

Saanich's 'Footprint' and what we can do about it

Saanich Talks

May 7th, 2018

Presented by:

Dr. Jennie Moore

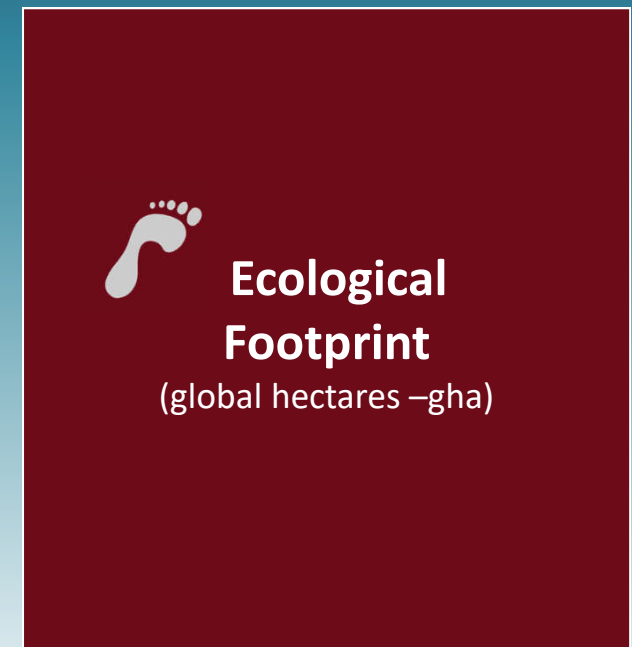
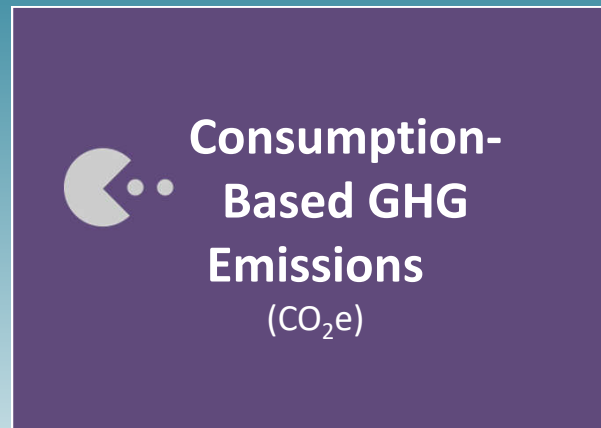
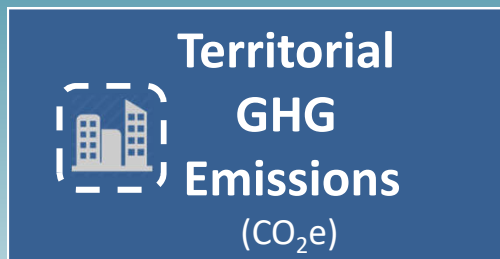
Associate Dean, BCIT School of Construction and the Environment

