



# 205 HYTHER SITE TOUR

November 26th, 2025

[carbon-wise.ca](http://carbon-wise.ca)



# About Us

## Who We Are

At Carbon Wise, we help builders, architects, and municipalities cut carbon, not corners... and not budgets.

Our team brings expertise in life cycle assessment (LCA), energy modelling, and policy advising, all grounded in hands-on experience with high-performance projects.



Carbon  
Wise

## 200+ PROJECTS

### What we do

We support every step from early design to final handoff.

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# Greenhouse Gas Emissions

## Operational emissions VS. Embodied Emissions

Most emissions in a building are hidden.

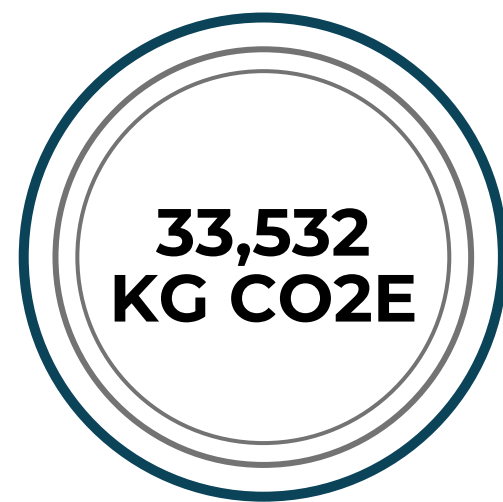
- Operational emissions come from energy use over time.
- Embodied emissions come from materials, construction, and maintenance.



Both matter when you plan a low-carbon project.

# Emissions from this project

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Estimated Material Emissions

=109kgCO<sub>2</sub>e/m<sup>2</sup>

Almost half the Vancouver benchmark of 200kgCO<sub>2</sub>e



Yearly operational emissions from the electricity it consumes.

A minimum code all-electric home would emit 502 kgCO<sub>2</sub>e. This is a 40% reduction!



Total operational emissions after 60 years

182 years = the years of operational emissions to equal upfront embodied emissions

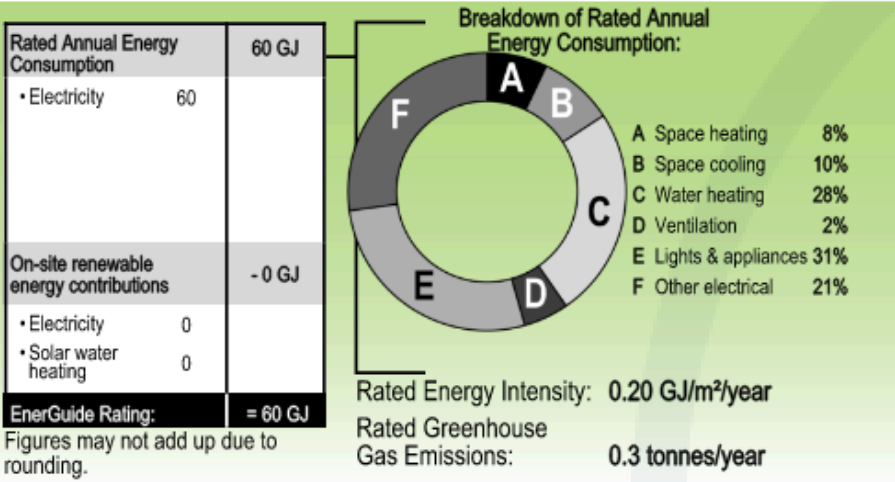
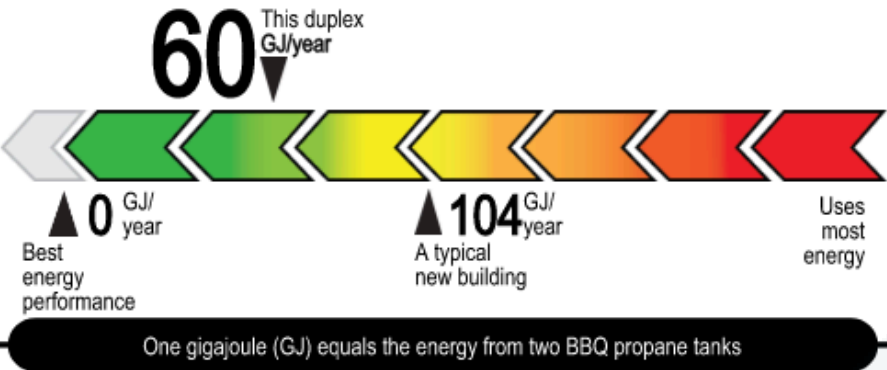




205 Hythe Avenue,  
Burnaby, BRITISH COLUMBIA, V5B 3J1

# ENERGUIDE

Data collected: April 23, 2024  
File number: 7973P00005  
Evaluated by: Cameron Lockhart- Carbon Wise



## F: 9.36.6. ENERGY STEP CODE COMPLIANCE

Proposed House Rated Energy Consumption (GJ/year): 30 Reference House Rated Energy Target (GJ/year): 73

