

“Climate Change is the defining issue of our time and we are at a defining moment...”

-- The United Nations Climate Change Committee

Phase I of 3 -- Agricultural soil exchange to create Agricultural Production Systems and Permanent Agricultural Land (PAL)

Clean wood and vegetative materials are often termed waste, but if they have a useful end-purpose, then by Federal definition they are not waste. These materials represent 20-30% of global waste, according to the World Bank and the US EPA. So, it follows that finding a cost effective and environmentally sound use for these materials would not only be productive, but would preserve or help eliminate the need for landfill space and shift these materials from being part of the problem to a major part of a 10x solution to climate change.

As organic and biodegradable materials, these residuals are not a threat to the environment. The issue, however, is that there is so much more of these materials than can be used with current methods that up to now they have been a problem aesthetically.

Chipping and grinding may seem like a good idea, but the industry has far more of these materials than it can use or sell for land application, energy conversion, or other uses. Also, the chipping and grinding process requires the combustion of fossil fuels (mostly diesel), contributing greatly to the carbon footprint of the operation. Furthermore, by not having a use or sale for the chips and mulch, these materials are stockpiled into large compressed piles that pose a serious fire and smoke hazard through spontaneous combustion. Mulch and chip fires sometimes smolder for months at great cost to the operation, the community, and the environment.

These materials also accumulate in great volumes from forests and forestry, in agriculture from tree trimmings and crops, and from urban landscaping.

Traditionally, the open burning of these materials has been the most cost-effective solution and, therefore, the preferred solution worldwide. This is very problematic. According to the Intergovernmental Panel on Climate Change (IPCC) of the UN and many other environmental organizations, the smoke or so called “Black carbon” along with the resulting CO² is one of the greatest

contributors to climate change. In fact, open burning of clean wood and vegetative materials results in more than 35% of all “Black Carbon” in the world.

Agricultural Fuels now comes forth with what is a 10x solution to climate change. On August 20, 2020, Agricultural Fuels Corp. was granted a patent (available on our website, agfuels.biz) from the US patent office to create an “Agricultural Production System” using these clean woody and vegetative materials.

This process involves a “soil exchange” on agricultural lands whereby inorganic sands and soils are removed and replaced with clean wood and vegetative materials. These materials are then compacted with equipment and a layer of topsoil completes the system. The result is massive carbon sequestration, with the added benefit of agricultural land being returned to its original grade with improved function as grazing land or cropland, all while creating Permanent Agricultural Land (or PAL).

Agricultural farms and cattle ranches thereby receive revenue from the export of inorganic sands and soils to construction projects. These agricultural operations also receive revenue from the import of clean wood and vegetative materials. These new sources of revenue can be vital for the ongoing success of respective agricultural operations. These operations are essential to the production of food and livestock, especially in light of the effects of the COVID-19 pandemic that is predicted to continue through the next year or more.

In addition to the improved functionality of the land as mentioned above, these organic materials help to retain nitrate and fertilizer runoff, preserve landfill space, and cost effectively mitigate climate change up 1000 times more than any existing methods.

For Example: One tree will sequester 48 pounds of CO² per year. One ton of dry carbon equals two tons of wet carbon. One ton of dry carbon equals 3.67 tons of CO². A farm facility using this methodology on average will sequester 100 tons of wet carbon per day. Therefore, one facility sequesters the equivalent of planting 2,792,999 trees per day!

There is no other more effective or cost-effective way to mitigate climate change. This method of soil sequestration can be readily replicated all over the world and unquestionably has the potential to be the new “Moonshot”, “Earthshot”, or “10X plan” for mitigating climate change. Its elegance and simplicity are obvious. It is fully verifiable and easily quantifiable. The 2018 U.S. Farm Bill calls for soil sequestration of carbon. This method has a U.S. patent. This method is supported by research and a

white paper from the University of Maryland and the environmental engineers at HSA Golden in Orlando, FL. Any environmental engineer will be able to oversee the veracity of the offsets.

