Institute (EBRI) at Aston University.

I very much hope that you find this guide beneficial and enlightening. On the pages to follow you can gain an insight into biochar, its applications, benefits and production processes. You will also discover company profiles of a whole host of organisations around the UK involved in the production and retail of biochar, as well as details of developers and retailers of the technology required to produce biochar.

At the back of the guide, you will find a case study featuring our Urban Biochar Demonstrator project in Birmingham which is converting tree waste from fallen and diseased trees into biochar, using state-of-the-art technology developed by Aston University and its commercial partners.

Here at the EBRI Biochar Hub we would welcome opportunities to work with organisations looking to address their sustainability goals, diversify into new low carbon markets, or to connect to the expanding biochar supply chain.

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List of Abbreviations

Abbreviation	Definition
AD	Anaerobic Digestion
ARB	Arboricultural Association
B2B	Business-to-Business
B2C	Business-to-Consumer
B Corp	Certified B Corporation
BDA	Biodynamic Association
BEIS	Department for Business, Energy & Industrial Strategy
CDR	Carbon Dioxide Removal
CHA	Compost Humification Agent
CHAS	Contractors Health and Safety Assessment Scheme
CHP	Combined Heat and Power
CIC	Community Interest Company
CO ₂	Carbon Dioxide
C-sink	Carbon Sink
EBC	European Biochar Certificate
EBRI	Energy & Bioproducts Research Institute
EIP	European Innovation Partnership
ESG	Environmental, Social, and corporate Governance
EU	European Union
FSC	Forest Stewardship Council
g/hr	gramme(s) per hour
GM	Genetically Modified
GMP	Good Manufacturing Practices
GMP+	Good Manufacturing Practices and the '+' for the integration of HACCP (Hazard Analysis and Critical Control Points)
kg/hr	kilogramme(s) per hour
LCA	Life Cycle Assessment
Ltd	Limited
NPK	Nitrogen, Phosphorus, and Potassium
PAS100	Publicly Available Specification for Composted Materials
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
SDG	Sustainable Development Goals
t/a	trading as
t/hr	tonne(s) per hour
TLUD	Top-lit Updraft Gasifier
wt%	weight percent
WWT	Waste Water Treatment

Introduction



So what exactly is biochar?

Biochar is a sustainable form of charcoal made from biomass - organic matter, such as agricultural crop residues, wood waste and animal manure. Historically, it has been produced for thousands of years dating back to a civilization in the Amazon Basin.

Nowadays, there is a rising global interest in biochar as it is increasingly being recognised as a multi-purpose, sustainable material offering numerous benefits to both urban and rural environments around the world.

Pictured here is a selection of biomass feedstocks which can be used to produce biochar.

Top left: waste wood cuttings.

Top right: cocoa husks.

Bottom left: agricultural straw.

Bottom right: *Miscanthus x giganteus* - elephant grass.



How is it produced?

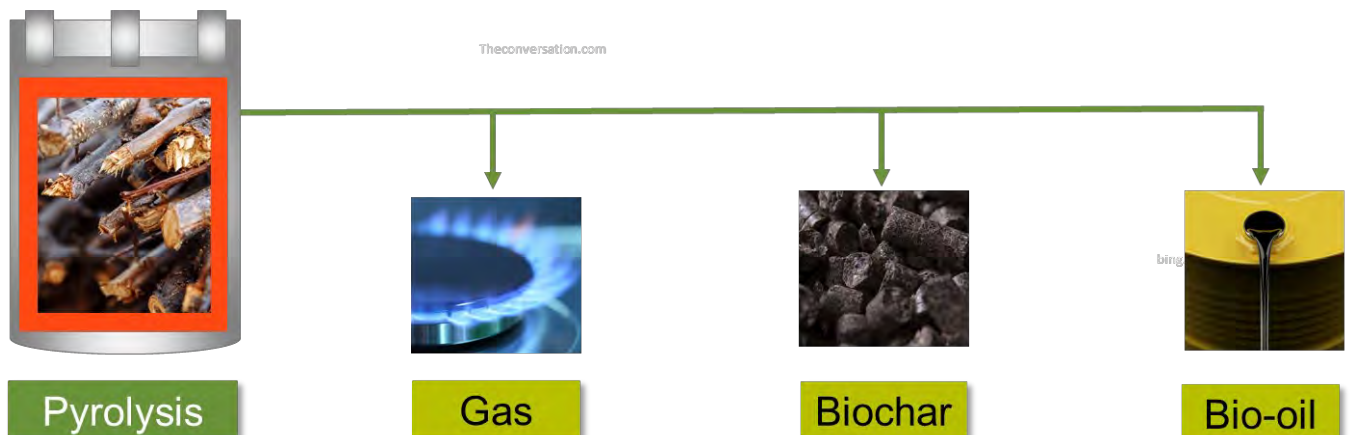
Biochar is produced by a thermal conversion process, known as pyrolysis, which heats the biomass material at temperatures between 300 and 800°C in an oxygen-free atmosphere.

This process produces three valuable byproducts: gas, liquid and biochar - the lightweight black residue, rich in carbon.

The physical and chemical properties of biochar are determined by:

- biomass feedstock used;
- production temperature;
- residence time (time spent inside process vessel);
- scale of method adopted ranging from large-scale stationary pyrolysis units to smaller-scale retort chambers, kilns and stoves.

(See page 10 for more details about biochar technologies).



Benefits and uses

Carbon-rich biochar offers a wide variety of benefits and uses in both rural and urban environments. With its porous structure, it adsorbs and holds gases, odours, organic nutrients, and environmental contaminants. It offers many applications including:

- **Soil improvement**

Sometimes referred to as 'Horticultural Charcoal', biochar when added to soil can increase plant and tree growth and health; result in higher crop yields; as well as help carbon/water/nutrient retention.



- **Carbon sequestration**

Biochar not only increases soil carbon sequestration, when it is used in material applications such as bioplastics, it can offset several tonnes of CO₂ per tonne of product manufactured.



- **Animal feed additive**

Biochar can not only be used in improving the health and digestion processes of animals such as cattle, it can potentially reduce ammonia emissions from animals, reducing the impact livestock has on contributing to greenhouse gas emissions.



- **Activated carbon**

Activated carbon is a form of carbon processed to have a higher surface area available for adsorption of chemicals, pollutants or contaminants. It increases the commercial value of the biochar and offers many industrial applications including:

- ⇒ Water treatment
- ⇒ Water filtration
- ⇒ Air purification



- **Construction materials**

Emerging applications for biochar include:

- ⇒ Asphalt for roads
- ⇒ Soil stabilisation in roads
- ⇒ Urban applications, such as rainwater management for pathways
- ⇒ Building materials including composites, plaster, insulation materials and green roofs
- ⇒ Concrete
- ⇒ Plastic composites



Production methods



The basic process for biochar production is pyrolysis - this can be in the form of a simple stove or can be as complex as a modern biorefinery. Pyrolysis systems heat biomass in the absence of oxygen – kilns, retorts or other specialised equipment are used for this procedure. Pyrolysis processes can be categorised as either slow, intermediate or fast, depending on the operating conditions used including temperature, type of reactor, solid residence time, catalysts and heating rate. The industrial processes used for pyrolysis can be classified by their respective operation mode: batch, semi-continuous and continuous - as detailed below.

Batch processes

Smaller-scale biochar production is generally via batch processes involving simpler technology such as concrete rectangular kilns which are heated internally until the required pyrolysis temperature is reached. There is a long residence time of 25-30 days (including cooling down period) and the char yields are low, between 5 and 20wt%. Despite their low yield, they are still an attractive option for some as they are cheap and simple to operate.

Semi-continuous processes

Semi-continuous processes are continuous when in operation but the feedstock insertion and product removal occurs in batch. This can pose as an advantage as this allows the system to recover part of the energy used in the product. It is a horizontal retort which is fed with shelves via two sliding doors. One of the sections is used for biomass drying prior to carbonisation. There is manual feedstock loading and product discharge. This technology incurs low cost compared to more developed technologies.

Continuous processes

The use of a continuous process for biochar production results in high yields, higher heating value, and larger surface areas. By-products have the potential to be recovered, such as acetic acid and heat. Rotary kilns, for instance, use continuous processes consisting of a rotating cylindrical shell heated externally. The residence time is determined by the angle of the drum and the rotation speed. Continuous technologies for biochar are more varied and there are more systems available in comparison to batch and semi-continuous. The capital cost is generally higher, there is a need for external sources of energy, and the systems are not usually portable.

Business Profiles

Apex Soil Solutions

Biochar supplier and soil injector

Christchurch, Dorset

We inject enriched biochar into the soil around trees, decompacting the soil and creating aeration and drainage. The water then soaks into the biochar creating an all day buffet for the tree. This in turn creates a healthy tree able to fight disease and fungal infections.



Product portfolio

- Injection of Biochar
- Supplier of Biochar Blend for Vogt Geotech Injectors



www.apexsoilsolutions.com

Apex Soil Solutions

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Injection of Biochar	We inject enriched biochar into the soil around trees, decompacting the soil and creating aeration and drainage. The water then soaks into the biochar creating an all day buffet for the tree. This in turn creates a healthy tree able to fight disease and fungal infections.	www.apexsoilsolutions.com
Supplier of Biochar Blend for Vogt Geotech Injectors	We supply a unique biochar blend for Vogt Geotech Injectors, we are the UK's distributor for Vogt.	www.apexsoilsolutions.com

Opportunities

Apex Soil Solutions is seeking new market opportunities in the following areas:

- Tree Root Protection Areas
- Soil Decompaction
- Soil Aeration
- Soil Drainage
- Saving Trees
- Geo Injecting

Geographical Coverage

Open to enquiries from the UK, USA and Canada.

Biochar-related Accreditations

- CHAS Arb Association



Apex Soil Solutions

Cavendish Suite, Saxon Centre
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Christchurch, Dorset
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Contact

Dylan Griffith-Jones
T: 0800 999 9910 or 07933 032994
E: info@apexsoilsolutions.com

www.apexsoilsolutions.com



Bioactive Herps

Biochar supplier

Leighton Buzzard, Bedfordshire



Bioactive Herps supplies biochar as both an individual product, as well as in our own brand substrate mixes.

Product portfolio

- Bioactive Herps BioChar 10L
- Bioactive Herps BioChar 20L
- Bioactive Herps Premium AridMix

www.bioactiveherps.co.uk

Bioactive Herps

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Bioactive Herps BioChar 10L	<p>Bioactive Herps BioChar 10L is a quality soil amendment, that has proven effects for plant and soil health. Due to its unique generation, BioChar is packed full of micropores, which provide an ideal environment for the growth of beneficial bacteria. These bacteria are key in removing toxins from your substrate and assisting the nitrogen cycle.</p> <p>In fact, the benefits of BioChar 10L are numerous, and we are learning more and more about it as the years go on.</p>	<p>https://bioactiveherps.co.uk/product/bioactive-herps-biochar-10/</p>
Bioactive Herps BioChar 20L	<p>Bioactive Herps BioChar 20L is a quality soil amendment, that has proven effects for plant and soil health. Due to its unique generation, BioChar is packed full of micropores, which provide an ideal environment for the growth of beneficial bacteria. These bacteria are key in removing toxins from your substrate and assisting the nitrogen cycle.</p> <p>In fact, the benefits of BioChar 20L are numerous, and we are learning more and more about it as the years go on.</p>	<p>https://bioactiveherps.co.uk/product/bioactive-herps-biochar-20/</p>
Bioactive Herps Premium AridMix	<p>Bioactive Herps Premium AridMix is a clay heavy, soil based mix, designed to be the perfect all-in-one substrate for arid enclosures.</p> <p>Once added to the enclosure, packed down and dried, the top forms a solid surface providing the ideal base for species to move around on, but it maintains a highly diggable structure, capable of holding burrows.</p> <p>Premium AridMix is specially blended with our own BioChar too, which provides awesome structure for plant growth, a difficult task in arid enclosures.</p>	<p>https://bioactiveherps.co.uk/product/bioactive-herps-premium-aridmix/</p>

Bioactive Herps



Opportunities

Bioactive Herps is seeking new market opportunities in the following areas:

- Houseplant / Tropical Plant keepers / growers

Bioactive Herps
 Unit 2, Rowan Corner
 Cherrycourt Way
 Leighton Buzzard
 Bedfordshire
 LU7 4UH



Contact
 Mike Green
 T: 07741 725640
 E: info@bioactiveherps.co.uk

www.bioactiveherps.co.uk



Biochar Ltd

Biochar producer and supplier

Bromyard, Herefordshire



Biochar Ltd specialises in manufacturing and selling biochar made from untreated waste softwood offcuts sourced from local timber merchants, and other waste streams such as orchards and farmyards.

