ClearValue®

The Earth is mostly water.
Our bodies are mostly water.
ClearValue® Innovations improve
our water, our air, our health and our world.

ClearValue© Executive Summary – Agriculture

Answering Critical Market Needs – Humanity is challenged for pure water, safe nutritious food and clean energy. **ClearValue©** innovations are instrumental to solving these challenges. **ClearValue©** Innovations are designed to provide significant value-in-use, thereby, obtaining success with via traditional business, marketing and sales techniques.

Providing Value via Benefits – The **ClearValue© H_2 Energy Economy©** brings a value-add to the clean energy marketplace, generating clean electricity ("e^-") at < $.03 per kWhr (kilo-watt-hour - effectively competing with coal, natural gas, solar and wind), hydrogen ("H_2") at < $3/kilogram ("kg"), pure water (yes, convert oil into energy and pure water ("H_2O")), organic nutrients (animal and fish protein supplement), and clean transportation engines (only emit pure H_2O) that are very powerful combusting pure H_2 and pure oxygen ("O_2" - HyOx), the power of NASA rockets. **HyOx©** engines have 3 to 10 times the power (horsepower and torque) of hydrocarbon and are 2 are 3 times as efficient (fuel energy to wheel energy. After having so much more power, **HyOx©** engines operate at a 20 to 50 % savings and last 3 times longer (no carbon to wear engine parts).

Hydrocarbon combustion affects our climate and causes health issues. There is significant need for means to control hydrocarbon emissions and produce energy free of Carbon Dioxide ("CO_2"), as well as oxides of nitrogen ("NyOx") and sulfur ("SO_X"). However, hydrocarbon fuels are the largest worldwide industry and employer. The **ClearValue© H_2 Energy Economy©** comprises Sunlight as its first raw material and CH_4 second; therefore, whether the CH_4 is from organic waste, a well or cracked oil, current industries and jobs are improved, while providing clean energy.

Nutrients – Organic nutrients are a byproduct of the **ClearValue© H_2 Energy Economy©**. All life needs nutrients.

Human, animal and plant waste contain nutrients that end up in wastewaters and landfills. Nutrients provide a safe and clean means to naturally recycle nutrients, as God and nature intended in a value-added way that benefits humanity and all of God's Creatures. Nutrients is planned in combination with the **ClearValue© H_2 Energy Economy©**.

Water - Pure H_2O is a byproduct of the **ClearValue© H_2 Energy Economy©**, where, hydrocarbons are converted into H_2, e^-, H_2O and organic nutrients. All life needs pure H_2O. Water is planned in combination with the **ClearValue©H_2 Energy Economy©**.

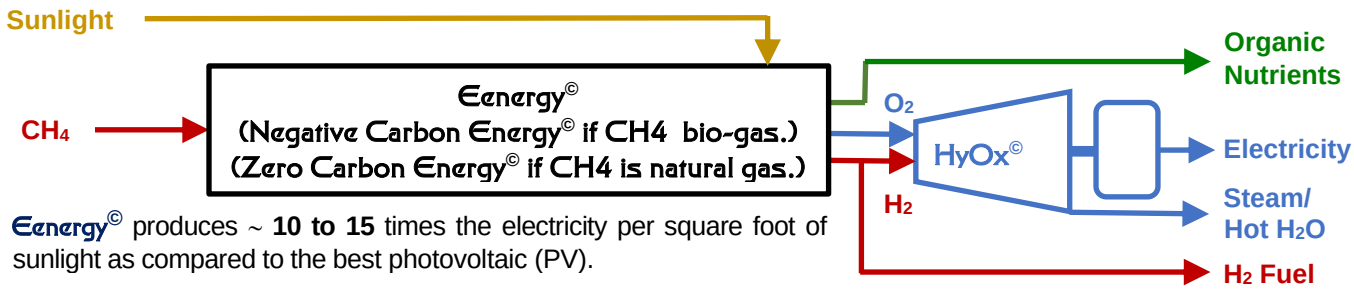
ClearValue Team – The **ClearValue© H_2 Energy Economy©** has been created by a team of 12 scientists and engineers, most of which are Ph.D.'s and all of which individually have over 30 years of industrial experience. Key executives and team members are: the President, CEO, Founder and primary inventor Mr. Richard Haase (U of MO Ch.E./Lamar U (Harvard) MBA), who prior to **ClearValue©**, has significant technology and business development/ management experience with DuPont, GE and Exxon Chemical, along with NASA technology transfer. The interim CFO is Mr. Josh Tabin (BBA Miami/MBA U Texas). The R&D Director, Dr. Fadhil Salih (PhD Physics & PHD Biology - Manchester), has extensive biological experience. Director of Architecture and Urban Planning, Dr. Juan Blanco Ruiz (BS Arch. Princeton/M. Arch. Berkley/MSHP Columbia U/M. Phil. Columbia/Ph.D. Urban Planning Columbia), has significant urban planning/architecture experience. Mr. Stan Moorehead, Product Development Manager, has over 35 years of project management experience with NASA and the DOD.

