Presentation to City of Prince George

March 8, 2021

Sustane

We waste so much - particularly in the developed world

→ 7.7 billion people

→ 2 – 3 billion tonnes of solid waste to landfills every year

→ > 50% of this is biogenic (paper, tissue, cardboard, food…)

→ Biomass degrades to methane in a landfill - 28 x more potent GHG than CO_2

→ We think we do an excellent job if we recycle 50%...

→ The other 50% is lost forever with dire environmental consequences

If not us – then who?

About Sustane

→ Canadian based clean technology group, based in Nova Scotia

→ Developed a disruptive new recycling process for municipal waste (MSW)

- ✓ Delivers up to 90% diversion
- ✓ Recycles organics

→ Sustane builds and operates at net saving to landfill costs

→ Can reduce GHG emissions globally by > 10%

→ Strong government support at all levels – esp. municipal

→ Proof of concept achieved - Commercial plant now online in Nova Scotia following several years of development, piloting and operations in Spain

→ Pipeline of projects, across North America and globally

→ Working with Canfor/Arbios on integrating our technology with the Licella technology

- ✓ Successful trials (in Australia)
- ✓ Project planning underway

Process and products

- → **NOT incineration**
- → **NOT gasification**
- → Process makes clean fuel products and recyclable materials
- → Processes are low impact, thermo-mechanical in nature (relatively low temperatures, pressures)

Landfill destined municipal solid waste (MSW)
(also prefer organics separation)

Water

Sustane Thermal Conditioning & Separation

25%

Pyrolysis

Glass/Aggregate = 10%

Recovered metals = 4 %

Recycled plastics = 7%

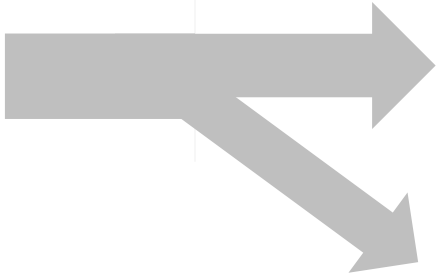
Fuel and/or plastic feedstock = 150 liters/tonne MSW