The founders of the company have developed their own unique on-site technology and process to create the char. The wood offcuts are chipped and put in an oven to dry using excess heat from a furnace they have built on their Herefordshire site. The chips are then transferred into a pyrolyser and heated to a high temperature in the absence of oxygen, resulting in organic biochar.

Product portfolio

- Biochar producer
- Biochar supplier



Biochar Ltd

Product / Service	Benefit / Unique Selling Point
Biochar producer	The biochar is manufactured from locally sourced untreated woody biomass.
Biochar supplier	Organic biochar available to help you nourish soil, enhance growing conditions and obtain better soil structure.

Opportunities

Biochar Ltd is open to enquiries from:

- Anaerobic Digestion (AD) industry
- Compost Manufacturers
- Research Institutes
- Arboretums
- Farmers
- Soil Companies
- Arborologists
- Foresters
- Water Treatment Companies
- Horticulturists



Biochar Ltd

Burghope
Pencombe
Bromyard
Herefordshire
HR7 4RT

Contact

Tony Brazier
T: 07974 526836

Edward Brazier
T: 07413 386338

E: biochar.ltd@yahoo.com

Biochar Engineering Services

Biochar consultancy

Bristol

Biochar Engineering Services (BES) provides consultancy support to clients who wish to establish biochar production projects. We help clients develop pyrolysis kilns or purchase biochar kilns suitable for their projects. When pyrolysis kilns have been developed, BES assist kilns in fabrication, delivery and commissioning of units around the world.

BES is run by Sebastian Burn who started work in the biochar industry over 10 years ago working for Carbon Gold.

Product portfolio

- Biochar consultancy

Opportunities

Biochar Engineering Services is seeking new market opportunities in the following areas:

- Development and establishment of biochar production projects.

Geographical Coverage

Open to enquiries from around the world.

Biochar Engineering Services

Flat 8
9 Clifton Park
Bristol
BS8 3BU

Contact

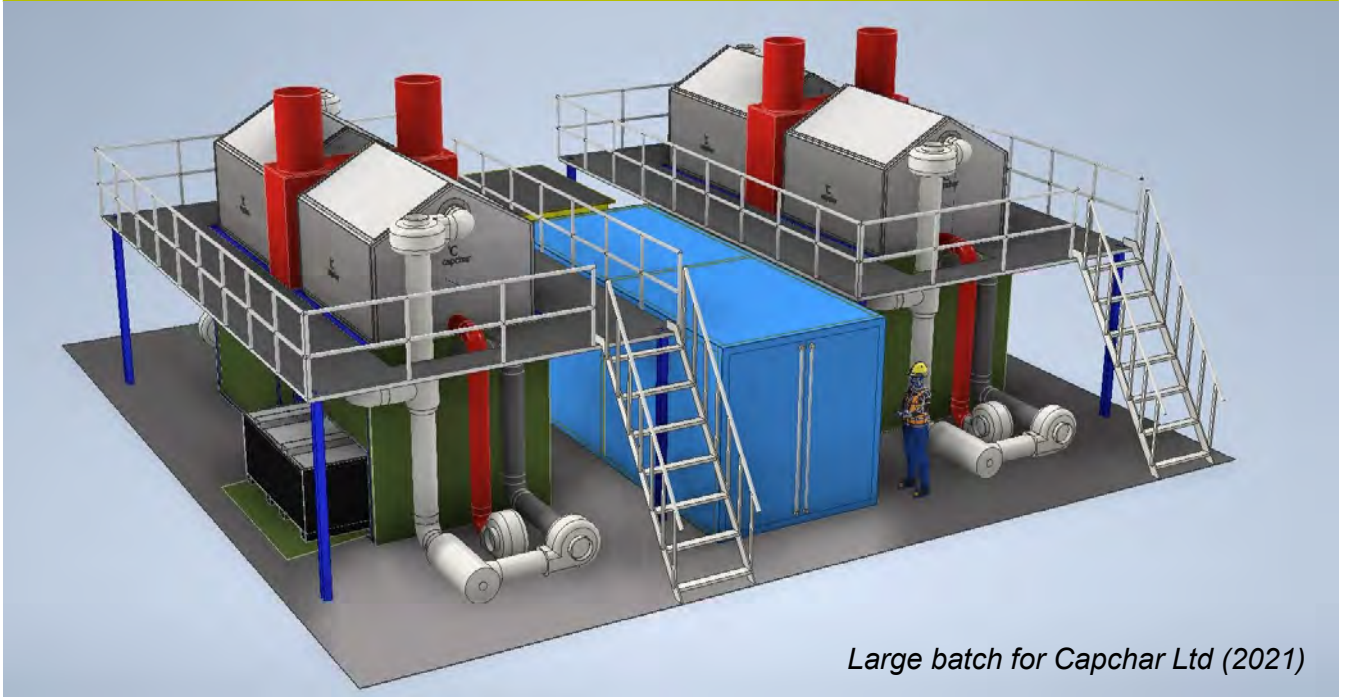
Sebastian Burn
T: 07422 505816
E: s.burn456@gmail.com



Biochar Project Services

Biochar developer and technology consultant

St Ives, Cornwall



Large batch for Capchar Ltd (2021)

Biochar is a potential 'fix' for some of the global carbon management problems we face. However, getting biochar companies into the market is not that easy. 'Net Zero' and '1.5°C' are not taken seriously enough in government policies. Biochar Project Services (BPS) has extensive experience of these market distortions while assisting a range of pyrolysis start-ups. BPS exists to share this knowledge on a paid consultancy basis or by working at risk on new projects and proposals.

A key uncertainty sits around the performance of the technology package. BPS is able to assist with independent appraisal and evaluation of commercial products and products still in the development phase. A primary factor in many biochar initiatives is the effective expenditure on equipment of (scarce) capital resources, and the returns available from that investment.

BPS has invested in the development of improved torrefaction and pyrolysis processes with a view to securing technology capable of more rapid dissemination. BPS operates a basic test and development facility for prototyping and validation of these new concepts. Biochar projects ultimately require teams with a wide range of skills and BPS can assist with the recruitment and training of team members.

Product portfolio

- Business Planning
- Technical Assessment
- Process Improvement

www.biocharprojects.com

Biochar Project Services

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Business Planning	It is important for biochar projects to present credible investment proposals providing adequate technical, cash flow and compliance information for market acceptance.	www.biocharprojects.com
Technical Assessment	The technology that underpins the business case should align with the investors appetite for risk and the market's attitudes towards scaling opportunities.	www.biocharprojects.com
Process Improvement	In many applications the vendor equipment offering could be complemented by further developments to optimise the project impacts and return.	www.biocharprojects.com



Semi-continuous kiln for IBERS, Institute of Biological, Environmental and Rural Sciences, Aberystwyth University (2016)



Small batch kiln for Carbon Gold Ltd (2014)

Biochar Project Services Ltd
 24a Halsetown
 St Ives
 Cornwall
 TR26 3LY

Contact

Ian McChesney
 T: 07770 796755
 E: biocharprojects@gmail.com

www.biocharprojects.com



Biochar Wales

Biochar producer and supplier, kiln producer and retailer, and demonstration at events

Rhayader, Powys

Here at Henfron Farm we have discovered that *Molinia caerulea* grass is perfect for processing into high quality biochar. The *Molinia* makes a premium grade biochar, it comprises of very fine particles (under 1mm), it is this small particle size that ensures a massive surface area that will encourage micro-organisms to thrive in your soil for years.

Our premium biochar is over 75% carbon, this carbon will be locked up in your soil for 100s of years. It is also suitable for a range of uses in other industries.

We also sell locally manufactured Kon-Tiki Wales biochar kilns. These flame cap kilns can make up to 1000 litres of biochar in a few hours. We have also developed the mesh insert for making biochar out of grass or other lighter materials. We offer delivery and training across the UK.

Product portfolio

- Premium Biochar
- Kon-Tiki Wales Kiln
- Demonstration at Events



www.biochar.wales

Biochar Wales

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Premium Biochar	Fine grained biochar made from <i>Molinia</i> grass.	www.biochar.wales
Kon-Tiki Wales kiln	This ingenious design allows farmers, wildlife trusts, estates and gardeners to produce high quality biochar from surplus biomass materials.	www.biochar.wales



Biochar Wales have been part of several research projects including:

- European Innovation Partnership (EIP). Biochar Wales were the leading partner in a project trialling biochar and compost as a growing medium at commercial locations across Wales.
- Welsh Government Nature Fund. Removing dominant *Molinia* grass from habitat areas and processing into biochar.
- The EU funded RE-DIRECT project incorporated partners from 5 European countries; Germany, France, Belgium, Ireland and the UK. Tony attended the closing conference and completed a biochar burn and talk.

Opportunities

Biochar Wales is seeking new market opportunities in the following areas:

- Supplying biochar to other markets (not gardeners)
- Supplying more kilns to farmers

Geographical Coverage

Open to enquiries from around the UK.

Biochar Wales

Henfron, Elan Valley
Rhayader
Powys
LD6 5HE

Contact

Tony Davies
T: 01597 811240 or 07964 762318
E: tony@henfron.co.uk

www.biochar.wales



Birchwood Forestry

Biochar producer

Sollershope, Herefordshire



Production of British charcoal using retort with graded out 0-20mm fines for biochar.

Our charcoal and biochar is produced using a British designed and manufactured retort kiln. High quality charcoal can be produced at a much more efficient rate with 75% fewer pollutants and much less smoke than using a traditional ring kiln method.

It does this by having a separate kiln to the firebox, where the wood is baked at over 500°C. Moisture and gases are driven off and the gases re-circulated to fire the kiln until these are exhausted. The kiln then cools down leaving only high quality charcoal remaining and graded out 0-20mm fines for biochar.

We hold a Grown in Britain Licence GiB-F-WS-5092. Grown in Britain is a provenance standard that ensures forests and woodland are managed to a recognised standard. Working with the Grown in Britain team we are passionate about actively and sustainably managing our woodland and producing products within the UK. The woodland is actively managed under a long-term management plan which has been approved and regularly reviewed under Natural England and Forestry Commission guidance.

Geographical Coverage

Open to enquiries from around the UK.

Product portfolio

- Graded Biochar
Wholesale: 0-20mm
- Graded Biochar
Wholesale: 10-20mm

Birchwood Forestry

Rock Farm
Sollershope
Herefordshire
HR1 4RN

Contact

John Jackson
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E: hello@birchwoodforestry.co.uk



www.birchwoodforestry.co.uk

Bodfari Environmental

Biochar producer and supplier

Denbigh, Denbighshire



We produce about 4 tonnes of charcoal a year. When we grade the charcoal we do so through a mess which gives us dust chip and charcoal for barbeque. The dust is sold as biochar as follows:

Biochar Dust: 0mm to 5mm dust. Timber used is a mixture of forestry waste and over stored hazel coppice.

Biochar Chip: 5mm to 10mm. Timber used is a mixture of forestry waste and over stored hazel coppice.

Opportunities

Bodfari Environmental is seeking new markets in the following area:

- “Currently we have a shed full of chip and dust. We don’t produce a lot, but if we could sell it that would be useful”.

Geographical Coverage

Open to enquiries from around the UK.