Overview

1. Background ~ Types of Inventories
2. Saanich's "Consumption-Based Emissions"
3. How to Tackle These Emissions

Background

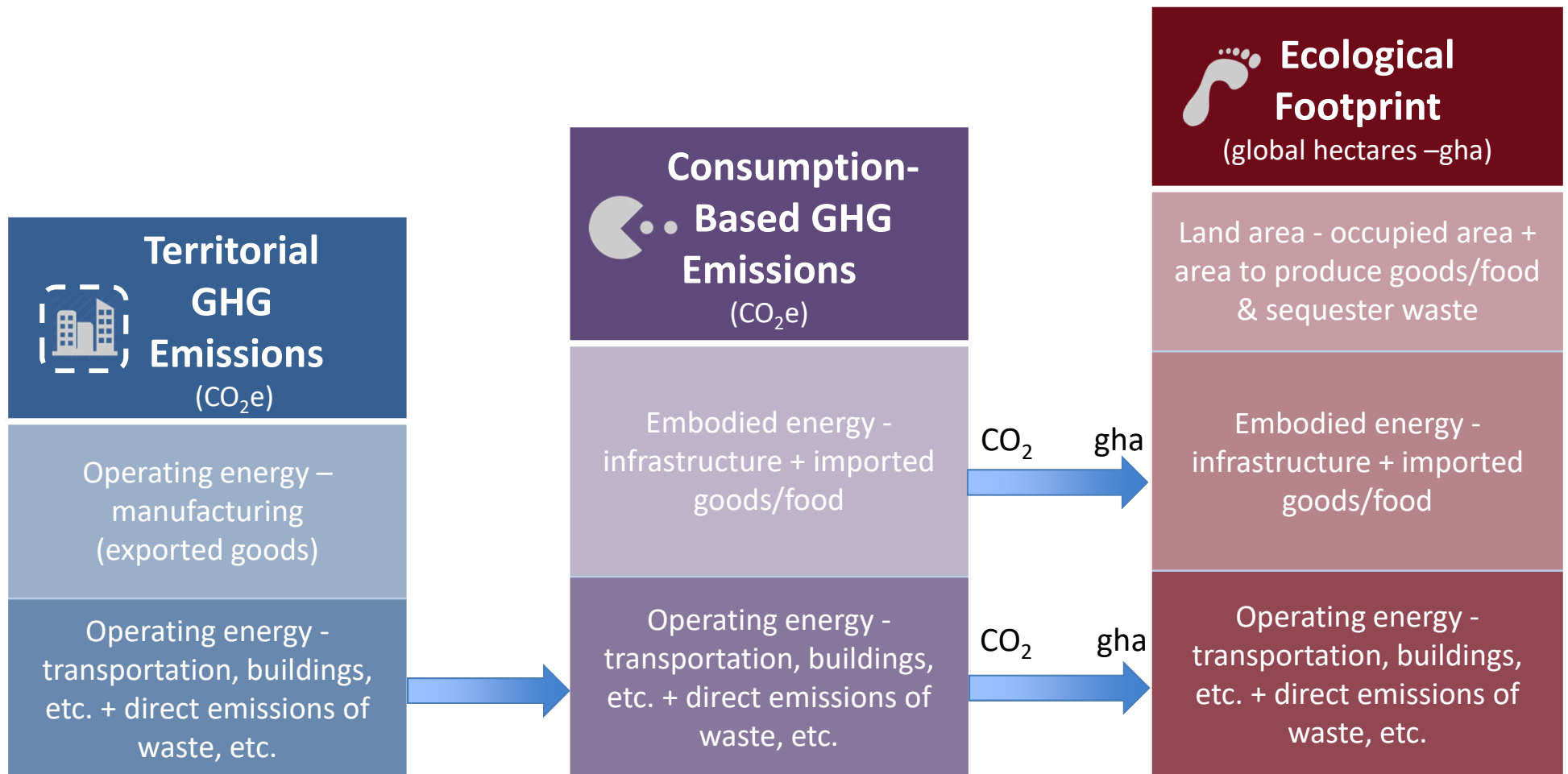
Complementary Inventories



- Saanich now has these complementary inventories
- Pilot project co-led by BCIT and Cora Hallsworth Consulting

