CATCHING CARBON CAMPUS

A place for Carbon Removal, Carbon Negative Energy Production, and for showcasing techniques promoting local resilience and global renewal.

Because climate can’t wait.
A PLACE FROM WASTE TO VALUE

Catching Carbon Campus brings state of the art, sustainable and scalable carbon removal technologies, organic composting and carbon negative energy production to the Hudson Valley, NY with the goal of being clean, circular and carbon negative by turning the region’s carbon containing “waste” into energy and materials for permanent carbon storage.

To promote carbon removal as a way to fight climate change Catching Carbon Campus will be open to the public showcasing its technology, process and products. Visitors will have access to our production facilities, R&D center, lounge, café and store. By closing the material cycle and showcasing it to the world, Catching Carbon Campus is unique and first of its kind in the US/world.

Catching Carbon Campus is a triple bottom line (people/planet/profit) enterprise and built on the idea of community vitality and resilience. In addition to valorizing waste streams and providing independent power production (IPPs), CCC pledges to revitalize its site into a beautiful, state of the art, clean energy and negative carbon park and bring many other benefits to the local economy and people.
CARBONIZATION OF “WASTE” DRIVES SUSTAINABILITY AND ENABLES CIRCULARITY.

Today more than ever, companies and municipalities are faced with rising waste disposal costs and legislation aimed at reducing waste while promoting recycling.

Carbon-containing municipal, industrial and agricultural “waste” can be valorized into premium biochar free of any toxins and contaminants and carbon negative energy. This way, a residual or problematic material is turned into high-quality, climate-protecting material and energy.

Biochar enables permanent storage of the CO2 bound in the residual materials. We thus not only close material cycles, but also create nature-based carbon sinks.

A smart solution for the end-of-life challenges of materials:
Closing the loop with added value and climate protection in one!
CCC ACTIVITIES, OPPORTUNITIES

Consider Catching Carbon Campus a “Mall or Complex” mainly for businesses and activities that focus on the latest carbon removal and renewable, carbon negative energy production.

One of the qualitative differences to other production facilities is that we are open to the public and strive to include our community through creating space and opportunity for other activities and business to join the park like renting office spaces for professionals, art spaces, some retail, restaurants and public sitting and walking spaces.

CCC will offer plenty of local economic involvement as well as offer jobs.
THE CATCHING CARBON CAMPUS LOCATION

The CCC will be built on the site of the Solaqua Industrial Complex also known as the Columbia Box Board Mill in Chatham, New York. The 220 acre site running along Stony Kill Creek features over 100,000 sq ft in 10 contiguous industrial buildings and two free standing commercial buildings on 20 acres and 200 acres of tranquil scenic beauty with forests, meadows and open spaces. The property is situated along train tracks and the property has acquired permits to install a train platform and stop which will allow for the transport and receipt of large amounts of material.

Buildings are in various physical conditions from fair, needing moderate renovation to unsafe, and in need for removal and demolition. About 35%-50% (some is currently rented and used) can and will be occupied immediately while we reimagine, redesign and redevelop CCC. Production of Biochar, composting and other activity can begin immediately.

Over a period of 3-5 years Catching Carbon Campus will be emerge from the current site as a clean, carbon negative state of the art commercial and industrial park. The revitalization process is planned in 4 phases. Reimagine, redesign and redevelopment phase, and three consecutive construction phases. Timeline 3-5 years.
The above illustration is for orientation only and does not in any way or form reflect the newly reimagined Catching Carbon Campus. It is a “renovated version” of the current site.
SUSTAINABLE REDEVELOPMENT AND ECO HOUSING

Our mission at CCC is to fully reimagine, redesign and redevelop the existing Solaqua industrial site into a carbon negative state of the art commercial park. In this process we set the following goals: to feature cutting edge carbon negative tech and renewable energy, to integrate biophilic principles were possible, a love for and connections with nature and to integrate and serve our local community in different ways.

Chatham is in need of housing and there are discussions around collaborating with the Town of Chatham to build a small EcoVillage.

EcoVillage at Chatham would be built to create positive solutions to the social, environmental and economic crisis we face today and to promote ways of meeting human needs for shelter, food, energy, livelihood and social connectedness that are aligned with the long-term health and viability of Earth and all its inhabitants.
Carbonization which includes pyrolysis is a process that has been known for many centuries. Biochar, Bio-Oil and Syngas are obtained by pyrolysis from carbon containing biomass. Biomass captures CO2 from the atmosphere during its growth. Carbon (C) is stored in plant material while oxygen is released into the atmosphere. A large part of the C can be captured during pyrolysis in a gas, a liquid and a solid phase. While providing climate-neutral energy using the gas phase (Syngas) and the liquid phase (Bio-Oil), the material use of the solid phase (Biochar) allows for carbon capture and storage, thus leading to a net climate positive process.