Product portfolio

- Biochar Dust
- Biochar Chip

Bodfari Environmental

Bodfari Environmental

The Warren
Bodfari
Denbigh
Denbighshire
LL16 4DT

Contact

Alan Waterfield
T: 01745 710626

E: enquiries@bodfari-environmental.co.uk

www.bodfari-environmental.co.uk

Carbogenics

Biochar producer, supplier and consultancy

Edinburgh



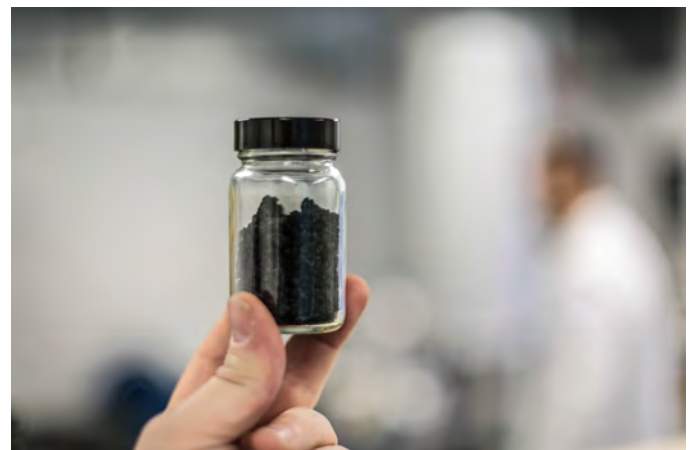
Carbogenics is an award-winning cleantech company and spinout of the University of Edinburgh. We produce functional carbon bio-catalysts from selected secondary biomass as a sustainable feedstock.

Our flagship product CreChar[®] is a biochar designed for the use in Anaerobic Digestion (AD) - biogas production. With its distinct surface and chemical properties, CreChar[®] can stabilise and enhance the biological performance of AD plants. AD operators have reported an uplift in biogas production of up to 15% and substantial savings on feedstock costs.

Our second product to market is FilaChar[®] an enhancer for wastewater treatment plants. Carbogenics is building our first commercial biochar production facility in Scotland that is expected to start producing in mid-2023. We also offer commercial and technical consultancy on biochar production and biochar applications. This includes the use of challenging feedstocks for biochar production, which we are able to test in our lab.

Product portfolio

- CreChar[®] - Biochar for Anaerobic Digestion
- FilaChar[®] - Biochar for Waste Water Treatment (under development)
- Consultancy services on waste-derived biochar



www.carbogenics.com

Carbogenics

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
CreChar® - Biochar for Anaerobic Digestion	CreChar® improves the efficiency of the Anaerobic Digestion process, it allows operators to maximise biogas production while reducing feedstock costs.	https://www.carbogenics.com/our-product/
FilaChar® - Biochar for Waste Water Treatment (under development)	FilaChar® is an adsorbent and biofilm carrier for Waste Water Treatment (WWT) processes that help to increase efficiencies and reduce costs.	https://www.carbogenics.com/live-projects/
Consultancy services	Bespoke commercial and technical support for existing and prospective producers.	https://www.carbogenics.com/consultancy/

Opportunities

Carbogenics is seeking new market opportunities in the following areas:

- Anaerobic Digestion
- Waste Water Treatment
- Agricultural use of biochar e.g. soil and feed supplement

Geographical Coverage

Open to enquiries from around the world.

Biochar-related Accreditations

- Planned biochar quality certification under the UK Biochar Quality Mandate.



Carbogenics

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Contact

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E: info@carbogenics.com

www.carbogenics.com



Carbon1

Biochar producer and supplier
Biochar Community Processing Centres (CPC)

Birmingham, West Midlands



Product portfolio

- Biochar Producer
- Biochar Supplier
- Owners and developers of Community Processing Centres (CPCs) for biomass conversion into biochar and other valuable bioproducts
- Integrated Sustainability Management (ISM)
- Bioliquids
- Biogases

Carbon1 is an international venture aimed at developing and running advanced biomass processing facilities at the community level in both developed and emerging markets. Each carefully selected Community Processing Centre (CPC) employs advanced pyrolysis technology, gains access to leading-edge biochar research and benefits from expert management know-how.

Our engineered, market-ready products are biochar, bioliquids and biogases sold into various sectors of the economy focused on achieving net zero carbon emissions.

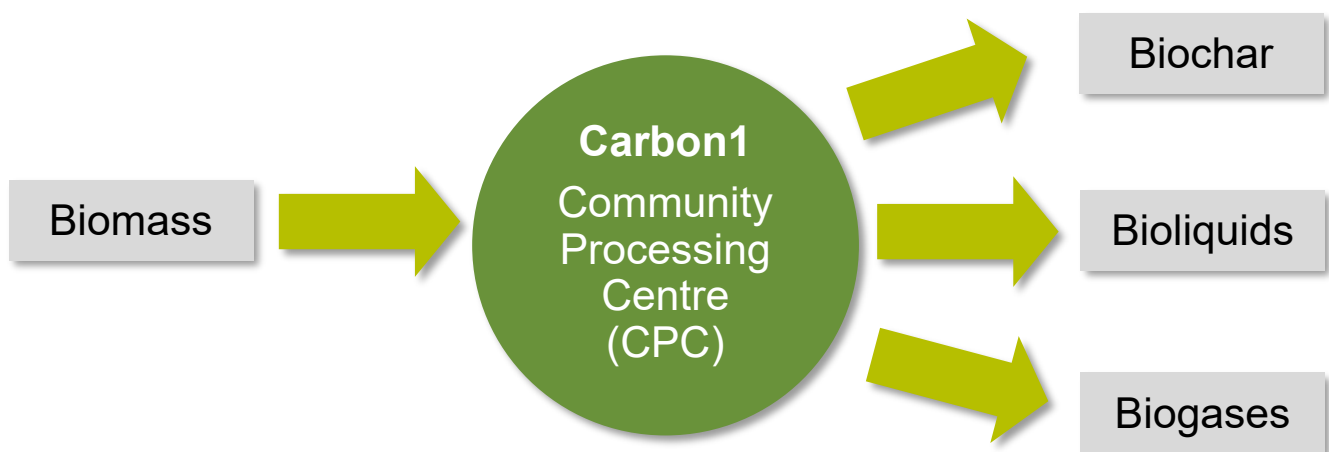
Our comprehensive Opportunity Assessment Process means each development project is pre-qualified then subjected to rigorous feasibility analysis and testing to ensure the proposed end solution meets the strictest sustainability standards (environmental, economic, social).

During CPC's ongoing operations, our Integrated Sustainability Management (ISM) model delivers recurring benefits to the community in the form of engineered bioproduct revenues, end user carbon capture/storage advantages and knowledge transfer into local markets.

We are a partner-based, public/private/academic organisation working with globally recognised researchers, international climate partners and government stakeholders.

Carbon1

Product / Service	Benefit / Unique Selling Point
Carbon1 Community Processing Centres (CPCs)	The CPC is a bottom-up approach, turning locally unwanted or harmful biomass into highly engineered bioproducts of sustainable value in the new economy.
Biochar	Flexibly adapted to the local feedstock environment, the biochar produced by our Community Processing Centres (CPCs) are designed specifically for target markets in agriculture, infrastructure, transport and/or industry.
Integrated Sustainability Management (ISM)	ISM delivers a consistent approach across feedstock management, logistics, production facilities and product marketing to ensure all aspects of Carbon1's involvement meets evolving international carbon standards.
Integrated Sustainability Management (ISM)	Carbon1 combines international know-how, technology and data management with local relationships, economic development and education. The integration processes form the basis of our scalable, sustainable model.
Bioliquids	Flexibly adapted to the local feedstock environment, the bioliquids produced by our CPCs are designed specifically for fossil fuel replacements.
Biogases	The biogases resulting from the advanced pyrolysis can be used for heating and power (fossil fuel replacement) in local businesses.



Carbon1

Our feasibility and operational processes explicitly require that our systemic solutions (from feedstock to marketed bioproducts) meet or exceed the relevant accreditations locally and internationally. We are currently working with recognised specialist partners to support this commitment.



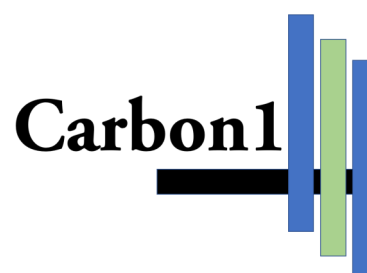
Opportunities

Carbon1 will operate globally – following the funding round for the initial two sites the subsequent funding will enable rapid scaling, supported by a centralised research, data and knowledge hub.

Candidates for future CPCs will be sought for this scaling phase.

Geographical Coverage

Open to enquiries from around the world.



Carbon1

c/o Trowers & Hamlins LLP
10 Colmore Row
Birmingham
B3 2QD

Contact

Stuart Austin
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E: stuart@carbon1.co.uk

Carbon Gold

Biochar supplier

Clevedon, Somerset



Carbon Gold was founded by Craig Sams, founder of Green & Black's Chocolate, back in 2007 as an organic, peat free planting aid. His co-founder was Dan Morrell, founder of the Carbon Neutral Company.

Following a few years of incredible results from third-party scientific trials looking into our enriched biochar's effect on plant health, our natural organic biochar products were quickly adopted by the commercial crop growing, tree care and sports turf sectors.

We now supply a range of enriched biochar-based products to both B2B and B2C customers. Our specially formulated range of biochar-based products have been enriched with beneficial microbiology to encourage and support a healthy microbiome. The range consists of a selection of soil improvers, fertilisers, and peat-free composts.

In addition to supplying both the retail market and professional markets with our enriched biochar products, we also supply "raw" biochar in bulk for other projects.

Product portfolio

- Biochar Soil Improver
- Biochar Tree Soil Improver
- Biochar Lawn Improver
- Biochar Compost Rejuvenator
- Biochar Houseplant Booster
- Biochar Fertiliser
- Biochar Biology Blend
- Biochar All Purpose Compost
- Biochar Seed Compost



www.carbongold.com

Carbon Gold

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Soil Improver	Can be used as a compost or soil additive or simply as a planting aid to promote root development and improve soil structure helping to encourage strong, healthy and productive plants.	www.carbongold.com/biochar/soil-improver/
Biochar Tree Soil Improver	Ideal for transplanting or revitalising new and established trees or woody plants, it promotes root development and reduces nutrient leaching, defending against transplant shock and drought stress.	www.carbongold.com/biochar/tree-soil-improver/
Biochar Lawn Improver	Perfect whether you are planning to give your existing lawn a boost, or as a base layer when laying new turf or seed, it helps promote root development and reduces nutrient leaching.	www.carbongold.com/biochar/lawn-improver/
Biochar Compost Rejuvenator	Breathes life into "spent compost" by adding Carbon Gold Compost rejuvenator, which includes added organic fertiliser, the substrate can quickly get up and running again.	www.carbongold.com/biochar/1l-biochar-compost-rejuvenator/
Biochar Houseplant Booster	Created to support healthier growth in most indoor plants by helping to avoid drying out and supporting a healthy soil microbiome and better airflow ensuring resilient root development and better drainage.	www.carbongold.com/biochar/1l-biochar-houseplant-booster/
Biochar Fertiliser	Soil Association Approved for organic growing, our plant derived fertiliser offers superb results with no synthetic or genetically modified (GM) additives; made with biochar, 5-5-5 NPK (nitrogen, phosphorus, and potassium) and other essential nutrients giving plants a natural boost.	www.carbongold.com/biochar/biochar-fertiliser/
Biochar Biology Blend	Originally formulated for our commercial customers, this is a substrate rejuvenator, which replenishes trace minerals and natural biology (fungi and bacteria) for the season ahead.	www.carbongold.com/biochar/biochar-biology-blend/
Biochar All Purpose Compost	Our All-Purpose Compost is a coir biochar blend that is 100% peat-free and Soil Association Approved for organic growing.	www.carbongold.com/biochar/all-purpose-compost/
Biochar Seed Compost	A coir-based compost that is 100% peat-free, a combination of natural coir, and our enriched biochar will help get your seedlings off to the best possible start.	www.carbongold.com/biochar/seed-compost/

Carbon Gold

We supply our enriched biochar products on both a B2B or B2C basis. In addition to our retail sized products we can also supply products in bulk format for larger or commercial sized projects.

Alongside our enriched retail products, we also supply “raw” biochar in bulk.