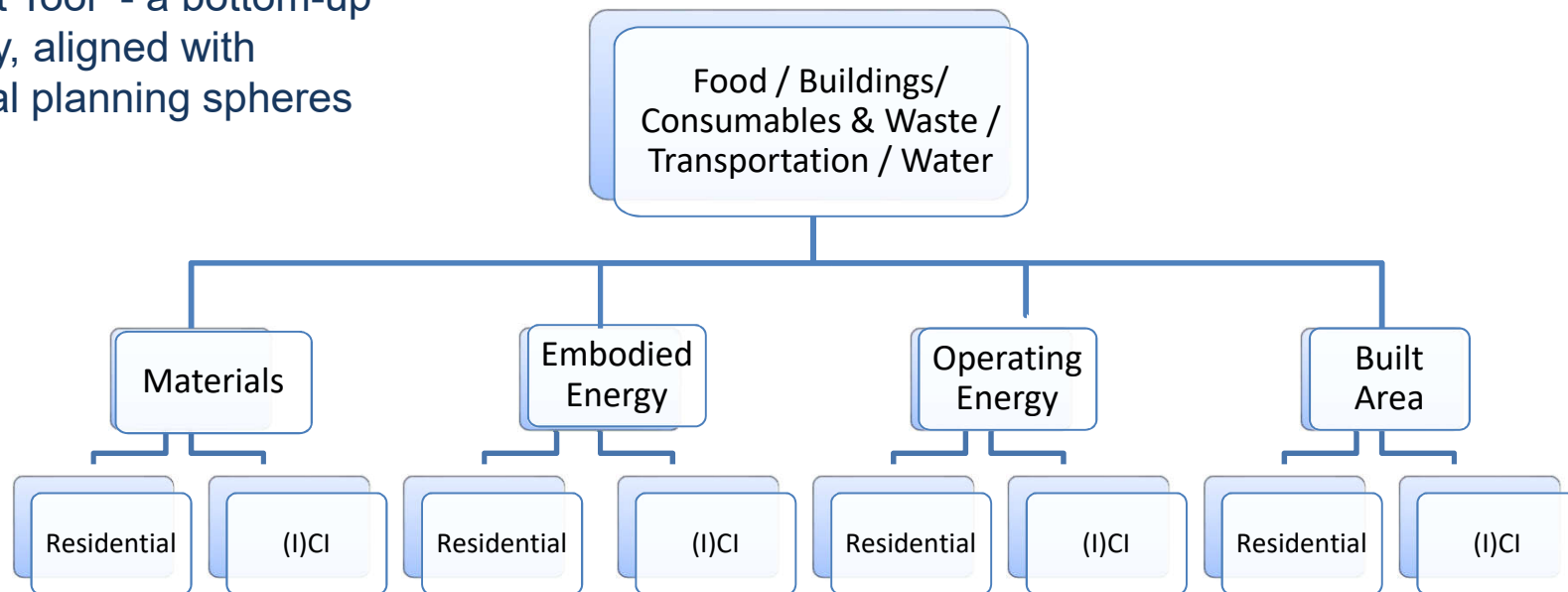


Complementary Inventories




How the Inventory is Built

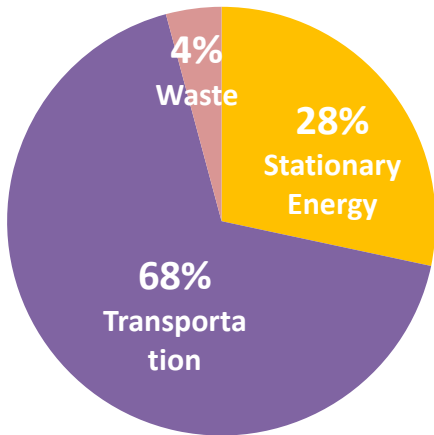
We used the ecoCity Footprint Tool - a bottom-up inventory, aligned with municipal planning spheres



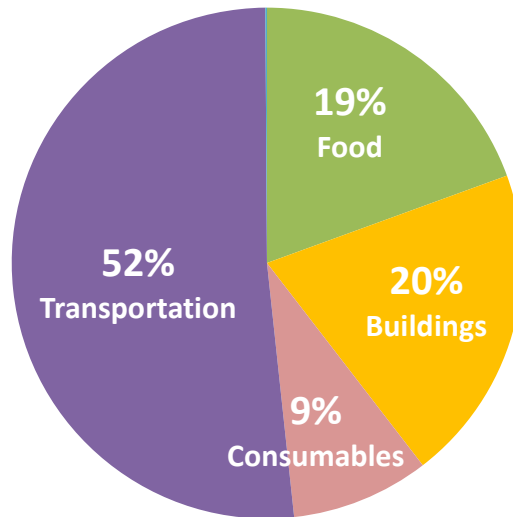
Saanich's 'Footprint'

Results - Overview

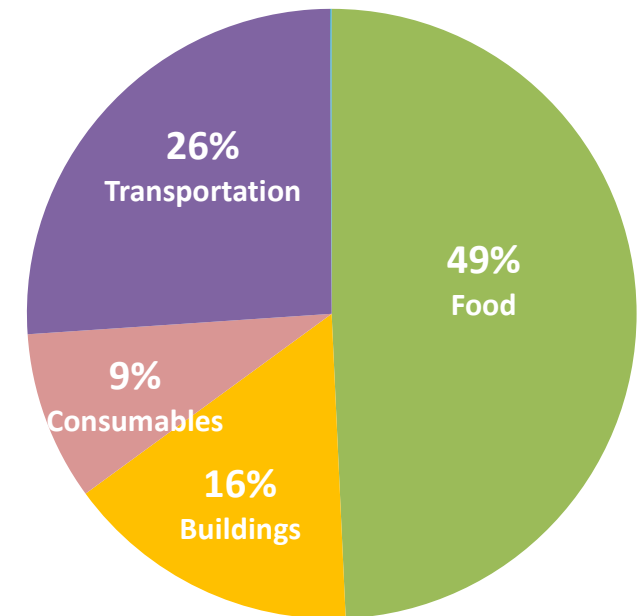
Territorial Inventory
(“Traditional”) 



