



Converting trash into cash: carbon refinery, recovery and recycling of added value organic Phosphate products
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Equity & industrial investor(s) searched in >€10 million scale
European franchise industrial replication model for
Bio-Phosphate recovery

Conversion of food industrial by-products into high added value, safe and economical organic fertilizers and adsorbents.

<p>3R innovation EVOLUTION for green technology REVOLUTION</p>	<p>Terra Humana Ltd.: biochar, bio-phosphate and BIO-NPK-C recovery industrial engineering, technology/product development and industrial production organization. Established in Hungary since 1989 (alstom subsidy JV). Coordinator and key S&T engineer for European Commission large scale biochar applied research and industrial demonstration projects in ten EU countries since 2002. Biochar EU28 law harmonization and senior policy support provider for the European Commission since 2011. Leading international technology provider and specialized organization for pyrolysis (3R Recycle-Reduce-Reuse zero emission pyrolysis technology - IPR protected original solution). Owner, original inventor & key tech industrial designer: Edward Someus 100%. Technical-legal-economical status clean and clear.</p>
<p>INVEST</p> <p>The 2018 2019 project</p>	<p>Implementation of franchise industrial replication model for Bio-Phosphate recovery:</p> <ul style="list-style-type: none"> ✓ 20,800 t/y throughput capacity. ✓ 12,500 t/y output ABC Animal Bone bio-Char production. ✓ External investment need: CAPEX €9 million, OPEX: €1 million ✓ Sales from year 2: from >€17M/year EXW during 20 years life time. ✓ IRR = 25%. Pay back= 3-4 years. ✓ Industrial installation/operational Authority permits: already available. ✓ ABC application Authority permits: already available (West Hungary). ✓ Market focus: Producer Organizations for fresh fruit and vegetable organic products; adsorbent industry (virgin/regenerated adsorbents) ✓ Marketing and sales: prepared for organic farming/adsorbent sectors. ✓ Full value project insurance and international reinsurance made.
<p>Results so far</p>	<p>Over €20 million liquid cash finance and direct cost invested for project development 2002-2018, majority from Terra Humana Ltd. and in minor scale additional European Commission co-finance made since 2002. Successfully development completed and proven demonstrated, full industrialization made. Status: post development-prior commercialization.</p>
<p>Future</p>	<p>€100M/y revenue targeted by 2025. >10 units of bio-phosphate projects franchised <2025 in the EU, Australia, USA and Canada.</p>



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The industry, market and competitive landscape that the company operates in:

Concentrated bio-phosphate recovery from food grade animal bones and utilization of the output products in the rapidly growing market sectors of organic/low input farming and adsorber water treatment sectors.

Phosphorus is strategic key element of the food crop and animal production in agriculture. Phosphorus cannot be substituted. There are no any other materials with high P₂O₅ content (>30%) known than apatite minerals from phosphate rocks (but this is contaminated with Cadmium and Uranium) or bone char (that is a natural and pure apatite substance). The low heavy metal content phosphate rock resources are already exhausted on global level. In 2008 significant 700% price increase happened in the phosphate sector and in 2018-2020 additional extreme high price increase to be expected. **The phosphate is recognized by the EU as critical raw material.**

Outline that gives the business the leading edge: The EU is >95% is importing the mineral phosphate, most MS 100%, mineral phosphate containing Cadmium and Uranium toxic elements. The new EU Fertilizers Regulation revision law harmonization (2018) provides strict safety criteria for fertilizers (including very low Cadmium content), for which most traditional mineral fertilizers cannot meet under market competitive conditions. The new EU concept is to utilize the 2Billion t/y unexploited biomass resources in the EU. Terra Humana Ltd. is the only one vendor in the EU who is specialized on high nutrient dense bio-phosphate recovery since 2002.

The geographic area covered by the operations of the business is the EU; later on Australia, Japan and USA as well. There are two main markets: **ORGANIC FARMING**, most importantly through Producer Organisations (that is our distribution hub) for fresh vegetable and fruit productions, and **ADSORBENT INDUSTRY**: supply of specific adsorbents to drinking/industrial water treatment sector, incl. spent ABC regeneration.

Investment Criteria and offering to qualified investor(s):

- a) Solid stability, reliability and overall strength of the team working management team with business-economy-market-user demand oriented attitude and clear understanding (which is a critically important point that will be expanded by business expansion with joining international professional teams as needed);
- b) Beneficial 25% IRR on the investment as of conservative calculation, with rapidly targeted revenue >€15M/year before 2020; and €100M/year by 2025 - 2030;
- c) Wide range of customer diversification in the three major markets (EU, AU, USA);
- d) No barriers to entry for qualified, reliable and team working investor(s) with proper references.

This project is awarded **Seal of Excellence quality label** from the European Commission. This quality label is a guarantee for investors to find high standard projects from European SMEs with strong feasibility and capacity of development.

http://www.3ragrocarbon.com/sites/default/files/attachments/seal_of_excellence_a_bc_bio-phosphate.pdf