Biochar-related Accreditations

- FSC certified
- Soil Association Approved for organic growing
- BDA
- B Corp

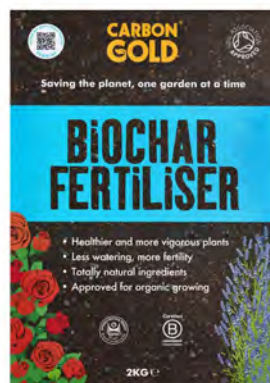
Opportunities

Carbon Gold is seeking new market opportunities in the following areas:

- Agricultural
- All projects requiring bulk raw biochar such as the construction industry
- Remedial projects

Geographical Coverage

Open to enquiries from around the UK.



Carbon Gold

PO Box 270
Clevedon
Somerset
BS21 9DN



Contact

Sue Rawlings
T: 0117 244 0032
E: info@carbongold.com

www.carbongold.com



Circular Carbon

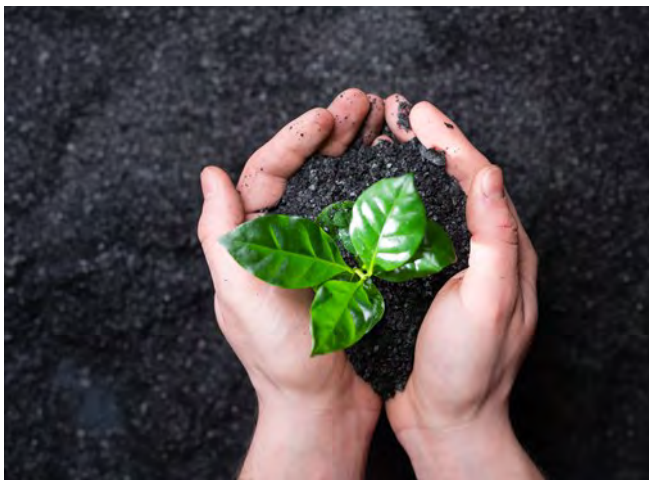
Biochar producer and supplier

Great Cheverell, Wiltshire



Circular Carbon has positioned itself as specialist in biochar made from residues from the food industry. We focus on identifying and operating decarbonisation projects together with food producers. The aim of these large-scale projects is to replace fossil energy in industrial processes combined with manufacturing high-quality biochar products from homogeneous feedstock.

Our first “climate power plant” brings circular economy to the cocoa industry. In Hamburg, we have been producing biochar and carbon neutral steam since the beginning of 2022 from cocoa bean shells. The project reduces the client’s reliance on natural gas and consequently reduces their carbon footprint.



Our product development is led by our own research team and is very much science-based. We focus on producing biochar that will make a difference in the market for soil amendment, animal feed and building materials. Our biochar for soil application carries an EBC-Agro certificate and our animal feed product is GMP+ certified.

We are a B2B company selling and distributing biochar to a wide variety of clients all over Europe. Our majority investor is econnext, a “Family Office” dedicated to support subsidiaries that have scalable positive impact on society and the environment in line with the United Nations Sustainable Development Goals (SDGs).

Product portfolio

- TerraVida
- BioVida

www.circular-carbon.com

Circular Carbon

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
TerraVida	<p>This uncharged biochar has been produced from sustainable cocoa shells and carries the European Biochar Certificate (EBC) standard for “Agro”. Also suitable in organic farming according to implementing regulation (EU) 2019/2164 and listed according to FiBL (Research Institute of Organic Agriculture). Ideal for the following applications:</p> <ul style="list-style-type: none"> • soil additive • for admixture in composts, soils and substrates • for admixture in organic fertilisers • for use as biogas additive <p>Grain size: 0-5mm (98.5% below 5mm).</p>	<p>https://circular-carbon.com/</p>
BioVida	<p>BioVida animal feed biochar (GMP+ certified) stabilises the pH-value of the feed. In the digestive tract it adsorbs a large number of undesirable substances during feed conversion and ensures a balanced microbiology in the stomach and intestines. Furthermore, BioVida supports more efficient nutrient utilisation due to its high electrical conductivity and the resulting high redox potential. The result in pets and livestock fed with BioVida is increased vitality, higher resistance and better feed conversion. Notable potential side-effects of feeding biochar are an improved stable climate, an increase in the quality of manure and slurry.</p> <p>Grain size: 0-5mm (98.5% below 5mm).</p>	<p>https://circular-carbon.com/</p>
TerraVida	<p>Biochar to be used as an additive in building and insulation materials. It carries EBC Materials and REACH certification.</p> <p>Blending TerraVida into construction and insulation materials contributes to CO2 sequestration in the final products. In addition, TerraVida improves the physical and chemical properties such as flexural and compressive strength and increases the thermal conductivity of the final product.</p> <p>Grain size: 0-5mm (98.5% below 5mm).</p>	<p>https://circular-carbon.com/</p>

Circular Carbon

Our company has obtained the following accreditations:

- Finalist in Carbon Removal ClimAccelerator programme for 2021/22.
- Winner of InVivo's "Global Quest for a more resilient agrifood sector".
- Winner of "PlanB Bavarian.BioBased.Business".

Biochar-related Accreditations

Our biochar for...

- a) soil application is EBC-Agro and REACH certified and listed according to FiBL.
- b) animal feed is EBC-Feed and REACH certified.
- c) building materials is EBC-Materials and REACH certified.



Circular Carbon



Opportunities

Circular Carbon is seeking new market opportunities in the following areas:

- We are looking for suitable feedstock from the food industry in relatively large volumes.
- Additionally, we are also looking for buyers of our biochar in the UK.

Geographical Coverage

Open to enquiries from around the UK and worldwide.

Circular Carbon Ltd

10 Church Road
Great Cheverell
Wiltshire
SN10 5YA



CIRCULAR **CARBON**

Contact

Lasse Gunnerud
T: 07905 872146
E: lasse.gunnerud@circular-carbon.com

www.circular-carbon.com



Combind Industries

Biochar producer and supplier, kiln producer and retailer, and consultancy

Stratford-upon-Avon, Warwickshire

Design, manufacture, supply and support of innovative continuous feed pyrolysis kiln, the Comkiln™, and user configurable process that can engineer the derived bioproducts to meet desired specifications or characteristics.

Any biomass feedstock that is suitably prepared, (e.g. to g30 chips), may be used. A high moisture content is acceptable, but dryer materials are more efficient.

Systems range from laboratory size at 300g/hr, small-scale production and test at 200kg/hr to modularised system at multiples of 1t/hr. Units are provided in containerised footprints and may be easily relocated.

The system is configurable to deliver either a combination of biochar and fuel vapour, or biochar and by condensation of the vapour, bioliquid and biogas, each of which is a commercially valuable product.

Combind Industries also offers consultancy with respect to evaluating potential type, characteristics and commercial value of solid, liquid and gaseous bioproducts that may be derived from biomass sources via thermal decomposition process.

Product portfolio

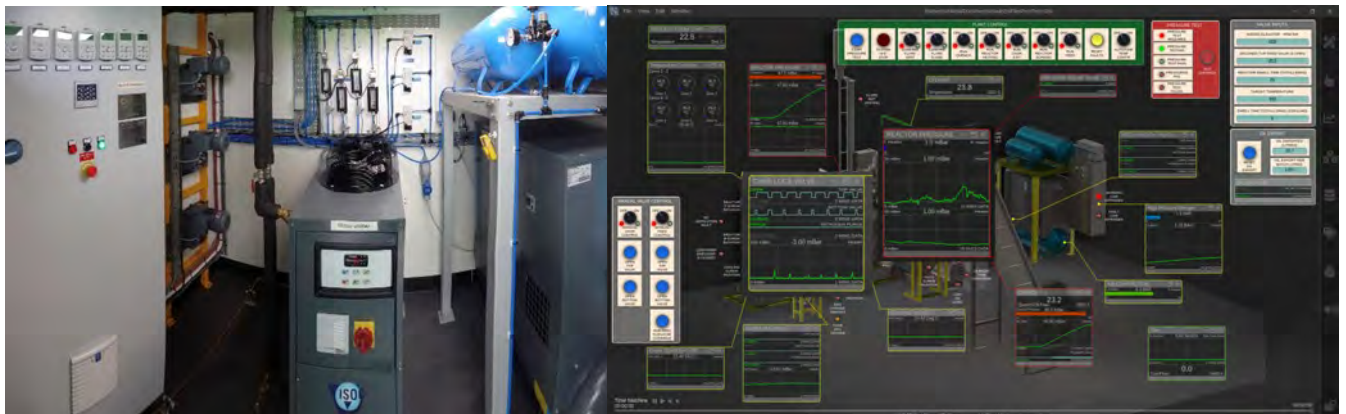
- Pyrolab™
- Comkiln 200™
- Comkiln 1000™
- Consultancy services for repurposing of residual biomass materials

www.combind.co.uk



Combine Industries

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Pyrolab™	Laboratory sized (300g/hr) continuous feed pyrolysis Comkiln™ for testing of materials for characterisation and commerciality of derived bioproducts. Adjustable control parameters (temperature, residence time, mass flow) provides ability to engineer derived products.	www.combine.co.uk
Comkiln 200™	Small scale (200kg/hr) containerised continuous feed pyrolysis Comkiln™ for delivery of derived biochar, bioliquid and biogas bioproducts. Adjustable control parameters (temperature, residence time, mass flow) provides ability to engineer derived products and relative yields.	www.combine.co.uk
Comkiln 1000™	1,000kg/hr continuous feed containerised and modular pyrolysis Comkiln™ for delivery of derived solid, liquid and gaseous bioproducts. User adjustable control parameters (temperature, residence time, mass flow) provides ability to engineer derived products and relative yields.	www.combine.co.uk
Consultancy services for repurposing of residual biomass materials	Independent certification and validation of projects and planning applications and Environmental Impact Assessment with Techno-Economic Analysis, Life-Cycle Analysis of materials and processes for repurposing of residual biomass. Specialist subject personnel employing industry accredited tools and techniques provide analysis and reporting services to enable projects and validate carbon reduction measures and metrics for ESG and similar purposes.	www.combine.co.uk



Combine Industries

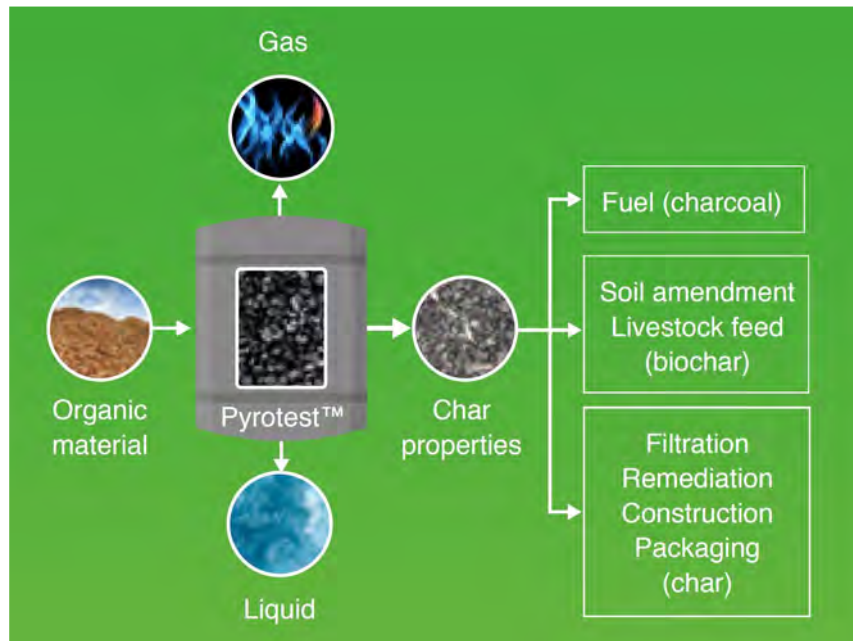
Opportunities

Combine Industries is seeking new market opportunities in the following areas:

- Decarbonisation projects involving repurposing or recovery of residual biomass from agricultural, forestry or urban sources.
- Consultancy services providing Environmental Impact Assessment, Techno-Economic Analysis, Life-Cycle Analysis and Carbon Intensity of products, companies and projects, and evaluation of bioproducts that may be derived from recycled biomass.
- Education and training curricula and delivery of seminars and training packages in environmental sustainability.

