



Advanced Resilient Technology

Transforming Waste Into Resources



18 November 2021

**Proven Technologies for
Climate Repair and Climate Restoration**



ART Delivers Local Solutions Globally

Triple Bottom Line Benefits

- Environmental Restoration
- Social Renewal
- Financial Rewards

Four Innovative Technologies

- Patented, tested and proven
- Improving land, water and air quality
- Locally deployable global solutions

Infrastructure Improvements

- Projects transform local problems into profitable solutions
- Partners eliminate expensive hauling of waste streams
- Systems produce renewed raw ingredients for beneficial products



Triple Bottom Line

Renewing Resources • Revitalizing Regions • Infusing Economies



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Pyrolytic Carbon Capture & Storage

Alpha I System

- Transportable
- Daisy Chain Operation
- US Manufacturing since 2010



Alpha II System

- Multiple Rotary Kilns
- Converts Organic/Inorganic Waste
- Over 100 Deployed since 1989



Alpha III System

- 120 MTs Input 30 MT Char Output
- Research Center Developed
- Testing Facility in Italy



Scaled Down Systems • Meet Industrial Demand • Distributed Globally

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High Demand for Biochar

- Sequesters carbon
- Filters water
- Removes toxins and heavy metals
- Enhances and restores soil
- Reduces agricultural water usage
- Refines into graphene for electronic devices
- Converts into activated carbon



ART's business platform serves both scope and scale

High Value of Biochar

- Customized according to customer needs to serve specific purposes
- High carbon char is now approved for animal feed in Europe
- Graphene-like char sells for .04¢ per ounce
- Health products call their active ingredient as activated charcoal
- Used biochar can be “recharged” and reused for new purposes



Biochar production is far below demand



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Biochar's Benefits for the Food Chain

- Increases soil fertility and stability
- Reduces the need for fertilizer
- Improves harvest volume and quality
- Reduces the need for antibiotics and hormones
- Reduces mortality in livestock and aquaculture



Biochar amends soil and improves animal health

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The Benefits of Biochar for Forestry

- Virgin wood makes clean, high-carbon biochar
- Eliminates fire hazards and revitalizes forests
- Improves drought resistance by lessening runoff
- ART systems treat biomass locally
- Makes otherwise unusable trees a useful resource



Biochar production positively impacts forest management



The Benefits of Biochar in Cement

- Lowers CO₂ emissions 20%+,
- Improves durability against fire and freeze
- Reduces weight and increases strength
- Prevents mold and mildew
- Sequesters carbon



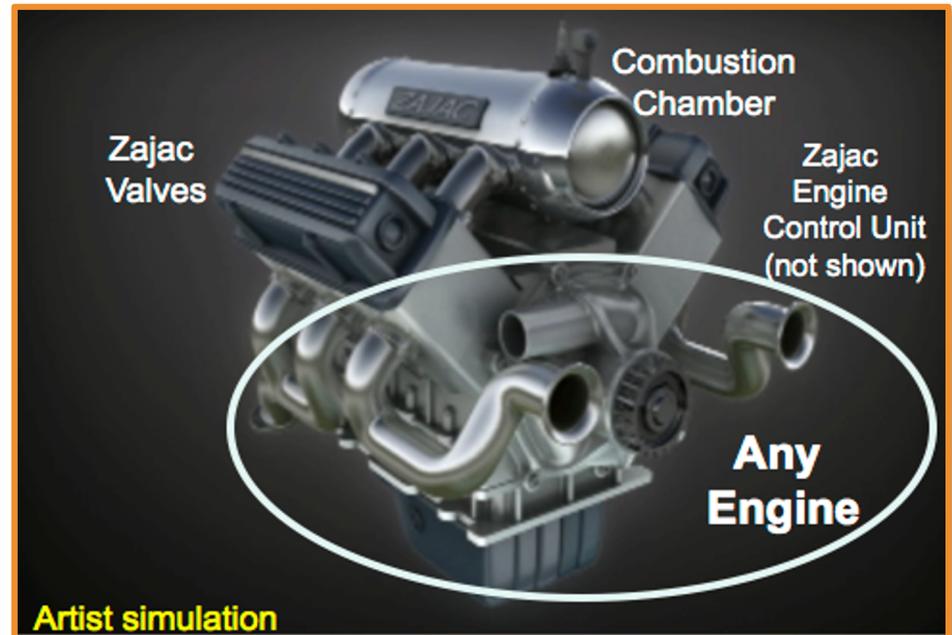
Improving the sustainability of the dominant construction material



Ultra-low Emissions, Total Combustion Engine

Zajac Engine

- Components Fit Existing Engines
- 50% Better Economy
- 50% Less CO₂
- Near nil NO_X emissions
- Runs on Any Fuel
- Operates at 1425° C
- Maintains Constant
 1. Temperature
 2. Torque
 3. Compression
- Secured by 23 Patents

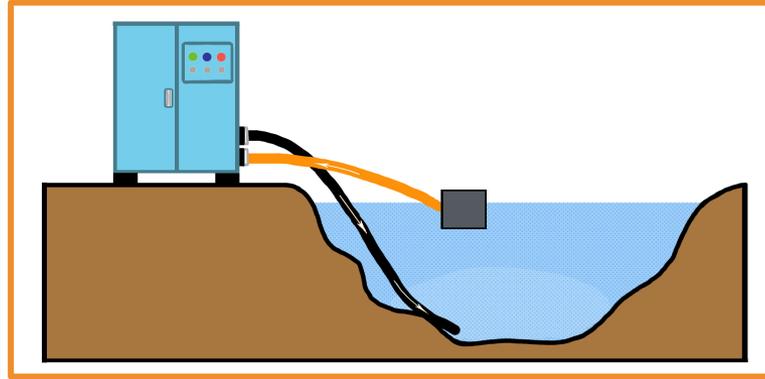


Hot Wall Plasma Reactor Burns Fuel Completely and is Virtually Pollution Free



Ultra-fine Nano Bubble Generator

- Eliminates algae, pollutants, odors and sludge
- Delivers high surface area oxygen with greater than 90% efficiency
- Feeds living microorganisms, aquatic plants, zooplankton, fish, etc.
- Operates with low electrical consumption
- ISO/TC-281 – Fine Bubble Technology



Natural Water Restoration Using Oxygen to Support Aquatic Life



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Enviro-Protect Anti-microbial Inhibitor

- USA EPA registration number: 87583-3-88915
- Inhibits growth of micro-organisms that cause odors and illnesses
- Eliminates chemical phenols, alcohol, and heavy metals
- Water-based protective coating electrostatically breaks cell walls
- Used in final stage filtration media for potable water



Safe, Sanitary Nano-technology Water Recovery

Climate Restoration, Climate Repair



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