

# **Biochar**

## **Elmsdale Lumber Co.**

Public Information Session presented to:  
The Municipality of East Hants

Presented by: Elmsdale Lumber Company &  
RDA Atlantic Inc.

# Biochar =

Created through high temperature pyrolysis of organic materials



Made from organic materials – in our case wood chips from the sawmill wood operation

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Feedstock is roasted at high temperatures in a low oxygen environment (pyrolysis) to produce a stable carbon product

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A product with a high carbon content that looks a lot like crushed charcoal

# Biochar Product

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Biochar is an innovative and sustainable **carbon negative** product when used as a method of storage through soil application or incorporating into building or other materials.

**Carbon Capture, Carbon Sequestration or Carbon Negative** are some of the titles used to categorize biochar.



# Objective: Reduce Carbon Emissions + Upcycle “waste”/residuals

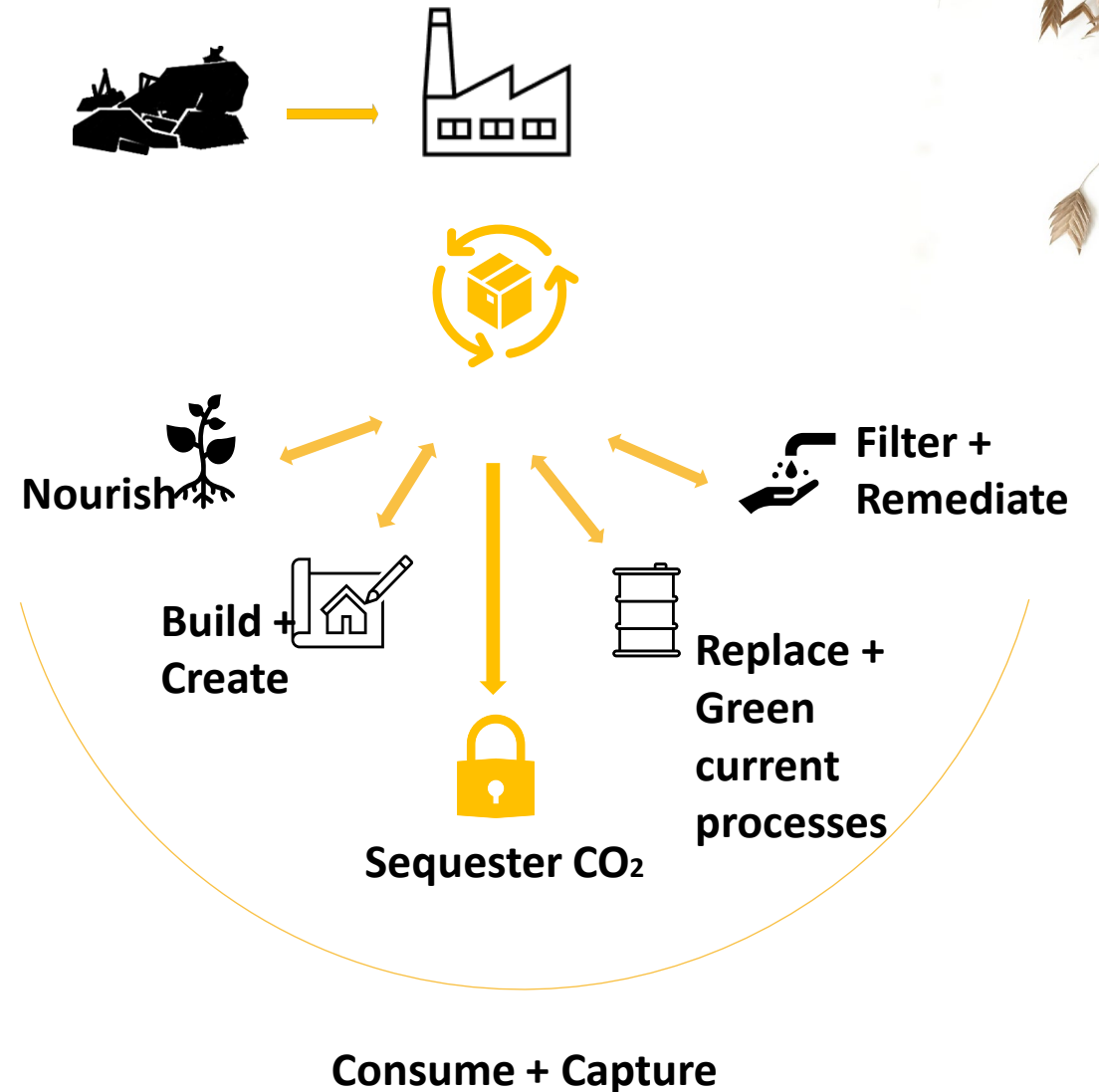