Geographical Coverage

Open to enquiries from around the UK, Europe and worldwide.



Combine Industries Ltd

Ettington Park Business Centre
Stratford-upon-Avon
Warwickshire
CV37 8BT

Contact

Steve Harrison
T: 01789 451078 or 01789 450280
E: s.harrison@combine.co.uk

www.combine.co.uk



Earthly Biochar

Biochar producer and supplier, stove producer and retailer, kiln producer and retailer, consulting, educational courses and academic research

Barnstaple, Devon



Earthly is a leading biochar start-up in the UK. Earthly developed the first domestic biochar kiln on the market and was the first biochar supplier in the UK able to deliver biochar and the associated carbon credits.

The company has conducted the largest commercial trials of biochar in the UK and has implemented biochar on farms, local authority parks and professional nurseries as well as creating a well-known consumer facing brand selling biochar to gardeners and influencers.

Product portfolio

- Raw Biochar with Inoculant Powder
- Domestic Biochar Kiln – Make Biochar At Home
- Biochar Carbon Credits
- Consulting, educational courses and academic research



www.earthlybiochar.com

Earthy Biochar

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Raw Biochar with Inoculant Powder	Organic biochar made from waste biomass to the European Biochar Standard (EBC) using an auger pyrolyser in an independently verified carbon negative system. Kept at 20% moisture content. Suitable for all soil types. Builds microbial mass and soil fertility. Carbon credits available from biochar production. Available in 2-10mm granules.	www.earthlybiochar.com/products/organic-biochar
Domestic Biochar Kiln – Make Biochar At Home	Offering a safer and sustainable alternative to traditional at-home production methods, Earthly Biochar are the first on the market to design and manufacture a purpose-built smokeless biochar kiln using top-lit updraft gasifier (TLUD) technology.	www.earthlybiochar.com/products/biochar-kiln-make-biochar-at-home
Biochar Carbon Credits	Independently verified (full Life-cycle Assessment (LCA)) carbon credits generated from biochar production. Bespoke solutions available to meet net zero strategy goals for both individuals and businesses.	

Opportunities

Earthy Biochar is seeking opportunities to find new markets.

Geographical Coverage

Open to enquiries from around the UK, Europe, USA, Australia, New Zealand and worldwide.



Earthy Biochar

Unit 4
Venn Valley Winery
Barnstaple
Devon
EX32 0NN



Contact

Lottie Hawkins
T: 07759 793661
E: lottie@earthlybiochar.com

www.earthlybiochar.com



Exeter Charcoal

Biochar producer and supplier
Biochar retort producer and retailer

Exeter, Devon

Exeter Charcoal is a seller and manufacturer of charcoal / biochar retorts. The company, based in Devon, is also a producer and supplier of biochar / charcoal.

The company works with universities and research establishments particularly around energy from pyrolysis.

Product portfolio

- The Exeter Retort, a pure pyrolysis retort
- The Dartmoor Dragon, a pure pyrolysis retort
- Carbon Compost
- Exeter Biochar



www.exetercharcoal.co.uk

Exeter Charcoal

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
The Exeter Retort, a pure pyrolysis retort	The world's only mobile commercially sized retort. Fully developed and well proven. Available with automatic temperature control and with some material options. Always supplied as a package fully equipped and with training. Genuine 24hr cycle batch process.	www.exetercharcoal.co.uk/
The Dartmoor Dragon, a pure pyrolysis retort	An affordable retort aimed at small producers. Ideal for arisings from forestry and hedge laying. Easy to move. Always supplied as a package fully equipped and with training.	www.exetercharcoal.co.uk
Carbon Compost	A 25% biochar mix with PAS100 qualified peat-free green compost base.	www.exetercharcoal.co.uk
Exeter Biochar	A retort produced biochar with full feedstock traceability. Supplied in a 0-10mm mix. Ideal for any soil but particularly alluvial soils where smaller or powdered char will wash out of the root zone.	www.exetercharcoal.co.uk/



Exeter Charcoal



Opportunities

Exeter Charcoal is seeking new market opportunities in the following areas:

- Local government and local biochar groups.

We (Exeter Charcoal) have had some success with machines sold to both East Devon District Council and Devon County Council, but would like to expand this operation. Agricultural colleges are also keen to use our machinery.

Geographical Coverage

Open to enquiries from around the UK, Europe, USA and around the world.

Carbon Compost Company (trading as Exeter Charcoal)

167 Mincinglake Road
Exeter
Devon
EX4 7DS



Contact

Robin Rawle
T: 07515 683908
E: admin@carboncompost.co.uk



www.exetercharcoal.co.uk

Froee Wood Coppice Products

Biochar producer and supplier

Stroud, Gloucestershire



We make and sell charcoal fines and biochar as by-products of small-scale charcoal production in Gloucestershire. Our charcoal is produced on a small-scale within our sustainably managed woodlands as part of coppice restoration and continuous cover forestry.

Biochar is a soil improver made of charcoal 'fines' - the stuff too small for your barbecue (BBQ). Rather than bloat your BBQ bags with dust, we wash it through to remove excess ash, and sell it as biochar.

It will need 'charging' before use, add it to your compost heap, or soak it in nettle, comfrey or fertiliser tea before adding to your beds.

Biochar is also great for lawns, improving drainage, and as an attractive top-dressing that slug and snails don't like.

Product portfolio

- Biochar Granules



www.froewoodcoppice.wordpress.com/

Froe Wood Coppice Products

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Granules	Charcoal fines for biochar produced from charcoal production in coppice restoration.	froewoodcoppice.wordpress.com/

Opportunities

Froe Wood Coppice Products is seeking new market opportunities in the following area:

- “Anyone wanting to buy some black gold”.

Geographical Coverage

Open to enquiries from around the UK.

Biochar-related Accreditations

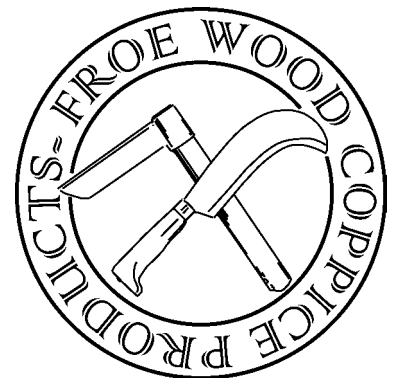
- Grown in Britain accredited
- Forestry England Management Plans

Froe Wood Coppice Products

2 Slad View
 Gaineys Well
 Stroud
 Gloucestershire
 GL5 1LQ

Contact

Chiz Harward
 T: 07881 486837
 E: froewood@gmail.com



www.froewoodcoppice.wordpress.com/



Herts WoodFuel

Biochar supplier

Ware, Hertfordshire

Herts WoodFuel works in partnership with local woodland owners to carry out sustainable woodland management and sources timber suitable for conversion into seasoned firewood that is accredited with WoodSure as “Ready to Burn”.

We also produce single species British charcoal using a Pressvess Single Barrel Charcoal Retort and as a by-product of the grading process this includes biochar.

Our charcoal / biochar and firewood is ‘Grown in Britain Assured’.

We have supplied biochar to a number of end-users including: landscapers, allotment owners and more recently film industry special effects companies for use on film sets.



Product portfolio

- Stag BioChar – 5 litre Bucket
- Stag BioChar – 1m³ Bulk Bag

www.stagbritishcharcoal.co.uk

Herts WoodFuel

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Stag BioChar – 5 litre Bucket	<p>Our BioChar is produced from British Hardwood timber sourced from managed woodlands using a Pressvess Single Barrel Retort and is the by-product of the charcoal grading process.</p> <p>Available in 0-12.5mm granules, it is ideal for application to all soil types, improving soil health and plant growth. Supplied in a resealable 5 litre bucket, it's perfect to carry down to the allotment.</p>	<p>www.stagbritishcharcoal.co.uk/products/stag-biochar-5-litre-gardeners-bucket</p>
Stag BioChar – 1m ³ Bulk Bag	<p>Our BioChar is produced from British Hardwood timber sourced from managed woodlands using a Pressvess Single Barrel Retort and is the by-product of the charcoal grading process.</p> <p>Available in 0-12.5mm granules, it is ideal for application to all soil types, improving soil health and plant growth. Aimed at landscapers, golf courses etc., it is supplied in a skirt-top cubic metre bulk bag.</p>	<p>www.stagbritishcharcoal.co.uk/products/bulk-bag-of-stag-biochar</p>

Opportunities

Herts WoodFuel is seeking new market opportunities in the following areas:

- Animal feed supplements
- Heritage building restoration

Geographical Coverage

Open to enquiries from around the UK.

Biochar-related Accreditations

- Grown in Britain Assured, License number - GiB-W-WS-5049



HorticMan Ltd t/a Herts WoodFuel

1st & 2nd Floor
2 West Street
Ware, Hertfordshire
SG12 9EE

Contact

Matt Edmonds
T: 07840 826268
E: horticman@icloud.com

www.stagbritishcharcoal.co.uk



Joy Lane

Biochar producer

Uttoxeter, Staffordshire

At Joy Lane and Sons, we manufacture charcoal and biochar in a retort system. This is an efficient process. By pyrolysing wood in the retort chamber, less wood is used to create the charcoal as the gases from the chamber are reused in the burning operation - clean burning in its firing, it releases 75% fewer pollutants than standard charcoal manufacturing processes - only steam from the heated wood is released from the retort.

The timber comes from sustainable sources from FSC Forestry Commission woodlands, such as Cannock Chase. Our biochar, a horticultural additive from natural charcoal, is beneficial for water retention and trace elements.

Product portfolio

- Biochar



www.joylaneandsons.com

Joy Lane

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar	Our biochar, a horticultural additive from natural charcoal, is beneficial for water retention and trace elements.	www.joylaneandsons.com/charcoal



Joy Lane

The Woodyard
Hollington Lane
Stramshall
Uttoxeter
Staffordshire
ST14 5ER

Contact

Joy Lane
T: 07971 220186
E: info@joylaneandsons.com

www.joylaneandsons.com

National Trust for Scotland

Biochar producer and supplier

Wester Ross, Scottish Highlands



Photos: *Rhododendron ponticum* flower (top left), retort (top right), *rhododendron char* (bottom left).

Inverewe Biochar Project

Like many historic Scottish gardens, *Rhododendron ponticum* was widely planted at Inverewe in the 19th century to provide shelter and decorative interest. It has since been spreading into the estate where it poses a significant threat to native habitats such as Scotland's Atlantic Rainforest.

As an alternative to chipping or burning waste material from *Rhododendron* control work, at Inverewe we have begun using it as a feedstock for our Exeter Retort to produce biochar. This is currently added to our onsite composting system along with garden waste, seaweed and biodegradable café waste to produce nutritious compost for re-use in the garden.

We are continuing to experiment and develop ways to utilise our biochar on site. We'd be particularly interested in collaborating with other practitioners and academic institutions on this.

We now retail the raw biochar through our visitor centre shop – giving our visitors the opportunity to improve their own composting at home and spreading the word about invasive species and the conservation of Scotland's Atlantic Rainforest.

Product portfolio

- Soil and Plant Booster

www.nts.org.uk/visit/places/inverewe

National Trust for Scotland

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Soil and Plant Booster	100% Inverewe Garden raw organic biochar. Packaged in 2kg cotton stitch-sealed twin ply paper bags. Easy to use with instructions for use as a composting additive.	www.nts.org.uk/visit/places/inverewe



Geographical Coverage
Open to enquiries from around the UK.



Inverewe Biochar Project – National Trust for Scotland

Inverewe Garden and Estate
 Poolewe
 Wester Ross
 Scotland
 IV22 2LD

Contact

Gareth Parkinson – Ranger
 T: 01445 781229
 E: gparkinson@nts.org.uk



www.nts.org.uk/visit/places/inverewe

PyroCore

Biochar stove, kiln and retort producer
Biochar stove, kiln and retort retailer

Bristol



We make world-leading biochar producing equipment, that is being used in the Department for Business, Energy and Industrial Strategy (BEIS) funded carbon capture installation. Our core product is a state-of-the-art pyrolysis machine that gives unrivalled control over any biochar production requirements.