Biochar is a material with exceptional properties and high carbon content of up to 90% it binds carbon material reliably, long-term and without any negative side effects. Because Biochar is valorized waste it closes the material cycle which is critical for reducing our carbon footprint and lighten our waste streams.

The benefits of biochar application in agriculture, land and forest management is substantial. Biochar can improve soils, limit the emission of greenhouse gases and create carbon sinks. Biochar has proven to enhance the quality of construction materials such as sheetrock, concrete or asphalt, it is widely used as a fodder additive for animal health as for cleansing of air and water, it helps regulating humidity, absorbs toxins and fosters beneficial microbial life. It can and should be locally sourced from residual material, limiting transportation costs and emissions and it replaces scarce resources while improving the quality of the end-products.

This alone makes it a highly valuable resource, but probably its main benefit is just about to gain political importance:

In fact, the sequestration has already begun due to the activities of thousands of farmers worldwide, communal services, providers of building materials and many more.

**Four Main Biochar Application Categories**

1. additive in silage, animal feed, litter, for manure treatment
2. soil additive to store nutrients, water and large amounts of CO2
3. filling material in production like cement, asphalt, etc.
4. building material additive in sheetrock, cement board, etc.
CCC will produce around 2100 tons of Biochar annually from two or three different feedstocks. Our highest quality Biochar will be used for compost soil amendment to reduce nitrogen loss, increase microbial activity, shorten the time until maturity and reduce odor. The ameliorated compost will be sold locally and online. The remaining Biochar will be sold to agricultural, municipal and industrial customers. Use cases for biochar are in step with the rapidly expanding market. Our showcase park will be opening new pathways and possibilities for biochar uses and open new markets in agriculture and industry. We will also collect carbon removal credits for permanently removing carbon through biochar and compost.

CCC will use German made Pyreg PX units which are clean, highly efficient, extremely robust and modularly configurable for multiple feedstocks that create high quality biochar. The waste to value process produces heat which in turn can be diverted for drying feedstock or other industrial activities in need of heat or turned into electricity that can be used on site or fed into a grid.

Austrian made Syncraft on the other hand is conceived as a power plant that can produce up to 4MwH carbon negative electricity annually (the equivalent of 40,000 solar panels) from a waste wood feedstock which is thermo-chemically transformed into a gaseous fuel and then converted into electricity through gas engines.

As both systems carbonize the input material at temperatures of around 750°C, organic-based pollutants (such as solvents and microplastics) are practically eliminated, burnt off and mineral pollutants are filtered, to ensure they cannot re-enter the environment.
At the recent US biochar conference, the biochar industry was unanimous in need for more storytelling about biochar and its positive impacts. Given that Tree Media uses film to inspire change on the ground, Tree Media has taken up this task and has researched and developed a feature film on the many layered effects of biochar once it has been fully understood and properly implemented.

The Biochar Effect will be a 90 minute curated high impact documentary feature film created by Tree Media.

See separate film presentation.
CCC will make tons of quality compost ameliorated by biochar. A rich organic humus that holds billions of micro and macro nutrients including the three major nutrient elements that are in all synthetic compound fertilizers: nitrogen, phosphorus, and potassium.

Biochar Compost can therefore drastically improve soil fertility and creation on small and large fields, provide nutrients and retain water, while limiting the emission of greenhouse gases, binding contaminants, reducing odors and creating carbon sinks. Biodynamic composting is a faster and superior way of producing compost. By energizing it using a set of preparations the nutrient content of the compost is enhanced and the decomposition process accelerated.

The future of agriculture can be carbon negative and free of chemical fertilizers. With our compost we take a step in that directions and focus on creating the conditions for optimal soil, plant, and animal health, providing balanced nutrition and supporting healthy immunity. When farmers, gardeners and land managers incorporate a robust diversity of plants and animals and create habitat for natural predators, pests and diseases have few places to thrive and important carbon sinks are created.
SOIL REMEDIATION & WATER FILTRATION

Biochar can be used as a soil amendment to improve soil quality, sequester carbon in soils, and protect surface and groundwater quality. Biochar application however can also remediate and immobilizing heavy metals and organic pollutants from contaminated soils. Especially in combination with compost or other known remediation approaches biochar provides better remediation results than compost or the other approaches alone. Biochar properties can be adjusted to insure their properties will provide the targeted remediation. Catching Carbon Campus will support the r&d of “designer” biochars with specific properties important for specific soil remediation. The goal is to showcase in the scientific, industrial and remediation communities engineered biochar products that meet specific remediation needs.