Recovered biomass =50%

Sustane

Sustane's breakthrough… Separation→ Purity → VALUE

Sustane's clean biomass and diesel



- Clean biomass fuel
- High efficiency combustion (> 2x)
- High value

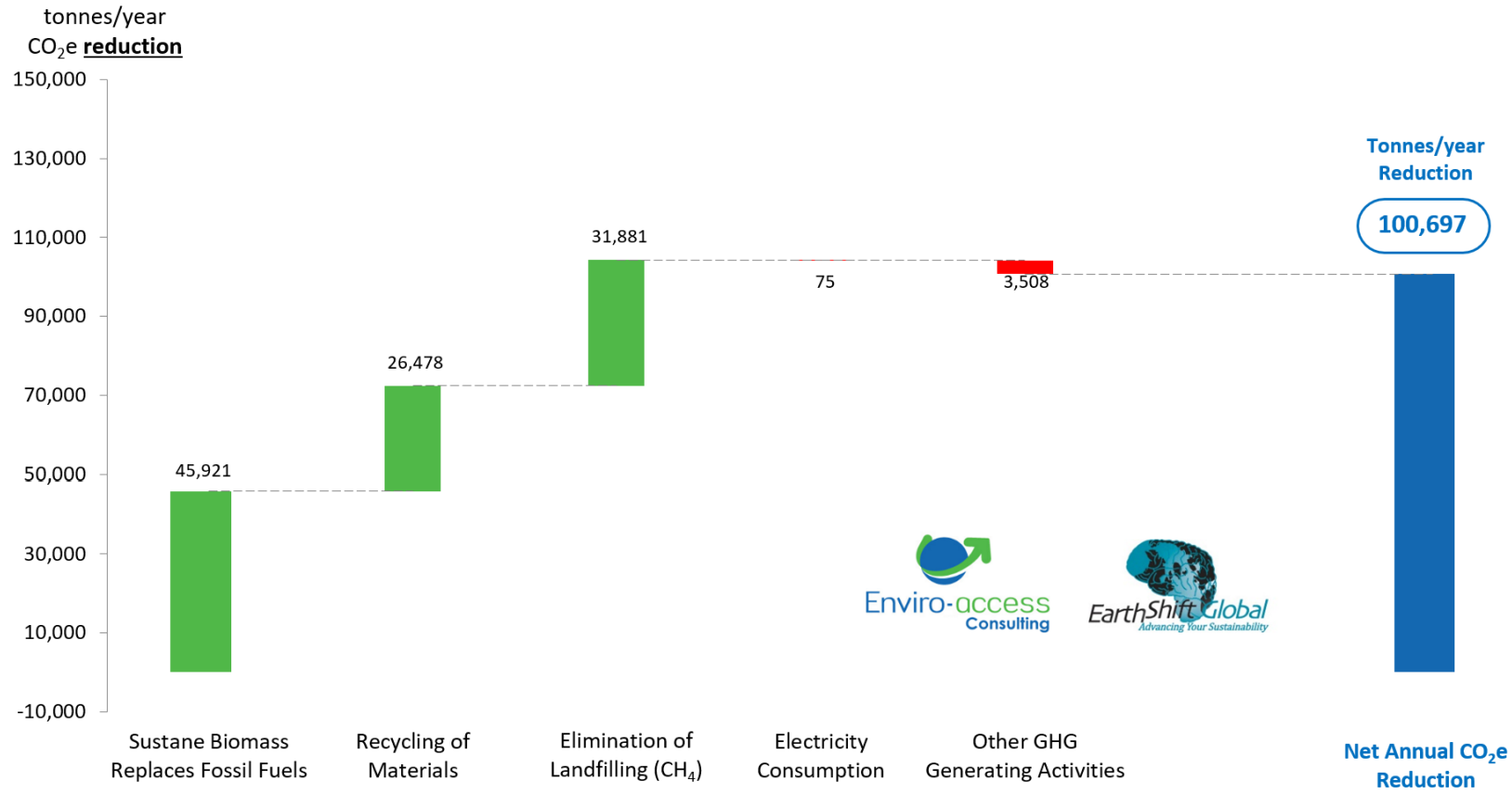
Previous best biomass fuel from MSW

- Dirty fuel
- Low efficiency combustion
- Low value

Sustane

Delivers massive CO_2e reduction (BC case)

Lifecycle Greenhouse Gas - Net Impact (Sustane vs Landfilling)



Equivalent cars permanently removed from roadways = 22,377

Location:	British Columbia	% Methane Capture:	75%
Tonnes/yr MSW:	70,000	Fuel Replaced:	Fuel Oil
		Organics Source Separated?	NO

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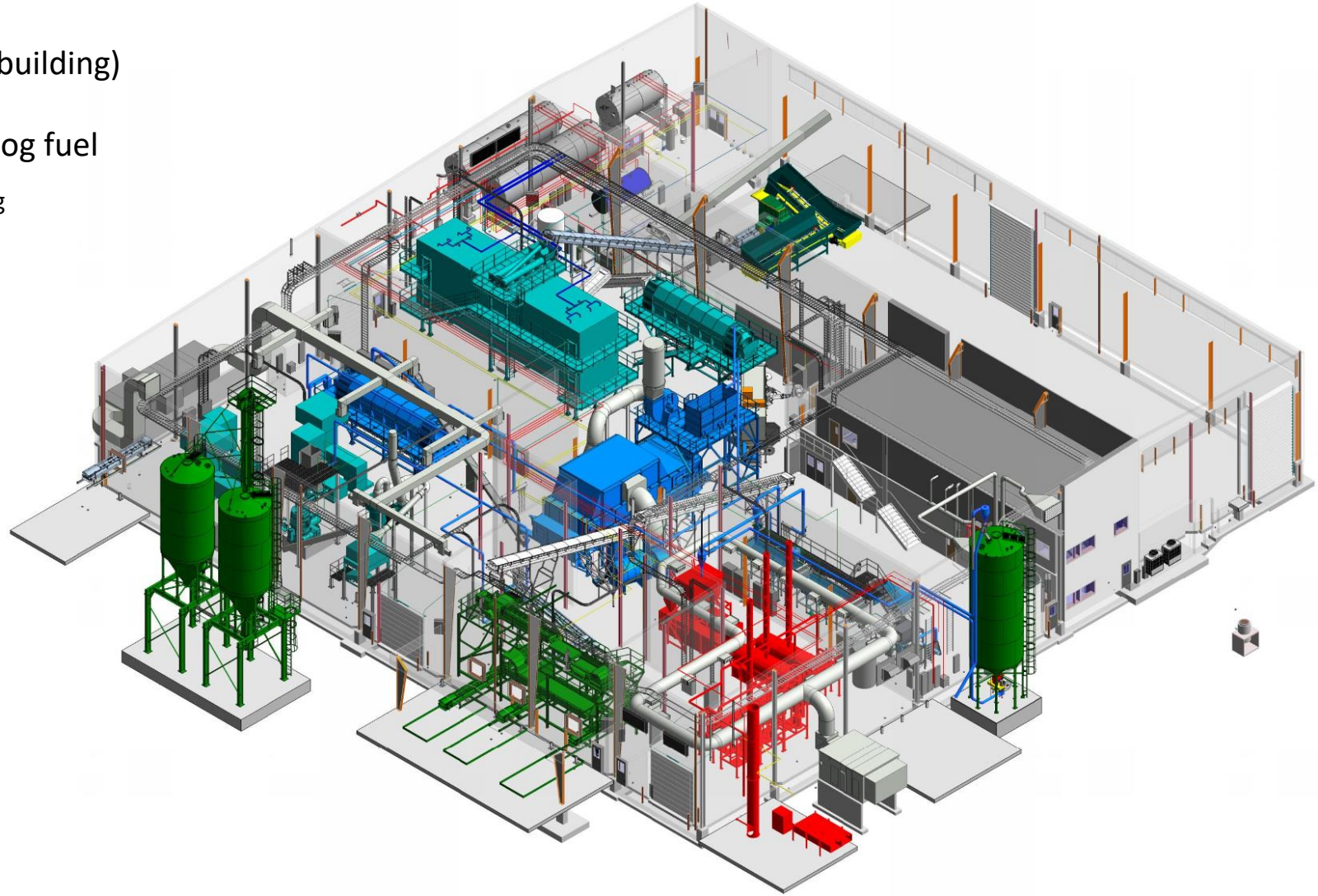
Potential PG facility