We have the ability to make all of the European Biochar Certificate (EBC) standard biochar types while producing significant levels of carbon neutral energy.

Product portfolio

- Pyrolysis machine
- We make and install bespoke biochar producing systems

www.pyrocore.com

PyroCore

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Pyrolysis Machine	The ability to make all different forms of biochar.	www.pyrocore.com

Geographical Coverage

PyroCore is open to enquiries from around the world.

Our Partners

- EBI, Innovate UK, CIWM, REA



PyroCore

203C Burcott Road
Bristol
BS11 8AP

Contact

Stuart Caley
T: 01275 740 293
E: s.caley@pyrocore.com

www.pyrocore.com



Say it with Wood

Biochar producer

Canon Frome, Herefordshire



Say it with Wood produce biochar both in the yard from offcuts and for customers using residue from felling activities.

Product portfolio

- Raw char
- Char-ged
- Contract charring



www.sayitwithwood.co.uk

Say it with Wood

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Raw char	Char from forest products.	www.sayitwithwood.co.uk
Char-ged	Charged char, ready to use, charged with nettle and comfrey tea.	www.sayitwithwood.co.uk
Contract charring	Customer's wood residue converted to char on site.	www.sayitwithwood.co.uk

Opportunities

Say it with Wood is seeking new market opportunities in the following areas:

- Agricultural / bulk markets

Geographical Coverage

Open to enquiries from around the UK.



Say it with Wood

The Grainstore
Canon Frome
Herefordshire
HR8 2TE

Contact

Toby Allen
T: 07811 852704 or 07958 345833
E: toby@sayitwithwood.co.uk

www.sayitwithwood.co.uk



Sequest

Biochar consultancy

Bath, Somerset



Sequest offers strategic planning and advice – on all aspects of biochar creation, usage, application and CDR (Carbon Dioxide Removal) credit trading and positioning.

It also offers international biochar expert consultancy: focused on atmospheric CO2 removal, carbon strategy, and soil and water remediation through biochar.

Product portfolio

- Biochar Consultancy

Geographical Coverage

Sequest is open to enquiries from around the world.

Sequest Ltd

Milton Avenue
Bath
Somerset
BA2 4QZ

Contact

James MacPhail
T: 07807 265703
E: james@sequest.uk

www.sequest.uk



SEQUEST
Climate Smart Biochar



Slate Hill Charcoal Company

Biochar producer and supplier

Marlborough, Wiltshire



We are a charcoal and biochar producing company based in North Wiltshire. Produced from local hardwood by the retort method, graded into large and small biochar and sold online and locally by the 5kg/20L and 8kg/30L bag for use in domestic and commercial horticulture.

Other biochar related activities our company is involved in includes:

- Research into how biochar can benefit UK agriculture
- Biochar promotion

Product portfolio

- Biochar Small Particles
- Biochar Large Particles / Blacksmith Fines
- Raw Biochar



www.slatehillcharcoal.co.uk

Slate Hill Charcoal Company

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Small Particles	Produced from hardwoods felled under a UK registered woodland management plan and from within ten miles of our production facility. Using retort kilns we pyrolyse our raw materials at temperatures of up to 520 degrees Celsius to produce a high carbon biochar. Our small particle biochar ranges in size from 0-8mm and is perfect for soil incorporation.	www.slatehillcharcoal.co.uk/product/biochar/
Biochar Large Particles / Blacksmith Fines	Produced from hardwoods felled under a UK registered woodland management plan and from within ten miles of our production facility. Using retort kilns we pyrolyse our raw materials at temperatures of up to 520 degrees Celsius to produce a high carbon biochar. Our large particle biochar ranges in size from 8-25mm and can be used as soil improver or multiple other uses such as for traditional blacksmith forges, animal bedding additive or water filtration.	www.slatehillcharcoal.co.uk/product/blacksmiths-charcoal/
Raw Biochar	We can supply larger volumes of raw biochar sized 0-25mm for landscaping projects or commercial operations.	www.slatehillcharcoal.co.uk/product/biochar/

Opportunities

Slate Hill Charcoal Company is seeking new market opportunities in the following areas:

- Agriculture
- Carbon storage and sequestration
- Cosmetics
- Water treatment

Geographical Coverage

Open to enquiries from around the UK.



Slate Hill Charcoal Company

Gore Laines Farm
Baydon, Marlborough
Wiltshire
SN8 2JX

Contact

Luke Breedon
T: 07562 591788
E: hello@slatehillcharcoal.co.uk



www.slatehillcharcoal.co.uk



SoilFixer

Biochar supplier and consultancy

Royal Wootton Bassett, Wiltshire

SoilFixer produces and supplies leading quality biochar compost soil improvement products, as well as various grades of biochar granules.

All of our biochar is made in the UK using natural wood waste.

Our team has extensive experience of biochar and composting and is always keen to support the development of biochar and its uses in soil improvement.

Product portfolio

- Biochar Multi-Purpose Compost - SF40
- Compost Activator (Humification Agent) - CHA
- Biochar Granules 0-8mm
- Biochar Granules 0-2mm
- Consultancy on use of biochar in compost and soil improvement



www.soilfixer.co.uk

SoilFixer

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Multi-Purpose Compost - SF40	<p>100% peat-free. Contains 30% biochar (made in the UK from 100% recycled natural wood resources) and 70% compost.</p> <p>Ideal growing medium for containers, seedlings, potting on, lawn dressing, tree planting and soil improvement.</p>	www.soilfixer.co.uk/garden-products/biochar-multi-purpose-compost
Compost Activator (Humification Agent) - CHA	<p>Proprietary formula containing biochar and micronized powders to increase colloidal humus in compost piles to aid production of super compost.</p> <p>Significantly boosts plant growth and yield and makes positive long-term improvement in soil.</p>	www.soilfixer.co.uk/garden-products/Compost-Humification-Agent-Activator
Biochar Granules 0-8mm	<p>Our biochar is made from 100% recycled natural wood to the European Biochar Standard (EBC) using pyrolysis production in retort kilns.</p> <p>Ideal for adding to all soil types to improve soil health, water retention and improve plant growth. Use direct in soil as well as planters, raised beds and add to compost.</p>	www.soilfixer.co.uk/garden-products/Biochar-Granules
Biochar Granules 0-2mm	<p>Our biochar is made from 100% recycled natural wood to the European Biochar Standard (EBC) using pyrolysis production in retort kilns.</p> <p>Ideal for improving sandy soil as it has slightly better water retention capability. Also ideal for applying biochar to sites where it needs to be applied by drilling holes to the root zone, e.g. trees and golf courses.</p>	www.soilfixer.co.uk/garden-products/Biochar-fine-granules



SoilFixer



Biochar-related Accreditations

- EBC certified

Geographical Coverage

SoilFixer is open to enquiries from around the UK.



AC Innovations Ltd (trading as SoilFixer)

The Green Shed
 Park Grounds
 Brinkworth Road
 Royal Wootton Bassett
 Wiltshire
 SN4 8DW

Contact

Tony Callaghan
 T: 0345 055 8433
 E: tony.callaghan@soilfixer.co.uk

www.soilfixer.co.uk



Stirling-Wood Associates & Pressvess

Bioenergy consultancy
Biochar retorts

Stafford, Staffordshire

Supporting the UK bioenergy supply chain.

Stirling–Wood works in association with 1st and 2nd tier contractors in helping to deliver the UK net zero commitment. Our remit is the selection and sourcing of suitable biomass material feedstocks, to help achieve those goals.

We are working closely with one such contractor in particular, ‘Pressvess International’, who specialises in the design and fabrication of biomass thermal treatment plants, pressure vessels, and other bespoke areas of application.

The UK energy supply is still dependent on largely fossil fuels, mostly gas, but in some cases oil and coal. The war raging in Europe has focused global attentions even more so, on the extreme urgency to switch to renewable energy solutions.

This situation has also had a profound and negative effect on the global supply of foodstuffs and agri-tech materials such as nitrates and phosphates. An area which can be positively influenced, with by-products such as biochar, from the thermal processing of biomass.

Product portfolio

- Biomass consultancy
- Biochar retorts



Pressvess charcoal retort

Stirling-Wood Associates

2 Aldrin Close
Beaconside
Stafford
ST16 3SZ

Contact

Alan Wood
T: 07864 162282
E: alanwood2000@aol.com

Terra Core

Biochar supplier

Poole, Dorset



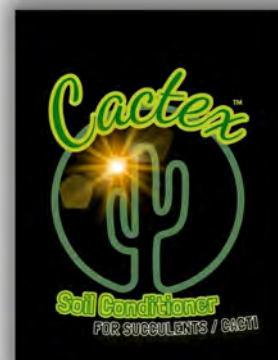
Terra Core provides special grade biochar in the form of horticultural charcoal to house plant hobbyists, indoor gardeners and small plant nurseries. We sell directly to consumers via our website at coreshop.uk. The benefits of this amazing product can be seen when growing a wide variety of tropical house plants where it plays an important role in soil health, especially with potted plants! Charcoal is also an integral ingredient in many of our speciality substrate and soil amendment products.

We also manufacture speciality substrates containing biochar components, mainly for indoor plants such as orchid and cacti. These include ready to use potting mixes and soil improver.



Product portfolio

- Terra Core® Premium Horticultural Charcoal
- Charc Lite
- Rootscape Deluxe Houseplant Soil



www.terracore.uk

Terra Core

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Horticultural Charcoal	<p>Available in 3 Litre to 10 Litre sizes.</p> <p>Terra Core® Premium Horticultural Charcoal - an excellent soil conditioner with many benefits! Ideal for potted plants, bottle gardens and terrariums, cacti, orchids and many other applications.</p> <ul style="list-style-type: none"> • Improves soil texture, aeration and drainage • Retains nutrients, aids uptake by the roots • Encourages beneficial bacteria and fungi • Absorbs toxins and odours • Adds essential carbon and trace elements • Contains beneficial nutrients • Made purely from British hardwoods - Chemical Additive Free • Special Grade <10mm - Zero Fines <p>Can be mixed with potting soil and other substrates.</p>	<p>www.coreshop.uk/collections/soil-amendments/products/horticultural-charcoal</p>
Charc Lite	<p>Get all the benefits of perlite and charcoal in one product!</p>	<p>www.coreshop.uk/collections/soil-amendments/products/charc-lite-soil-amendment</p>
Rootscape Deluxe Houseplant Soil	<p>Superior to your standard potting compost; enhanced with an amazing array of beneficial elements!</p>	<p>www.coreshop.uk/products/rootscape™-deluxe-house-plant-soil-potting-mix-compost-enhanced</p>



Terra Core



Opportunities

Terra Core is seeking new market opportunities in the following area:

- Supplying more garden centres and nurseries

Geographical Coverage

Open to enquiries from around the UK.



Terra Core

12 Upton Close
Poole
Dorset
BH16 5HG

Contact

Katie Ellis
T: 07534 984052
E: info@terracore.uk

www.terracore.uk

COREShop.UK



The Dorset Charcoal Company

Biochar producer and supplier

Hazelbury Bryan, Dorset

Producer and supplier of British hardwood biochar, from small quantities to bulk. Available direct and through retailers.

All of our biochar products are made from UK hardwoods harvested from sustainably managed woodlands in Dorset.

Biochar
Horticultural Charcoal
Organic Soil Conditioner

The Dorset Charcoal Co.

A proven success for vineyards.
Boost productivity & vine health by improving the quality of your vineyards soil.

"The addition of Dorset Charcoal as a soil improver has been a success. Over the last few years the vines treated with charcoal show less deficiencies, bunch weights tend to be higher and the fruit is more ripe than the rest of the untreated block. I wouldn't hesitate in applying charcoal to any future plantings we do."

Graham Fisher: Vineyard Manager - Bride Valley Vineyard, Dorset.

- Increases soil nutrient retention.
- Improves vine health & productivity.
- Adsorbs impurities from the soil.
- Retains moisture, saving on irrigation.
- Improves soil structure & drainage.
- High in potash with PH value 8-9.
- Can be supplied pre-enriched.
- Sustainably produced in Dorset.