Consumption-Based Emissions Inventory (CBEI) 



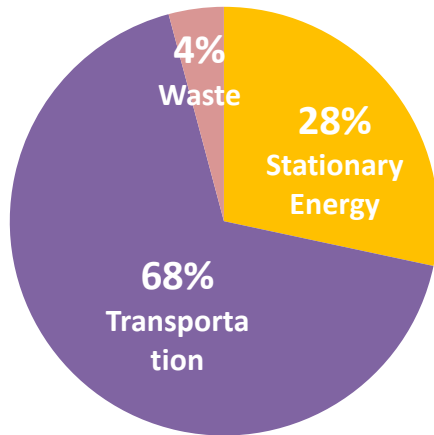
Ecological Footprint 



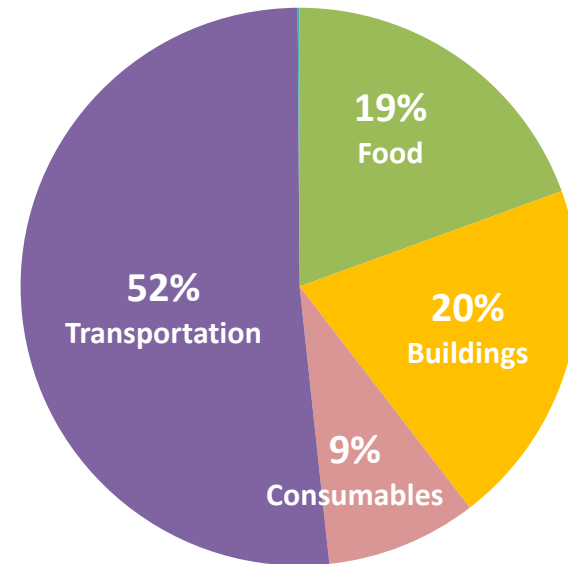
- Waste/Consumables is a much lower component of the Territorial inventory
- In the CBEI the largest impact is transportation (52%)
- Food has a much greater impact in the EF

Results - Overview

**Territorial
Inventory
("Traditional")**

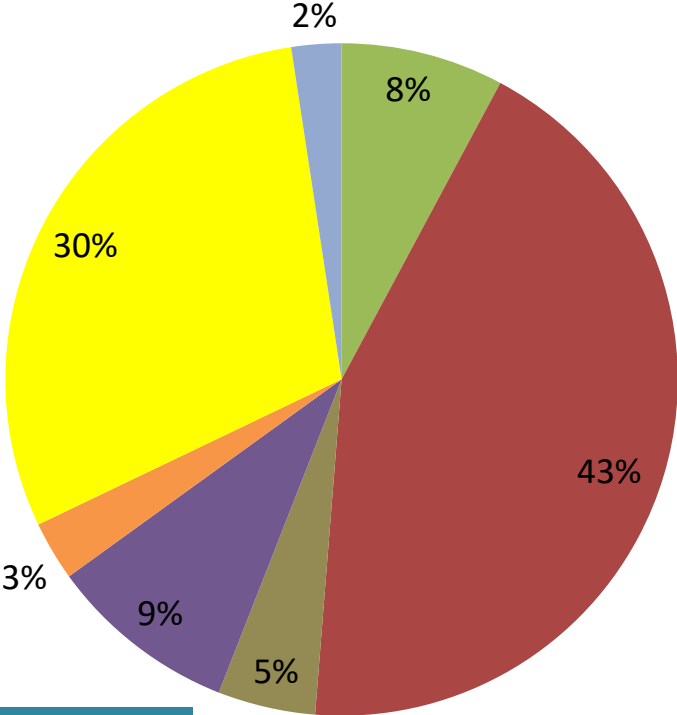


**Consumption-Based
Emissions Inventory
(CBEI)**



Saanich's CBEI is approximately double that of its 'territorial' inventory

Food CBEI



- Fruits and Vegetables
- Fish, Meat, Eggs
- Stimulants
- Grains
- Oils, Nuts, Legumes
- Dairy Products
- Beverages