- → Similar footprint to Chester (60m x 70m building)
- → Includes cleaning, mixing and drying of hog fuel
  - ✓ Scalping screen, metals removal, drying, cleaning
- → 25 employees
- → 24 hour operation
  - ✓ 70,000 tonnes/year MSW
  - ✓ 27,000 ODT/year Hog
  - ✓ 50,000 ODT/yr to Arbios
- → Soft footprint
  - ✓ ~ 30m3 of water per day
  - ✓ No liquid effluent (septic tank at Chester)
  - ✓ Electrical use ~ 1 MW
  - ✓ Very low air emissions (no particulates)
- → Conveyor for biomass to Arbios facility



Flowsheet - potential PG facility

MSW

Hog fuel

Pulp Mill

Steam

Steam

Sustane Plant

Combined biomass

Arbios Plant

Advanced biofuel

Recyclables

Diesel and/or Naphtha

Sustane

ARBIOS™
BIOTECH

Arbios Biotech

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ARBIOS™
BIOTECH

About the Project

To collaboratively provide a circular economy solution for recovered resource and post-consumer biomass, to enable the production of high-value, sustainable carbon-based products, including advanced biofuels.

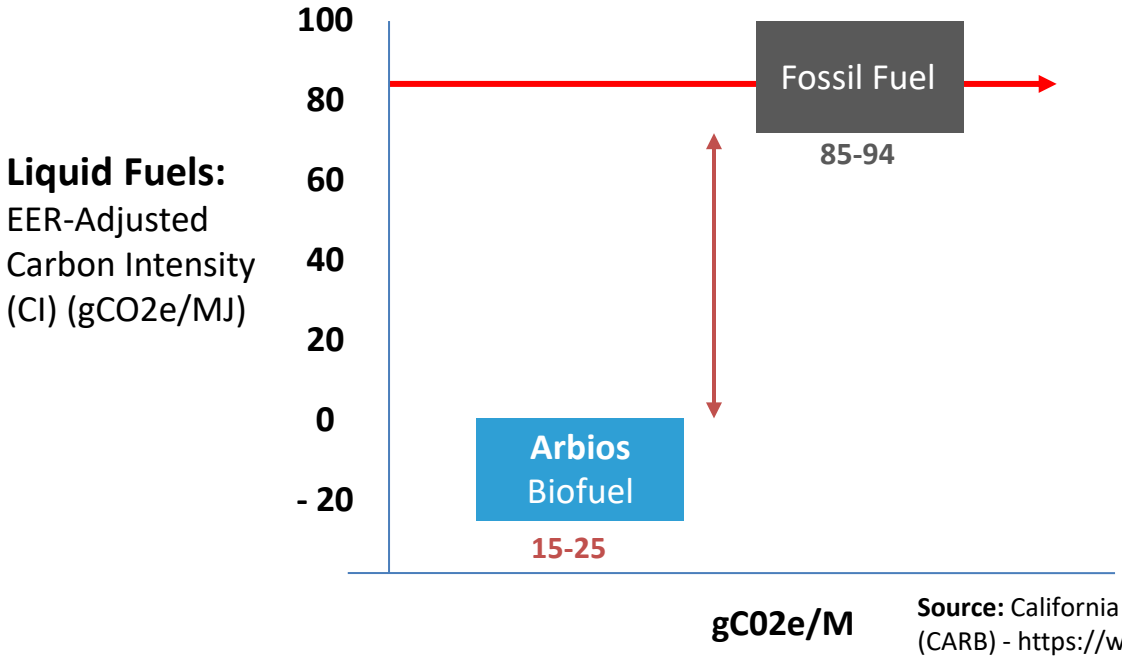
Arbios is a joint venture between Licella and Canfor.