## Reduce Carbon Emissions

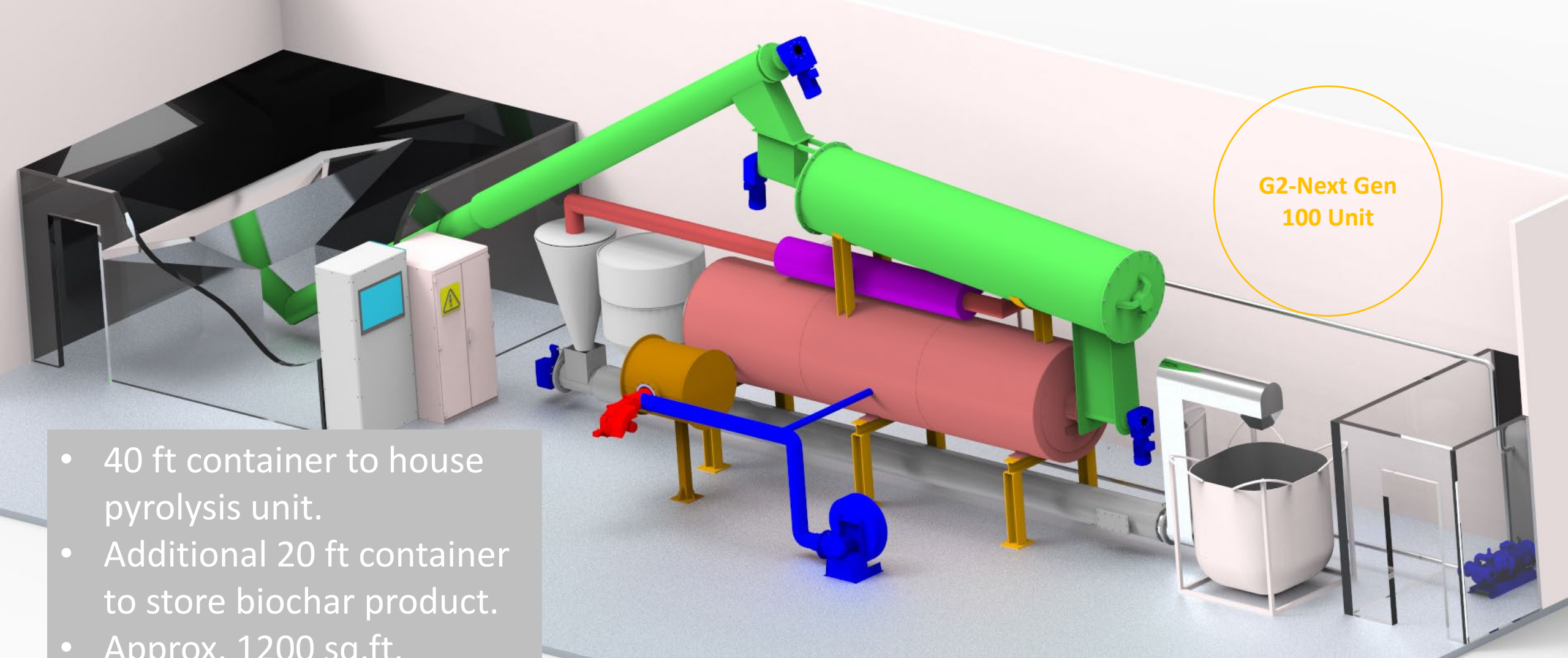
- Storing carbon in the soil or working it into the construction of other materials, **locks carbon away, preventing it from entering the atmosphere.**
- **Adapting the carbon cycle to capture and sequester carbon and preventing the release of CO2 into the atmosphere** during the decomposition of biomass.
- When used in the soil proven to sequester carbon at the same time, **accelerates plant growth.**
- The unique structure of biochar **attracts and holds on to moisture, nutrients and fertilizers.**
- Potential to be worked into other materials for **greater carbon capture.**



# Objective: Reduce Carbon Emissions + **Upcycle “waste”/ residuals**

- **Modify how we manage material processing.**  
How we view waste streams and linear production.
- **Upcycle biomass residuals** to be converted into biochar, creating a carbon storing, carbon negative, renewable raw material. Supporting and reinforcing a more circular economy.