Total tCO2e: 171,000

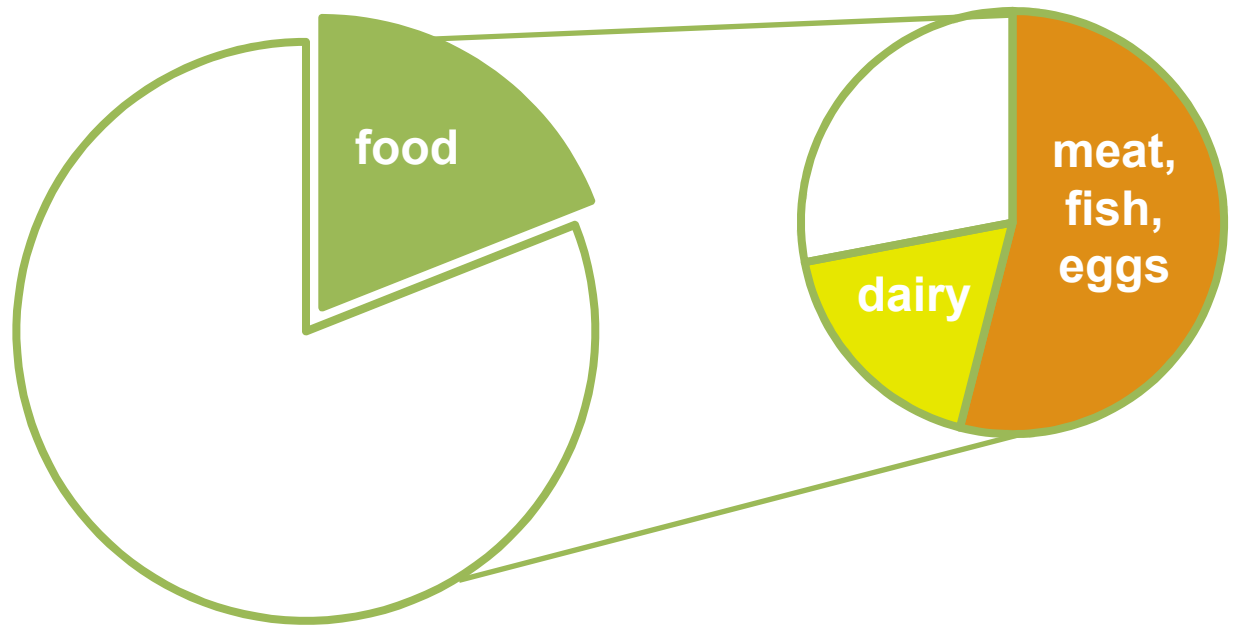
Total tCO2e/ca: 1.5

The CBEI of Food is dominated by animal products and dairy

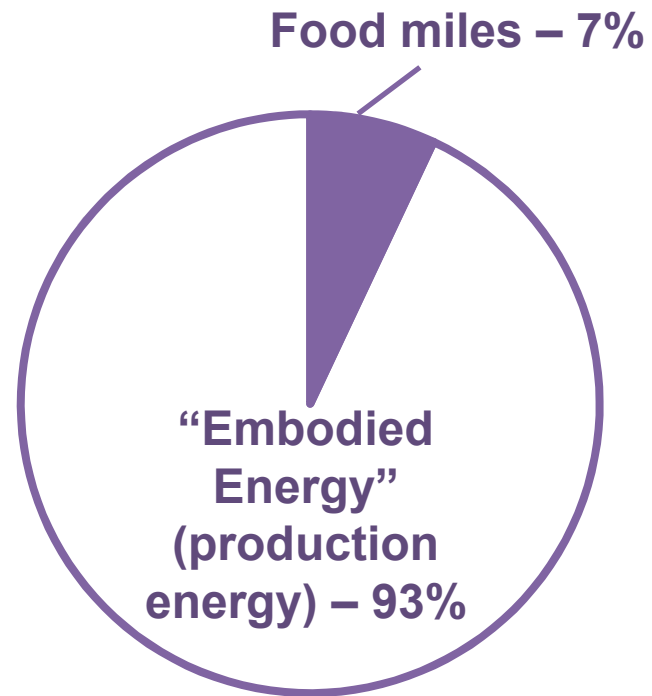
Food CBEI

Food

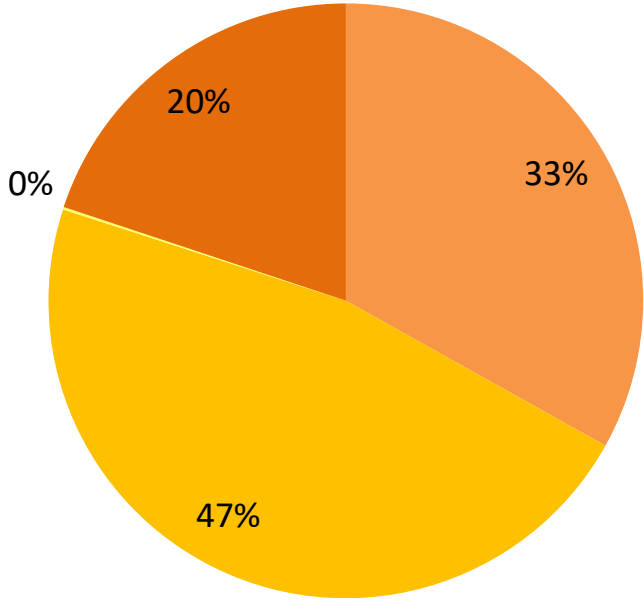