Product portfolio

- Biochar Granules
- Enriched Biochar Granules
- Hardwood Charcoal 10-20mm
- Biochar Turf Dressing

www.dorsetcharcoal.co.uk

The Dorset Charcoal Company

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Granules	<p>0-10mm granules. It is ideal for application to all soil types, improving soil health and plant growth. It has a highly porous sponge-like structure which provides homes for microbial and fungal life while storing water and nutrients.</p> <p>Excellent for successful tree planting.</p>	www.dorsetcharcoal.co.uk/horticultural-charcoal
Enriched Biochar Granules	<p>This is our standard biochar mixed with digestate (dried fibre from anaerobic digester), and fermented for a minimum of six months. It saves you time in seeing the benefits of adding biochar to your soil by already having completed the process of capturing nutrients into the charcoal. This increases the soil microbial activity which promotes the soil's trace mineral supply and improves plant nutrient uptake.</p> <p>0-10mm granules. It is ideal for application to all soil types, improving soil health and plant growth. It has a highly porous sponge-like structure which provides homes for microbial and fungal life while storing water and nutrients.</p>	www.dorsetcharcoal.co.uk/horticultural-charcoal
Hardwood Charcoal 10-20mm	Our 10-20mm charcoal is an ideal growing medium in tropical houses and a superb aid in reducing irrigation in certain environments.	www.dorsetcharcoal.co.uk/horticultural-charcoal
Biochar Turf Dressing	<p>0-3mm charcoal. We offer a charcoal soil improver particular to golf courses.</p> <p>Using the soil improver harks back to common practice of a century ago, when greenkeepers used charcoal to keep greens porous and firm, and to improve the appearance and colour of turf.</p>	www.dorsetcharcoal.co.uk/horticultural-charcoal

The Dorset Charcoal Company



Biochar-related Accreditations

- Grown In Britain

Opportunities

The Dorset Charcoal Company is seeking new market opportunities in the following areas:

- Viticulture
- General Gardeners
- Tree Planting

Geographical Coverage

Open to enquiries from around the UK.

The Dorset Charcoal Company

Boundary's Edge
Hazelbury Bryan
Dorset
DT10 2EB

Contact

Jim Bettle
T: 01258 818176
E: jim@dorsetcharcoal.co.uk



www.dorsetcharcoal.co.uk



The Natural Charcoal Company

Biochar producer and supplier, plus talks and presentations

Ulverston, Cumbria

We own and manage a 33 acre woodland in the Lake District, carrying out woodland conservation work (mainly coppice restoration). The wood derived from this work is used to make various charcoal products, including biochar.

Our biochar is produced in an open, clean burn, cone kiln and is then graded according to its intended uses which include biochar compost, animal gut health charcoal, succulent compost and orchid compost.

Our other biochar related activities include talks and presentations regarding biochar and soil health.



Product portfolio

- Granulated Charcoal Dog Food Supplement – 200g
- Granulated Charcoal Horse Food Supplement – 450g
- Enriched Biochar Soil Improver
- Biochar Compost for Potting – 30 litres
- Biochar Compost for Veg and Salad – 30 litres
- Orchid Compost Potting Mix
- Cactus and Succulent Compost

www.naturalcharcoal.co.uk

The Natural Charcoal Company

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Granulated Charcoal Dog Food Supplement – 200g	Help your dog to maintain a healthy digestive system by supplementing their feed with our natural activated charcoal. Simply add it to your dog's food regularly to absorb toxins, reduce bloating and minimise flatulence. It also helps to freshen your dog's breath.	www.naturalcharcoal.co.uk/product/charcoal-canine-feed-supplement-200g/
Granulated Charcoal Horse Food Supplement – 450g	Help your horse to maintain a healthy digestive system by supplementing their feed with our natural activated charcoal. Simply add it to food regularly to absorb toxins, reduce bloating and minimise flatulence.	www.naturalcharcoal.co.uk/product/charcoal-horse-feed-supplement-500g/
Enriched Biochar Soil Improver	A ready to use, top quality soil improver designed to build long-term soil health through improved soil structure, nutrient and water retention and enhancement of beneficial soil bacteria and fungi. A blend of high grade biochar with organic coconut coir, top quality worm casts, and micronized rockdust.	www.naturalcharcoal.co.uk/product/enriched-biochar-soil-improver/
Biochar Compost for Potting – 30 litres	We've hand-blended our high-grade biochar into Dalefoot Compost's renowned wool potting compost, resulting in a beautiful, friable and naturally rich biochar compost.	www.naturalcharcoal.co.uk/product/biochar-compost-for-potting-30-litres/
Biochar Compost for Veg and Salad – 30 litres	We've hand-blended our high-grade biochar into Dalefoot Compost's renowned wool compost for veg and salad, resulting in a beautiful, friable and naturally rich biochar compost.	www.naturalcharcoal.co.uk/product/biochar-compost-for-veg-and-salad-30-litres/
Orchid Compost Potting Mix	Our orchid potting mix contains natural biochar and graded pine bark which helps the compost to keep an open structure, increase air flow, regulate moisture. It also absorbs impurities, such as salts, that can build up over time.	www.naturalcharcoal.co.uk/product/orchid-compost-potting-mix/
Cactus and Succulent Compost	A specialist succulent and cactus potting mix that's made from coir, grit, organic peat-free compost, and our own natural biochar which maximises aeration, drainage and moisture retention.	www.naturalcharcoal.co.uk/product/cactus-and-succulent-compost/

The Natural Charcoal Company



Biochar-related Accreditations

- Grown in Britain accreditation

Opportunities

The Natural Charcoal Company is seeking new market opportunities in the following areas:

- Water filtration sticks that are produced in the UK.

Geographical Coverage

Open to enquiries from around the UK.

The Natural Charcoal Company

Great Lindeth Wood
Bouth
Ulverston
Cumbria
LA12 8JJ

Contact

Darryl Kelbrick
T: 07811 224698
E: info@naturalcharcoal.co.uk

www.naturalcharcoal.co.uk

**THE NATURAL
CHARCOAL
COMPANY**

PETS · PLANTS · PEOPLE · PLANET



The Natural Gardener

Biochar supplier

Knowbury, Shropshire



We sell Biochar.

It's a wonderful new idea.

You slowly combust sustainably produced wood with little or no oxygen and out comes this wonderful ground enhancer that's called 'Biochar'. Adding about 10% to you compost will hugely improve your crops, flowers and shrubs.

Wonderful this modern technology - except it isn't - MODERN that is.

We have probably been using slow burning techniques (pyrolysis) ever since we discovered fire, even if we did not know it. For aeons, Amazonian tribes have mixed biochar in their soil. This came from their 'slash and burn' technique of clearing the forests. Now, thousands of years later, the soil they left behind - the 'Terra Preta' - is still amazingly fertile. Precious areas of fertility in the really pretty fragile, thin layer of rain forest soil.

Well the technique may not be new, but the huge problem it will help to solve certainly is!

It's 'carbon capture technology' in your garden.

Every 5 kilograms of biochar that you use will not only really enhance the fertility of your soil, but will capture 4 kilograms of Carbon for probably thousands of years.

Product portfolio

- Biochar granules

www.thenaturalgardener.co.uk

The Natural Gardener

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Granules	Capturing carbon in your soil while hugely improving your garden's fertility.	www.thenaturalgardener.co.uk/biochar.php



Opportunities

The Natural Gardener is seeking new market opportunities in the following area:

- Commercial horticulture

Geographical Coverage

Open to enquiries from around the UK.

The Natural Gardener

Parsley Patch
2 Scotts Lane
Knowbury
Shropshire
SY8 3JP

Contact

Joe Collison
T: 07843 564745
E: joe@saveaworldofresource.com

www.thenaturalgardener.co.uk



The Whittlewood Concept

Biochar producer and supplier
Biochar retort producer and retailer

Silverstone, Northamptonshire

Predominantly, coppicing the Hazel understory in local woodlands, in order to bring them back into rotation. Whether it's stakes and binders for hedgelaying, brushwood faggots for river restoration, or cutting specific sticks for various ongoing projects and TV and film set props.

The remaining wood is then used to produce charcoal or biochar. We create ethical biochar produced from local woodlands, that are sustainably bought back into rotation for future use.

At Whittlewood, we take into consideration animal/birds breeding/nesting seasons. The ethos of our business is to take a holistic view of our charcoal/biochar making, it is uniquely woven into our working life.

We strive for maximum utilisation of the woodland with minimal impact on flora and fauna.

Product portfolio

- Raw Biochar
- Inoculated Biochar
- Hot Compost
- Whittlewood Bio Battery



www.whittlewoodconcept.com

The Whittlewood Concept

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Raw Biochar	Wood sourced from native British woodlands as part of our restoration and preservation programme is made in our own specially designed low impact retort kiln, then graded and processed to 0-8mm.	www.whittlewoodconcept.com
Inoculated Biochar	As above with added 'Tea'.	www.whittlewoodconcept.com
Hot Compost	As before but added to our homemade hot compost.	www.whittlewoodconcept.com
Whittlewood Bio Battery	Tube filled with inoculated char compost or soil spill from hole dug to use as a vertical mulching option.	www.whittlewoodconcept.com



The Whittlewood Concept

The Whittlewood Concept started at humble beginnings. Dave has been in forestry for over 30 years and was joined by Jon some 15 years ago. Together with Bohus, Matt and David, we are woodsmen with the same conscience, we are small independent experimental yet sustainable, low impact charcoal and biochar producers.

Nothing on the kiln market could achieve what we wanted, so we built our own retort. By no means is our learning completed. This will continue, as will our understanding of biochar and how we can further develop our produce.

Opportunities

The Whittlewood Concept is seeking new opportunities in whatever markets are interested in using our low impact sustainable biochar. Whether it be raw or inoculated, we are happy to work within the UK. If we could market our retort kiln that would be a goal too.

Geographical Coverage

Open to enquiries from around the UK.



The Whittlewood Concept

51 Kingsley Road
Silverstone
Northamptonshire
NN12 8UE

Contact

Dave Faulkner

T: 07787 828979

E: dlfalkner19@btinternet.com / whittlewoodconcept@gmail.com

www.whittlewoodconcept.com



Trimplants / Blackdown Hills Eco Hub

Biochar producer and supplier
Biochar workshops

Honiton, Devon



Trimplants in partnership with Blackdown Hills Transition Group set up the first UK Climate Emergency Centre Land Eco Hub. The initial projects undertaken have been to produce biochar in our Dartmoor Dragon Retorts from brash, hedge trimmings, managed woodland with ash dieback and other waste plant materials from the nursery. We're running various trials and researching its potential beneficial use with a wide range of plants across Trimplants. We're currently trialling best compost teas for different plants, compost mixes, rooting systems, optimum % mix, mixing with rock minerals and using with dry microbe mixes.

At the Blackdown Hills Eco Hub we run regular biochar, soil regeneration, climate focused workshops and discussions with local communities who get involved in gathering brash, share experience around the dragons and buy our biochar to use in their own gardens and rewilding projects.

Trimplants has established a close relationship with Plymouth University researchers involved in developing thermal green walls (Low Carbon Devon project) and have continued that research to include trial green thermal walls with various % of biochar mixes with our compost. (<https://www.plymouth.ac.uk/news/living-walls-can-reduce-heat-lost-from-buildings-by-over-30-study-shows>).

Product portfolio

- Biochar Granules for Gardeners (1 kg bag)
- Biochar Workshops

www.trimplants.co.uk

Trimplants / Blackdown Hills Eco Hub

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
<p>Biochar Granules for Gardeners (1 kg bag)</p>	<p>Our biochar has been made from FSC managed woodlands and local farmers hedge cuttings to the European Biochar Standard (EBC) using pyrolysis production in Dartmoor Dragon retort kilns.</p> <p>Available in 0-10mm granules, it is ideal for application to all soil types, improving microbial activity and moisture retention leading to better soil health and plant growth.</p>	<p>www.trimplants.co.uk</p>



At the Blackdown Hills Eco Hub we're running various Biochar Workshops and information sessions, as well as collecting brush and making biochar together with the local community.