Patent Summary - The **ClearValue©** team has diligently innovated proprietary, viable and value-added solutions in H_2O purification, safe nutrient recycling and clean sustainable H_2 energy. The Team has been very successful to develop solutions in H_2O purification, macro and micro nutrient recycling, manufacture of H_2O purification

chemistries, noxious odor control, H_2 engines, algal sequestration/conversion of point source emissions, power generation and H_2 production, along with, H_2 management in Space Travel (NASA). Technologies owns over 120 nationally issued and/or pending patents worldwide. All can be resourced at uspto.gov and wipo.int.

HyOx© is an innovative H_2 combustion engine that: 1) is a surprising and significant improvement upon combustion engines known today; where, significant infrastructure exists; 2) has improved performance and reduces operating cost to less than that of hydrocarbon, 2 to 4 times the efficiency and power of hydrocarbon engines, stores H_2 at low temperature and pressure; and 3) is a variant of the familiar combustion engine, while, increasing engine life 3 times. **HyOx©** turbines are 65 to 70% efficient, where in strong contrast CH_4 turbines are 35 %.

Eenergy© - Negative/Zero Carbon Energy© cleanly converts CH_4 (bio-gas, natural gas or cracked oil) into H_2 at < \$2/pound and e^- at < \$0.03/kWhr, along with pure H_2O and organic nutrients.



Eenergy© produces ~ **10 to 15** times the electricity per square foot of sunlight as compared to the best photovoltaic (PV).

Agriculture - Eenergy© generates 8 to 15 MegaWatts ("MW") per acre of light collection, depending on location (10 to 15 times that of photovoltaic ("PV")), along with the byproducts of pure water and organic nutrients. Importantly, most crops grow best in indirect Sunlight and livestock need protection from the Sun. All while, our farms have acres and acres of available Sunlight. Incorporating **Eenergy©** and 100 acres of light collection, a farm can generate 50 to 100 MW of power, therein producing 420 to 840 million ("M") W-hr of electricity annually; where for each \$0.01 of margin per kW-hr, a farm can thereby annually generate \$4.2 to \$8.4 M per 100 acres. Assuming a grid margin of \$0.05/kW-hr, a farm can then generate annually \$21 to \$42 M per 100 acres of light collection with **Eenergy©**. In 2018, humanity generated worldwide about 30 Trillion kW-hr. Incorporating clean **Eenergy©** on our farms, we can then meet humanity's global power needs on only 40 to 80 M acres of farm land, while facilitating and supporting food production. A strong contrast to ethanol fuels, which drive up both the price of gasoline and food, while not helping climate change.

HyOx© engines are a significant asset to agriculture. A modern farm needs large equipment: tractors, combines, etc; where, maintenance and fuel are significant operating costs. First, as **HyOx©** engines operate on the combustion of pure H_2 and pure O_2, there is no carbon to wear engine parts; therefore, **HyOx©** engines have a useful life that is three times that of hydrocarbon. And, reduced maintenance cost is more important than just the actual maintenance cost, it is further operating time, which is a support to the bottom line in both increased equipment usage and reduced equipment investment. Second, **HyOx©** internal combustion engines are 45 to 50 % efficient, a strong contrast to hydrocarbon that are only 15 to 20 %. This improved engine efficiency means reduced fuel cost. The fuel operating cost of a **HyOx©** engine is 20 to 40 % less than its diesel counterpart. Third, **HyOx©** engines have much more power and torque, as **HyOx©** engines essentially operate on rocket fuel, pure H_2 and pure O_2. A 3 Liter V-6 **HyOx©** engine can easily produce 1000 HP and foot-pound of torque.