Animal proteins are the biggest factor in the food portion of the CBEI



Food Miles



Buildings CBEI

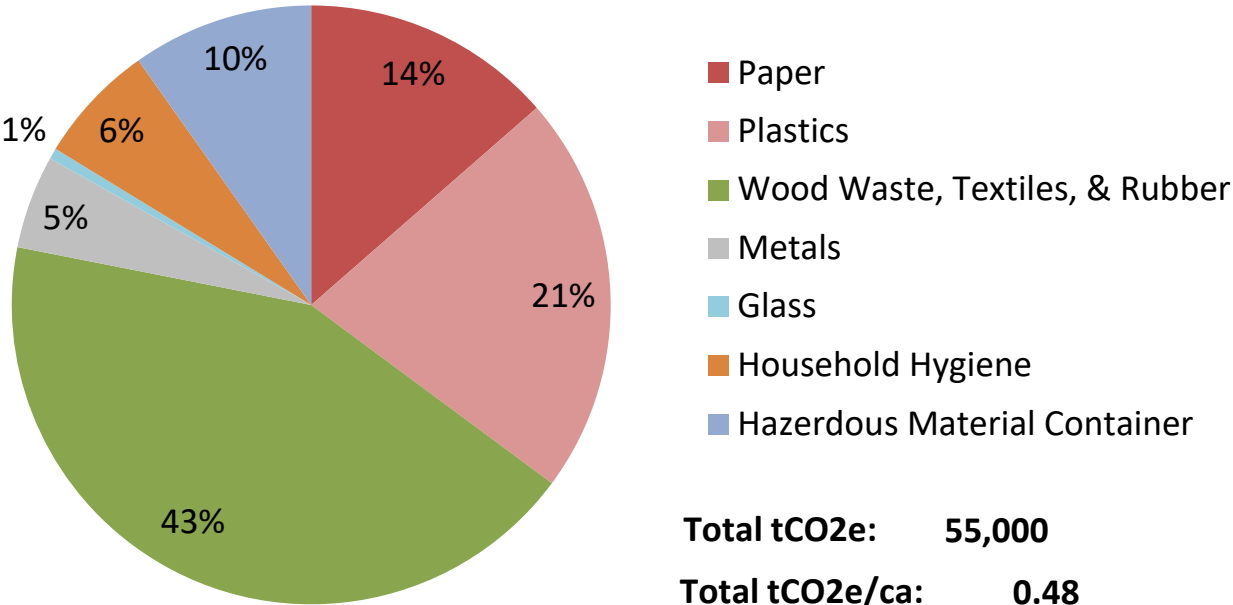


- Residential embodied energy
- Residential operating energy
- Commercial/Institutional embodied energy
- Commercial and Institutional operating energy