We're also presenting biochar, and its benefits to soil and plants, to various community and interest groups across Somerset and Devon.

We're sharing our research findings and selling our biochar at the Taunton Independent Market.

Trimplants / Blackdown Hills Eco Hub

We're involved in various research projects looking at microbial activity in plant roots across a wide range of plants grown at Trimplants Wholesale Nursery. We're also partnering with Plymouth University / Low Carbon Devon in green thermal wall research adding biochar to the compost mix.



Opportunities

Trimplants / Blackdown Hills Eco Hub is seeking new market opportunities in the following areas:

- Gardeners / growers across the UK.
- We're working with local farmers trialling mixes of biochar with slurry. Whilst we're not a large supplier we're interested in sharing our research and building awareness of how they could be using hedgecuttings instead of burning them or leaving wood on the ground to make biochar to help regenerate and create more healthy soils.

Geographical Coverage

Open to enquiries from around the UK.



Biochar

Made sustainably from farmers
brush and managed woodland from
the Combe Raleigh (Devon) area



Trimplants / Blackdown Hills Eco Hub

Combe Raleigh
Honiton
Devon
EX14 4UL

Contact

Carolyn Dare
T: 07584 040135

E: bhecohub@gmail.com / sales@trimplants.co.uk

www.trimplants.co.uk



Whittle and Flame

Biochar producer and supplier, biochar retort producer

Charlbury, Oxfordshire



Our biochar is produced using our in-house designed pyrolysis system, condensing all produced vapours to leave a clean, usable gas stream.

Our system allows us to control the temperature of pyrolysis precisely - standard production is at 450°C.

We hold a large stock and can produce 2.5 tonnes per week.

We also produce large quantities of wood vinegar, wood oil, and wax.

We are happy to produce single species biochar, and biochar from a range of waste materials.



Product portfolio

- Biochar: 0-20mm
- Biochar: Graded to your particle size requirement
- Biochar: 0-3mm particle size
- Wood Vinegar
- Wood Oil



www.whittleandflame.co.uk

Whittle and Flame

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar: 0-20mm.	Made using Grown in Britain certified virgin timber and processed at 450°C. Our standard product is 0-20mm. Sold in 5 kg/20L bags.	www.whittleandflame.co.uk/kiln/index.php/product/5kg-bag-bio-char/
Biochar: Graded to your particle size requirement.	Made using Grown in Britain certified virgin timber and processed at 450°C. Graded to your particle size requirement.	Contact for details
Wood Vinegar: 1L to 1,000L containers.	Produced from Grown in Britain certified timber, and recovered through full range of temperature from ambient to 450°C. Available from 1L to 1,000L containers.	Contact for details
Wood Oil	Produced from Grown in Britain certified timber, and recovered through full range of temperature from ambient to 450°C. Available from 1L to 20L containers.	Contact for details



We hold a Grown in Britain licence for all of our products, ensuring confidence that our sourcing of raw material is from within the UK and has been sustainably harvested.

Our standard product is made from timber harvested on the estate where we are based, and we can also produce biochar from sawmill waste that has the same accreditation.

Whittle and Flame



Opportunities

Whittle and Flame are seeking new market opportunities in the following areas:

- Waste water and sewage processing and treatment
- Animal feed
- Slurry treatment
- Horticulture
- Agriculture
- Municipal weed control – wood vinegar
- Construction / concrete industry

Geographical Coverage

Open to enquiries from around the UK and Europe.

Whittle and Flame
 Wychwood Farm Yard
 Charlbury
 Oxfordshire
 OX7 3HR

Contact

Matt Williams
 T: 07413 165827
 E: matt@whittleandflame.co.uk



www.whittleandflame.co.uk



Woodtek Biochar

Biochar producer and supplier
Biochar pyrolysis plant

Welshpool, Powys



Woodtek Biochar, partnering with Kriger Boilers UK, supplies the C-SINK 1100 plants for the production of biochar.

1-1.5 tonnes per day of biochar output with Combined Heat and Power (CHP) heating offtake available.

Our mid-Wales technology centre plant has been operating for over 10,000 hours producing biochar.

Product portfolio

- Manufacturer and Supplier of Biochar Pyrolysis Plant
- Biochar Field Testing for Ash Dieback

www.woodtekbiochar.com

Woodtek Biochar

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar Pyrolysis Plant	Our Pilot Plant produces up to 1.5 tonnes of biochar per day, removing over 3.0 tonnes of CO2 from the atmosphere every day.	www.woodtekbiochar.com/
Biochar Field Testing for Ash Dieback	Trials to study the effectiveness of biochar against the ash dieback fungus have begun on some of the 500+ ash trees we have planted over the past 20 years, and visually we can already see the change and improvement in the foliage!	www.woodtekbiochar.com/post/biochar-ash-dieback



Opportunities

Woodtek Biochar is seeking new market opportunities in the following area:

- Sales of biochar production plant

Geographical Coverage

Open to enquiries from around the UK (priority), and also worldwide.



Woodtek Biochar

Caebardd, Guilsfield

Welshpool

Powys

SY21 9DJ

Contact

Darren Jones

T: 01938 500283

E: darren@woodtekbiochar.com / info@woodtekbiochar.com

www.woodtekbiochar.com

Wye Coppice CIC

Biochar producer and supplier

Coleford, Gloucestershire



We are a producer of charcoal and related by-products (including biochar) using a steel ring kiln.

All of our feedstock comes from sustainably managed UK woodlands. We specialise in coppicing and woodland management for biodiversity and conservation.

Our biochar is a by-product of our locally produced charcoal. Our charcoal is produced from waste material harvested during coppicing and thinning operations.

Wye Coppice biochar is produced in our charcoal kilns using small diameter waste wood from our local, sustainably managed woodlands. Biochar is created by burning wood (or other organic matter) in a low oxygen environment in a process called pyrolysis. By restricting the flow of oxygen, the structure of the wood remains intact while other substances are expelled until the material has been converted to at least 80% carbon.



Product portfolio

- Biochar granules

www.wyecoppice.co.uk

Wye Coppice CIC

Product / Service	Benefit / Unique Selling Point	Web page / YouTube link
Biochar granules	Our biochar is made from UK hardwood mixed coppice using steel ring kilns. Ideal addition to a range of applications including compost, wormery and lime mortar.	www.wyecoppice.co.uk

Biochar-related Accreditations

- Grown in Britain – GIB-CP-WS-5150

Geographical Coverage

Wye Coppice CIC is open to enquiries from around the UK.

Wye Coppice CIC

16 Boxbush Road
Coleford
Gloucestershire
GL16 8DN

Contact

Joseph Weaver
T: 07931 695104
E: info@wyecoppice.co.uk



www.wyecoppice.co.uk



Case Study

Case Study

Urban Biochar and Sustainable Materials Demonstrator

Birmingham, West Midlands

The Energy and Bioproducts Research Institute (EBRI) at Aston University is leading an innovative project to convert tree waste, including fallen and diseased wood from streets and parks around Birmingham, into high value and useful bioproducts such as biochar, and energy such as oils and gases.

This project, called the 'Urban Biochar and Sustainable Materials Demonstrator', is funded by the Local Growth Fund (LGF) from the Greater Birmingham and Solihull Local Enterprise Partnership (GBSLEP), as well as the EU European Regional Development Fund (ERDF).



The main objectives of the Urban Biochar Demonstrator Project



Develop biochar for the benefit of city and town environments and local economies.



Research how biochar can be used as a soil enhancer in urban landscapes.



Conduct scientific modelling to assess the carbon capture merits of biochar.

www.aston.ac.uk/urban-biochar

Urban Biochar and Sustainable Materials Demonstrator



State-of-the-art equipment is in place at a horticultural nursery on the outskirts of Birmingham which will be producing biochar from urban tree waste from around the region.

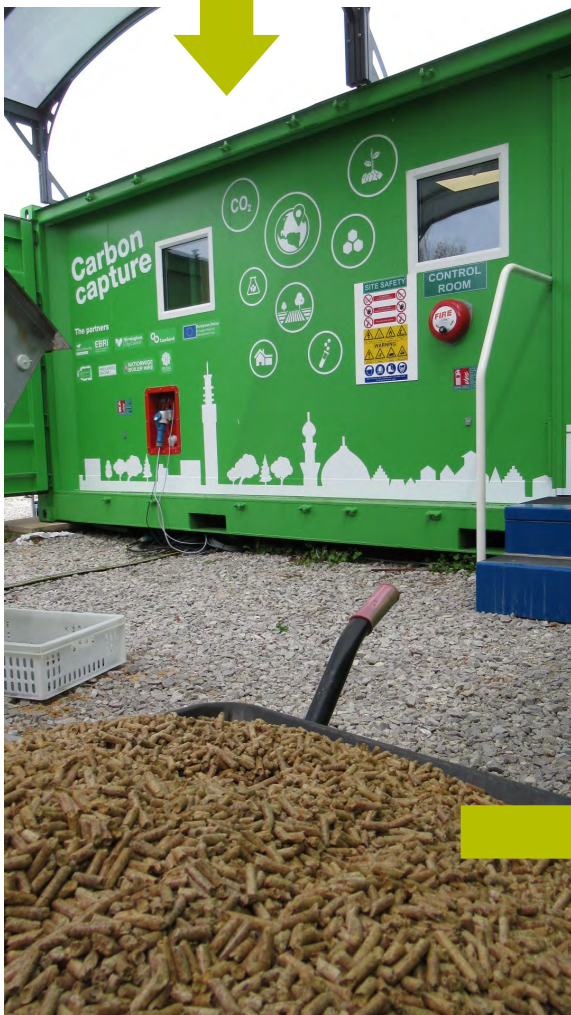
The equipment, installed at Birmingham City Council's Cofton Nursery near the Lickey Hills will be used to process tree waste generated around the city and Solihull area, using a thermal conversion process to produce useful, valuable byproducts including biochar, gas and oil.

The demonstrator unit on display at Cofton consists of two containers:

Process unit: this contains the 'Comkiln™' reactor which heats the biomass material in an oxygen-free environment to produce biochar for carbon capture and use in a wide variety of applications as well as producing bio-oil, biogas or syngas that can be used for heating, cooling or as sources of new chemicals.

The technology on display will also be used to provide heat and cooling to the nearby horticultural polytunnels owned and run by Birmingham City Council to grow a vast array of plants and flowers for the parks and streets of Birmingham, national flower shows (such as Chelsea), and for purchase by the public.

Control room: this provides a facility for further research into biochar and its use as a soil enhancer in urban environments. Scientific modelling work is also being conducted to assess the carbon capture merits of biochar.



Urban Biochar and Sustainable Materials Demonstrator



Project partners

- Aston University (EBRI)
- Birmingham City Council
- Combind Industries Ltd
- Greater Birmingham and Solihull Local Enterprise Partnership
- Nationwide Boiler Hire Ltd

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To discover more about this Urban Biochar project email biochar@aston.ac.uk or call 0121 204 3383.

See short case study film here:
<https://vimeo.com/656490615>



www.aston.ac.uk/urban-biochar



Opportunities with EBRI

Opportunities with EBRI

The Energy and Bioproducts Research Institute (EBRI) at Aston University in central Birmingham is a unique hub of bioenergy research and technology development.

EBRI is home to both academic and industry-facing teams which aim to accelerate the commercial development of emerging renewable energy, bioenergy, bioproducts and supporting technologies.

Our research and technology capabilities include a range of advanced thermal technologies and biological conversion processes. These include gasification, pyrolysis, catalysis, and thermochemical refining of biomass, wastes and plastics to high-quality products and fuels. We also provide valuable expertise in supply chains, techno-economic analysis, transport logistics, analytics, engines and energy systems.

Biochar Hub

EBRI is actively working with partners on the use of biochar to decarbonise cities, in vertical farming applications and clean-up of contaminated land. EBRI can assist your organisation in the following areas:

- Advice and Analysis
- Technical Assessments
- Commercial Opportunities
- Demonstrator Facility
- Research and Development
- Testing

We welcome collaboration opportunities with academia, government bodies and industry from around the world.

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