Similar to soil remediation Biochar can capture and filter pollutants out of water, including metals and is being discovered a highly promising and low cost filter material for anaerobic biofilters (AnBF). In many case studies Biochar performed significantly better than the typical slow sand filtration (SSF), especially since it can be produced locally from agricultural waste and biomass with recycling opportunities for energy production or soil amelioration after its use as filter material for wastewater treatment.
One of the amazing aspects of the Solaqua Industrial and Commercial Site is that it sits along the meandering Stony Kill river on the site of the former century-old Columbia Box Board paper mill – an innovative manufacturer of recycled papers that used hydro power as a form of energy. Solar was then added by the new owners to strive for becoming a site powered by renewable energy.

CCC will continue the tradition of innovative usage of the sites solar and hydro capabilities and install and showcase the latest in eco friendly technology.
Reducing emissions is a key step to mitigating climate change. But it’s not enough, according to the UN. To avoid catastrophic future warming, we must also remove carbon dioxide from the air. The world’s biggest carbon removal factory recently opened in Iceland to do just that. CCC will showcase a functional DAC unit on site for the public to see.

CCC will also perform and promote Enhanced Weathering. The weathering of rocks permanently binds CO$_2$ from ambient air and thus removes it from the atmosphere. These process dissolves products called carbonates which either remain locked in the soil, or wash away via rivers to end up in the seas, where they help improve ocean alkalinity. This counteracts the acidification of the oceans - a troubling side effect of climate change. From there, animals like corals use the carbonate to build their skeletons eventually forming sediments on the seafloor. The Earth’s natural carbon removal is slow but permanent as the CO$_2$ remains locked into geologic formations like the Dolomites in the Italian Alps. The earth naturally removes 1Gt a year of CO$_2$ this way.

Enhanced Weathering means to speed up Earth’s carbon removal mechanism by spreading finely ground silicate rock powder like basalt or dunite along with biochar on all agricultural fields. One ton of rock dust can remove up to 1 ton of CO$_2$ depending on rock type and other parameters. Given the massive size of farmland on our planet, enhanced weathering has the potential to capture and remove megatons and gigatons of CO$_2$ a year.

Farmers can reap the benefits by selling CO$_2$ removal credits along with their produce, giving them extra income while at the same time fighting climate change. But there are more benefits like reduced input cost and increased crop yields because of improved soil pH and nutrient addition delivered by the rock (which will partly replace fertilizer and lime).
Seeing is believing, but feeling is the truth.

One of CCC’s missions is to promote and advance action and solutions on the ground by connecting people to the carbon removal industry, its people, processes and technologies. Connecting people as a way to get career opportunities. Because climate can’t wait and the planet and people need help, one of the core missions of CCC is to not only to research and install the latest in productive carbon capture and renewable energy technology but to showcase the working models to the public to see.

Doubters, naysayers, climate deniers, or over protective are welcome to see, hear and touch the things we do

Especially when it comes to new technology policy makers and the public are misinformed. A visit to CCC and a detailed tour of tech and process has the power to change minds and hearts and help promote these new technologies and drive them into large scale industrial processes and legislature.
Catching Carbon Campus is all about human productivity and ingenuity which is expressed in many different ways. CCC will integrate the production of goods and services, visual art, culinary art, music into the park. We want you to come, see, stay a little and leave empowered and determined to help the cause. We will therefore include a cafe to replenish and a store filled with everything that has to do with Carbon Removal and renewable Energy. We will also sell bags of pure Biochar, Biochar emended Compost and many other products.
Our mission at Tree Media is to provide the space for a global community to build a new, sustainable and just world. We will do this through stories (films), discussions and actions with the intent to protect humankind and the future of our earth.

Catching Carbon Campus is our commitment to action on the ground.
TEAM
Mathew Schmid
CCC CEO
Lelia Conners
CCC
Hannes Juninger
Carbon Future
Donal Collins
Town of Chatham, NY
Tony Stone
Basilica Hudson
Melissa Auf der Maur
Basilica Hudson

PARTNERS & ADVISORS
More to come
More to come
More to come
More to come

TECH
PYREG
NET ZERO TECHNOLOGY
SYNCRAGT®
Climate Positive Solutions.
Standard Biocarbon

More to come
To create a world we all want to live in. Thank you for your consideration.

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