Total tCO2e: 177,000
Total tCO2e/ca: 1.6

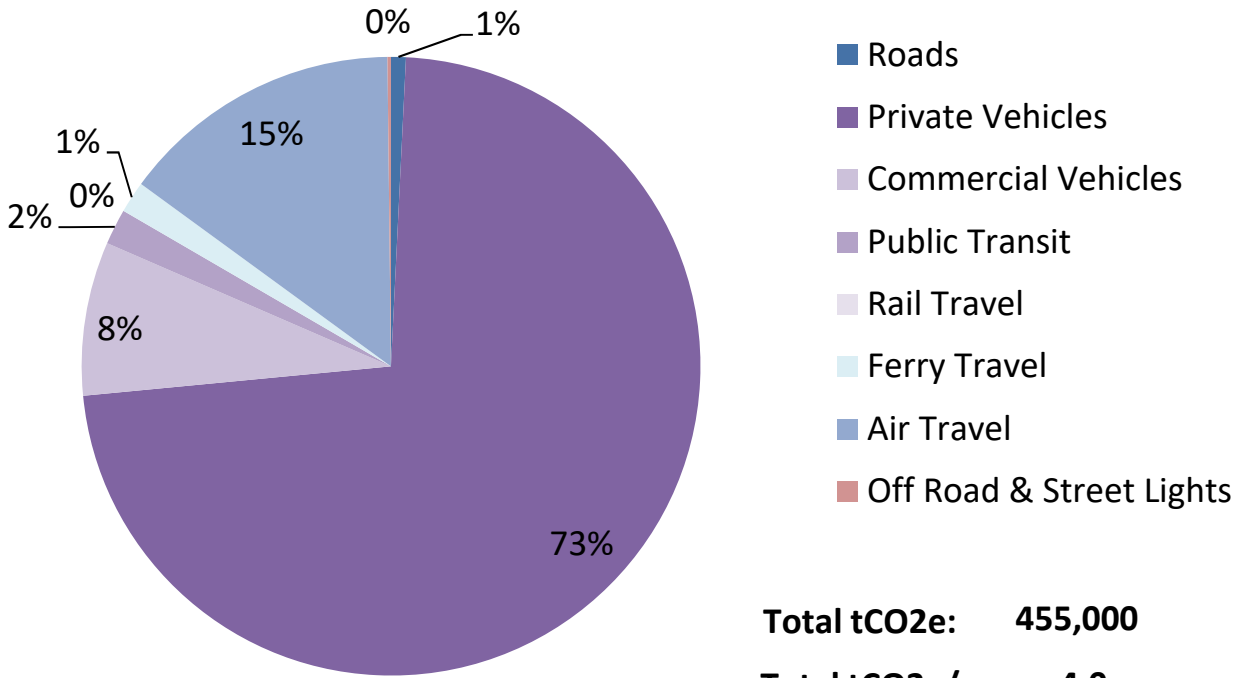
The CBEI of Buildings is dominated by operating energy

