

TERRA HUMANA LTD.



3R Recycle - Reduce - Reuse
Converting Trash into Cash



<https://www.3Ragrocarbon.com>



***Specialized for carbon refinery and
ABC-BioPhosphate recovery***

Terra Humana Ltd. core profile



Terra Humana Ltd. (since 1989) is a technology intensive company, playing international leading role in the RTD, engineering

and full industrialization of the zero emission pyrolysis technology and it's bio-product developments.

The main specialization is the ABC-BioPhosphate recovery and high quality biochar processing. Originally the company has been an joint venture with ALSTOM subsidy (Lang Machine Works, since 1870) and became independent organization in 2001.

The **core profile** is the ecological recycling and added value reuse of unexploited biomass by specific and advanced high tech 3R pyrolysis (carbon refinery) and integrated biotech means.

Since 2002 Terra Humana is the only one **vendor in the EU who is specialized on high nutrient dense ABC-Bio-Phosphate recovery** from food grade animal bones.

Terra Humana is the original source and inventor of the "3R" Recycle-Reduce-Reuse zero emission advanced pyrolysis technology with revolutionary smart solutions.

The "3R" technology and the ABC-BioPhosphate concept is an unique original solution that has been invented and designed by Edward Someus. Since 2002 the company is successful coordinator and key S&T designer for several large scale EU applied RTD programmes, all in the field of 3R biochar and Phosphorus recovery developments including industrial scale ups in European dimension. **By 2019 the "3R" reached proven demonstrated industrial and commercial scale level.**



The 3R pyrolysis process and nutrient recovery technology opening new technical, economical, environmental, climate protection and business opportunities. Moreover the "3R" provides high value financial and non-financial benefits for all stakeholders.



ABC-BioPhosphate (ABC Animal Bone Char made of food grade animal bones) is a safe organic fertilizer and adsorbent product with as high as >30% P₂O₅ content.

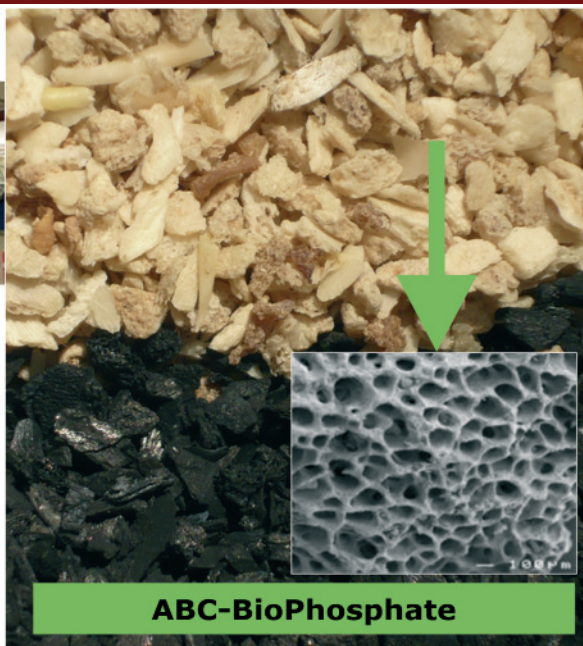
Input: food grade animal bone byproducts.



**Zero emission
pyrolysis
reductive thermal
processing at <850 °C**

Major aspects:

high nutrient density;
high product safety;
full legal compliance;
economical applications.



**"3R" zero emission carbon refinery technology
application map for flexible reductive thermal processing
in any range up to <850°C material core temperature.**

**High temperature reductive thermal processing 450°C -
850°C. Pyrolysis - Carbonization**

**Activated Carbon
ADSORBENTS
Virgin & Regeneration**

**Phosphorus recovery
BIO-PHOSPHATE
ABC Animal Bone Char**

**High C content
BIOCHAR
Agri & Metallurgical**



BIO P HOSPHATE

**Torrefaction
BIO-ENERGY
Torrefied Biomass**

**Brown coal processing
ANTHRACITE
Clean Coal**

**Pyrolysis oil refinery
RENEWABLE ENERGY
Green electric power**

**Low temperature reductive thermal processing
150°C - 450°C.
Torrefaction - Thermal Desorption**

NOTICE:
Other application areas to
be considered case by

**The "3R" Recycle-Reduce-Reuse zero emission pyrolysis
technology and carbon refinery providing high added value
recovery of ABC-BioPhosphate, nutrients and new materials
with different carbon structures for safe and cost efficient
applications in the agriculture & adsorbent sectors.**

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BIOFARM Agri Research Station