- 40 ft container to house pyrolysis unit.
- Additional 20 ft container to store biochar product.
- Approx. 1200 sq.ft.

Technology -Containerized Unit: 100 kg/hr.

# What is the process?

- Woodchips are loaded on a conveyor



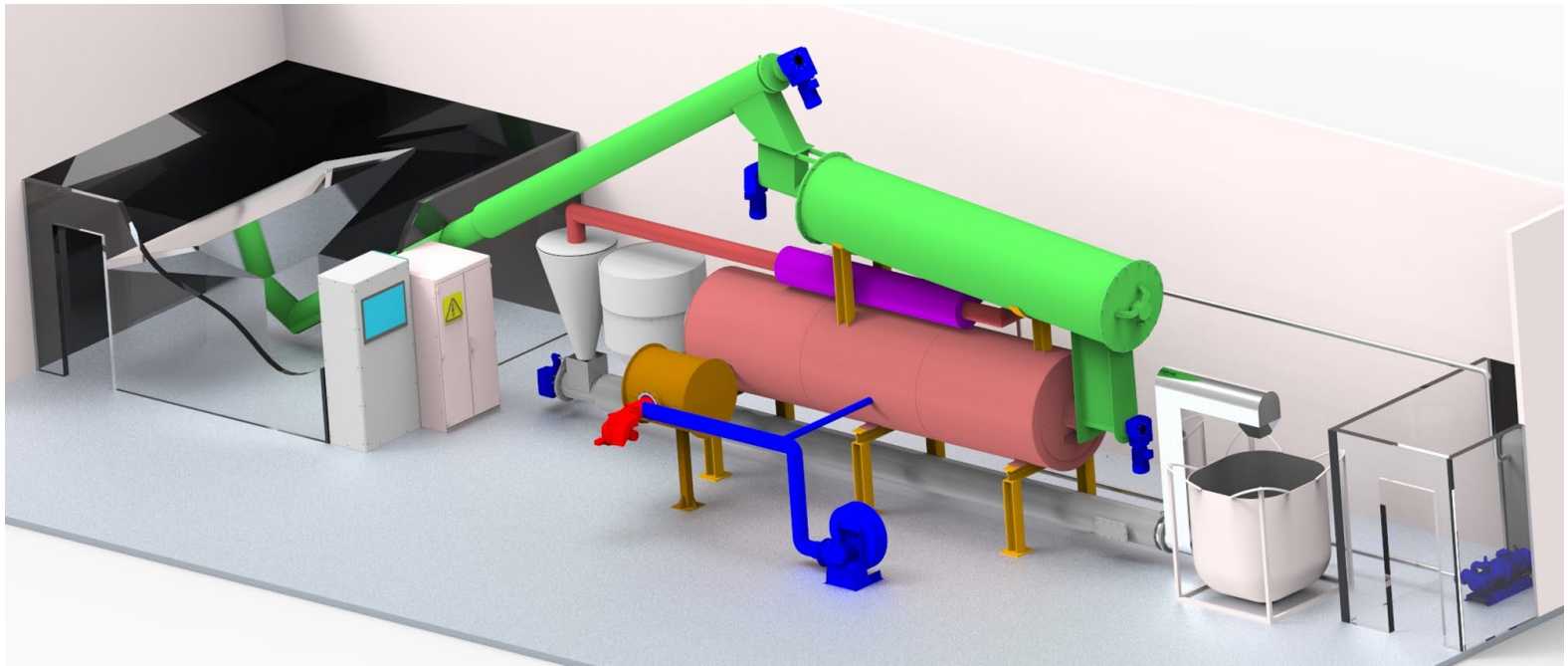
- Fed into the roasting unit



- Roasted at temperatures ranging from about 300 to 500 c for approx. 15 minutes



- Cooled and Packaged



# Containerized Unit



Truck traffic

For every 5.5 truckloads of wood fiber, one truckload of biochar is produced, 1:5.5 ratio



Noise

Limited sound produced through small-scale unit



Smell

Limited smell – similar to what is produced in a typical sawmill environment



Emissions

Pyrolysis emissions will be handled through an engineered filtration system