Consumables CBEI



The CBEI of Consumables is dominated by textiles, followed by plastics and paper

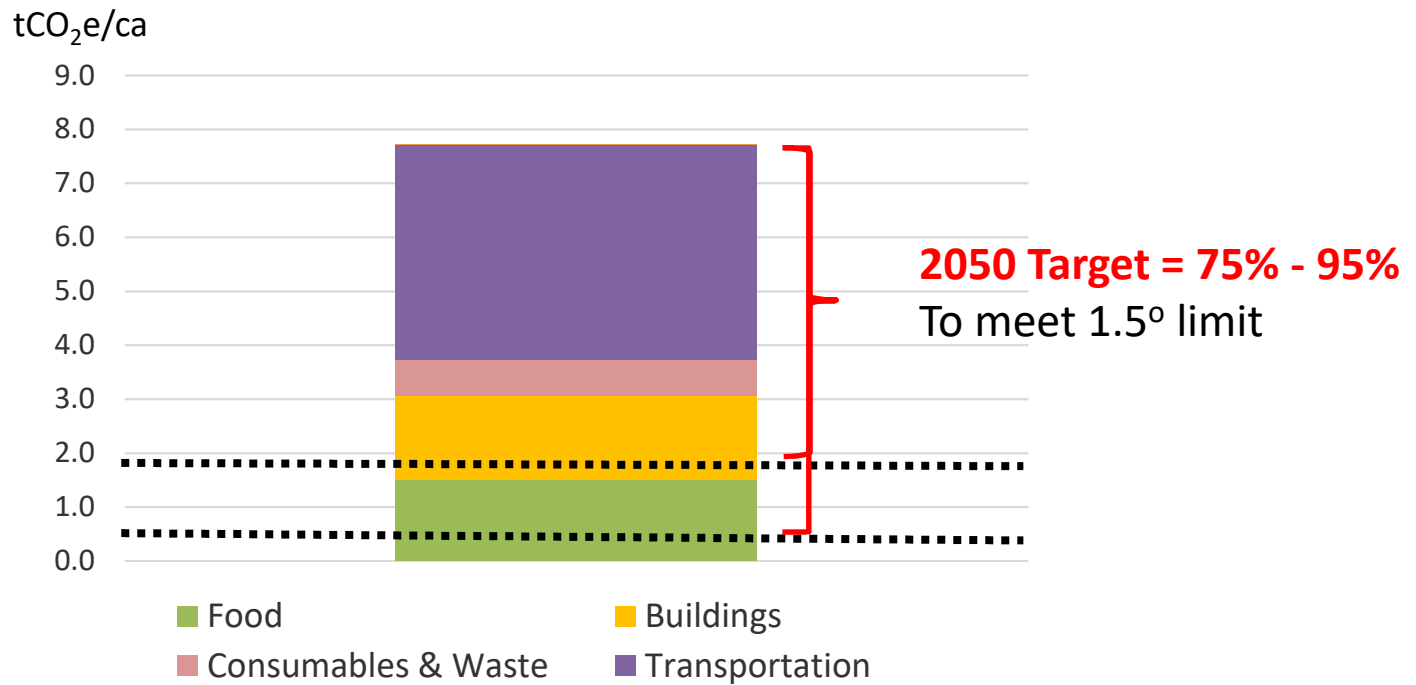
Transportation CBEI



The CBEI of Transportation is dominated by private vehicles

Emissions Gap

Saanich's Emissions Gap (Consumption-Based Emissions)



What can Saanich do with this information?

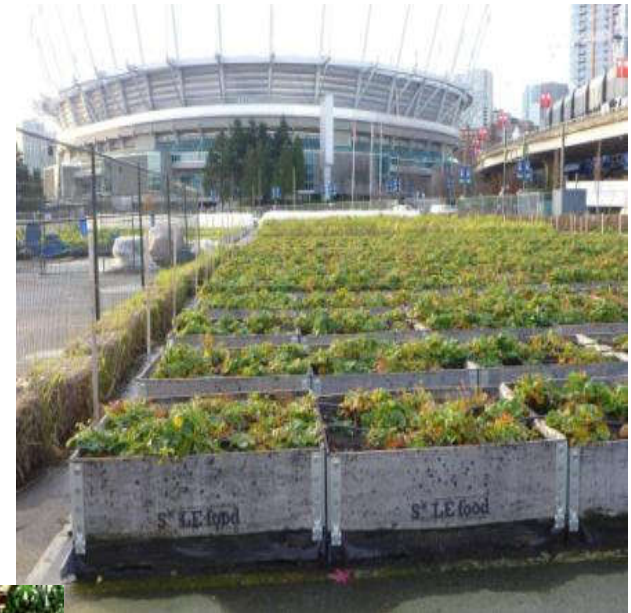
One Planet Scenario: Saanich



MEASURE	EF reduction (gha/capita)	GHG reduction (tCO ₂ e/capita)
Reduce beef (and substitute with chicken) and dairy (without substitution) by 50% ¹¹	0.32	0.2
Reduce food waste post-purchase 25%	0.26	0.3
Eliminate heating oil	0.09	0.4
Reduce natural gas and propane consumption 66%	0.09	0.3
Improve electrical efficiency 40%	0.02	0.1
Reduce paper consumption 50%	0.03	0.02
Reduce textile consumption 40%	0.02	0.1
Reduce plastics consumption 30%	0.01	0.04
Reduce Municipal Solid Waste (MSW) 25%	0.04	0.11
Convert 50% of private vehicle fleet to electric	0.12	0.68
Reduce VkmT 25% in private vehicle fleet	0.08	0.5

Using the Results

- Inform Planning Processes: e.g., **Saanich Updated Climate Plan**; Official Community Plan
- Engage stakeholders



One-Planet Lifestyle?

- Repurpose, fix and share belongings
- Avoid consumption of paper, red meat and bottled beverages
- Roads, roofs, and walls used for urban agriculture
- Most trips (86%) are by walking, cycling and transit, vehicles are zero emissions
- Most people don't fly and very few own cars
- Buildings are energy efficient and zero emissions



- Saanich joined the Bioregional One Planet Cities initiative
- Four pilot communities will engage stakeholders to create sustainability action plans: **Saanich**, Oxfordshire (UK), Durban (South Africa) and Elsinore (Denmark)
- Initiative will align with and contribute to Saanich's updated Climate Plan: 100% Renewable and Resilient Saanich



Saanich One Planet District Initiative Objectives

- Undertake a sustainability gap analysis to identify district-wide priorities
- Work with stakeholder organizations to create their One Planet Action Plans (OPAPs) in support of district-wide objectives

The Team is now looking for 'Integrators' and Stakeholder organizations to join the project.

Thank you

Dr. Jennie Moore
Associate Dean,
School of Construction and the Environment
ecocityfootprint@bcit.ca

Cora Hallsworth
Project Manager
cora-h@live.com 778-749-0089