Agricultural Fuels Corp has already sequestered 100s of thousands of tons of CO² using this method. Agricultural Fuels invites and welcomes individual and corporate participation, either for the creation or purchase of carbon offsets. The revenue generated will be used to vastly expand this plan up to global scale. Participants contributing to the creation of a ton of CO² offset will pay \$50 USD and receive a certificate of creation of the offset and one ounce of fine silver (Ag). The retail price of a one-ton CO² offset will be \$50 USD, with negotiable discounts for bulk quantities. The purchaser of the offset will receive a certificate of ownership of whatever quantity of carbon offset purchased. Our website has a means of measuring individual and corporate carbon footprints. Creating or purchasing carbon offsets will reduce an individual or corporation's carbon footprint.



ABOVE: SOIL EXCHANGE PROJECT – PASTURE RESTORATION AND IMPROVEMENT – REPLANTING GRASS



ABOVE: PASTURE GRASS GROWING – SOIL EXCHANGE PROGRAM

Phase 2 of 3 – A media push for Consumer Packaging to be made clean burning & biodegradable from renewable materials and scalable Waste-To-Energy pilot facilities are implemented

The second phase of this plan involves Waste-to-Energy. Since consumer packaging is one of the largest components of the waste stream, for this phase to work there needs to be a massive shift in the way consumer packaging is produced. Consumer packaging will need to be made from clean burning, biodegradable, carbon neutral or non-fossil fuel, renewable materials. A massive media push to educate people as to the importance of this change is envisioned.

When it is said solar, wind, and electrification are the answer to climate change the “elephant in the room” of waste is missed. This problem is answered with scalable waste to energy facilities with the components of our trash properly engineered for clean, carbon neutral combustion. This will eliminate or vastly reduce the need for landfills and coal or fossil fuel power plants. These are two huge

contributors to climate change. This step will include pilot demonstration facilities like the one planned by Agricultural Fuels using an AirBurners PGFirebox to show a proof of concept operation.

“The time for seeking global solutions is running out.

We can find suitable solutions only if we act together and in agreement.”

Pope Francis, 266th Catholic Pope

Phase 3 of 3 – Legislative Mandates for PAL, scalable Waste-To-Energy, Certified Clean Burning or Biodegradable Consumer Packaging from Non-Fossil Fuel Materials, and final rules for e-RIN renewable transportation fuel incentives.

Through a progressive media campaign and education process, local and state governments will begin supporting (not opposing) new agricultural methods using woody and vegetative materials (formerly considered waste), specifically in the creation of Agricultural Production Systems and Permanent Agricultural Land (PAL).

A certification process will be implemented that mandates and certifies all packaging to be clean-burning, carbon neutral and /or biodegradable. If this methodology were utilized nationally and quickly globally, climate change could be mitigated at an unprecedented rate together with the many other environmental benefits previously mentioned.

RINs (Renewable Identification Numbers) are serial numbers assigned to a batch of biofuel used in the transportation sector. These numbers track the production, use, and trading of these fuels as required by the United States Environmental Protection Agency’s Renewable Fuel Standard (RFS). RINs are assigned to renewable fuels like biodiesel and allow these fuels profitability in a fossil fuel market.

E-RINs are serial numbers that will be assigned to kilowatts produced for the transportation sector from renewable energy. The legislative mandates for this type of RIN are in place. The specific rules, however, have not been written by the EPA. The completion of this rulemaking will greatly help facilitate, through increased profitability, this new and essential industry.

As our society evolves into the 21st century, we must lobby and pursue legislative change to the current way we make and use energy. Together, with our other renewable carbon neutral sources of energy, we must make our waste a strong, environmentally safe, and carbon neutral component of energy production.

“Climate change is a huge challenge, but it can be brought in line if governments, businesses and individuals work together.”

--- Sir Richard Branson, Founder of Virgin Group