Licella™ CANFOR CANFOR

CANFOR PULP

The Arbios Value Proposition

- The Licella CAT-HTR™ process is proprietary **technology that uses water under high pressure and temperature to produce high-value, low carbon advanced biofuel**
- The technology can process a **wide range of feedstocks** including wood-based residues and Sustane's biogenic pellets
- **The carbon intensity of Arbios biofuel is 70 to 80% less** than for fossil-fuel based gasoline and diesel



Source: California Air Resources Board (CARB) - https://ww2.arb.ca.gov

Canfor & Canfor Pulp's Investment in Arbios

Aligned with Canfor's Sustainability and Innovation Focus

- Carbon-rich resource in form of wood biomass helps solve for global problem
- Unique opportunity to play meaningful role in bridging to low-carbon future and support the circular economy

Opportunity to Grow Bio-Economy Sector

- Using leading technology in hydrothermal conversion of biomass into high-value biofuel

BC Government Supporting Low Carbon Innovation

Arbios is well aligned with BC and Prince George 2030 GHG emission reduction targets

- BC targeting GHG emission reductions of 6.0 Mt CO2 equivalent for transportation sector
  - 25% reduction in carbon intensity from current levels
- Contributes significantly to the City of Prince George's Climate Action Plan GHG reduction targets

Clean BC Targets

The industry, buildings and transportation initiatives combine to reduce BC's emissions by 18.9 Mt, achieving 75% of our 2030 climate targets

Industry
8.4 $MtC0_2e$

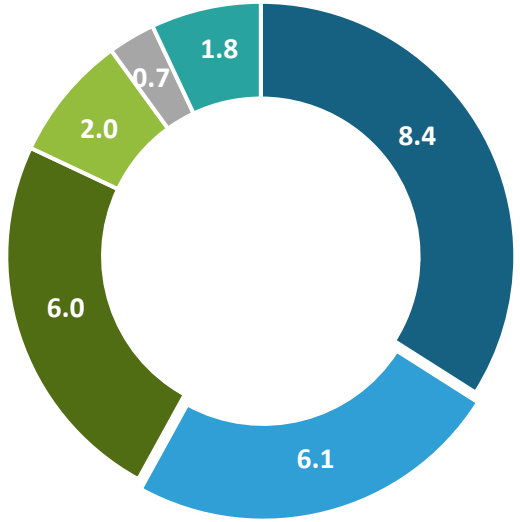
Future Reductions
6.1 $MtC0_2e$

Transportation
6.0 MtC02e

Building & Communities
2.0 $MtC0_2e$

Waste
0.7 $MtC0_2e$

Carbon Pricing
1.8 $MtC0_2e$



Government of British Columbia, 2018, CleanBC: Our nature, our power, our future (https://cleanbc.gov.bc.ca/)

ARBIOS BIOTECH

Creating Value in the Community

- Prince George has been selected as the preferred site for the first Arbios plant
- It will create meaningful employment – estimating approx. 150 direct and 600 indirect jobs to operate the first plant at full capacity, plus construction employment
- Engagement with local Indigenous Nations is underway
- Planning broader community engagement in coming months
- Anticipate making a final investment decision regarding first phase of multi-phased plant later this year, with target completion date before end of 2022


Questions?