Proposed House Metrics		Unit	Proposed Step Requirement	Proposed Calculations	
Step Code Level		Step 3, 4 or 5		Proposed House Result	Proposed House Pass or Fail
Mechanical Energy Use Intensity (MEUI)		kWh/(m <sup>2</sup> ·year)	30 (max)	27	Pass
% Improvement		%	70 (min)	59.8	
Thermal Energy Demand (TED)		kWh/(m <sup>2</sup> ·year)	19 (max)	16.00	Pass
% Heat Loss Reduction		%	40 (min)	42	
Airtightness in Air Changes per Hour at 50 Pa differential		ACH @ 50 Pa	1 (max)	1.00	Pass
Normalized Leakage Area		10 Pa (cm <sup>2</sup> /m <sup>2</sup> )	0.48 (max)	0.57	
Normalized Leakage Rate		L/s/m <sup>2</sup>	0.35 (max)	0.42	
Step Code Requirements Met:				Yes	

## F: Zero Carbon Step code Compliance

Proposed House Metrics		Unit	Proposed Level Requirement	Proposed Calculations	
Carbon Step Code Level		EL-1 to 4		Proposed House Result	Proposed House Pass or Fail
Total GHG		kg CO <sub>2e</sub> /year	530 (max)	184	Pass
CO <sub>2e</sub> Per floor area with Max	Per Floor area	kg CO <sub>2e</sub> /m <sup>2</sup> /year	1.5 (max)	0.6	Pass
	Max GHG	kg CO <sub>2e</sub>	1000 (max)	184.0	
Prescriptive	Heating	Zero Carb	3	Zero Carb	Pass
	Hot Water	Zero Carb	3	Zero Carb	
	All building systems, equipment and appliances	Zero Carb	3	Zero Carb	
Target Reached				Yes	

MATERIAL CARBON EMISSIONS BY SECTION			
Footings & Slabs	5,938 kg CO <sub>2e</sub>		
Foundation Walls	6,045 kg CO <sub>2e</sub>		
Structural Elements	0 kg CO <sub>2e</sub>		
Exterior Walls	2,083 kg CO <sub>2e</sub>		
Party Walls	329 kg CO <sub>2e</sub>		
Cladding	1,971 kg CO <sub>2e</sub>		
Windows	6,662 kg CO <sub>2e</sub>		
Interior Walls	3,413 kg CO <sub>2e</sub>		
Floors	2,082 kg CO <sub>2e</sub>		
Ceilings	984 kg CO <sub>2e</sub>		
Roof	4,026 kg CO <sub>2e</sub>		
Garage	0 kg CO <sub>2e</sub>		
NET TOTAL	33,532 kg CO <sub>2e</sub>	0	MCE (kg CO <sub>2e</sub> ) 10,000

BEAM RESULTS			
PROJECT EMISSIONS (MCE)			
NET EMISSIONS kg CO <sub>2e</sub>	GROSS EMISSIONS kg CO <sub>2e</sub>	STORAGE SHORT CYCLE kg CO <sub>2</sub>	STORAGE LONG CYCLE kg CO <sub>2</sub>
33,532	35,396	1,864	0
PROJECT EMISSIONS INTENSITY (MCI)			
MCI Conditioned Floor Area	Metric kg CO <sub>2e</sub> /m <sup>2</sup>	Imperial lb CO <sub>2e</sub> /ft <sup>2</sup>	Storing Low Avg High
	109	22	
MCI Total Floor Area		109	22
MCI Per Bedroom		6,706	14,785

HIGHEST EMITTING MATERIALS		
SECTION	kg CO <sub>2e</sub>	MATERIAL
Windows	6,662	Window - triple pane / Vinyl frame / BfCA St
Interior Walls	3,153	Drywall 1/2" [BEAM Avg   US & CA]
Foundation Walls	3,015	Concrete - 25 MPa, 40% SCM, GUL / Concre
Foundation Walls	2,694	EPS FOAM ICF R-23, 2 Sheets of 2.75" @R4-i
Footings & Slabs	2,363	Concrete - 25 MPa, 15% SCM, GU / Concret
Roof	1,823	Metal Panels - Steel / Canadian Sheet Steel
Cladding	1,336	Fiber Cement siding [BEAM Avg]
Footings & Slabs	1,238	Concrete - 25 MPa, 15% SCM, GU / Concret
Footings & Slabs	1,234	Concrete - 25 MPa, 15% SCM, GU / Concret
Floors	1,100	Wood I joist / TJI 230/360 / 14" Depth / AWL

HIGHEST CARBON-STORING MATERIALS		
SECTION	kg CO <sub>2e</sub>	MATERIAL
Exterior Walls	-982	Cellulose / dense pack / CIMA / R 3.7-inch /

Lifetime Emissions Estimated at 44,515 kgCO<sub>2</sub>e

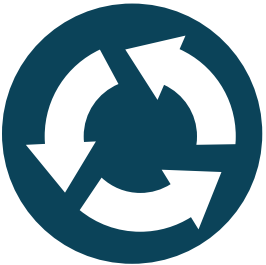
# GHG Breakdown



Upfront Embodied Emissions represent ~**75% of the emissions over 60 years** (not including repair and maintenance or end-of-life)



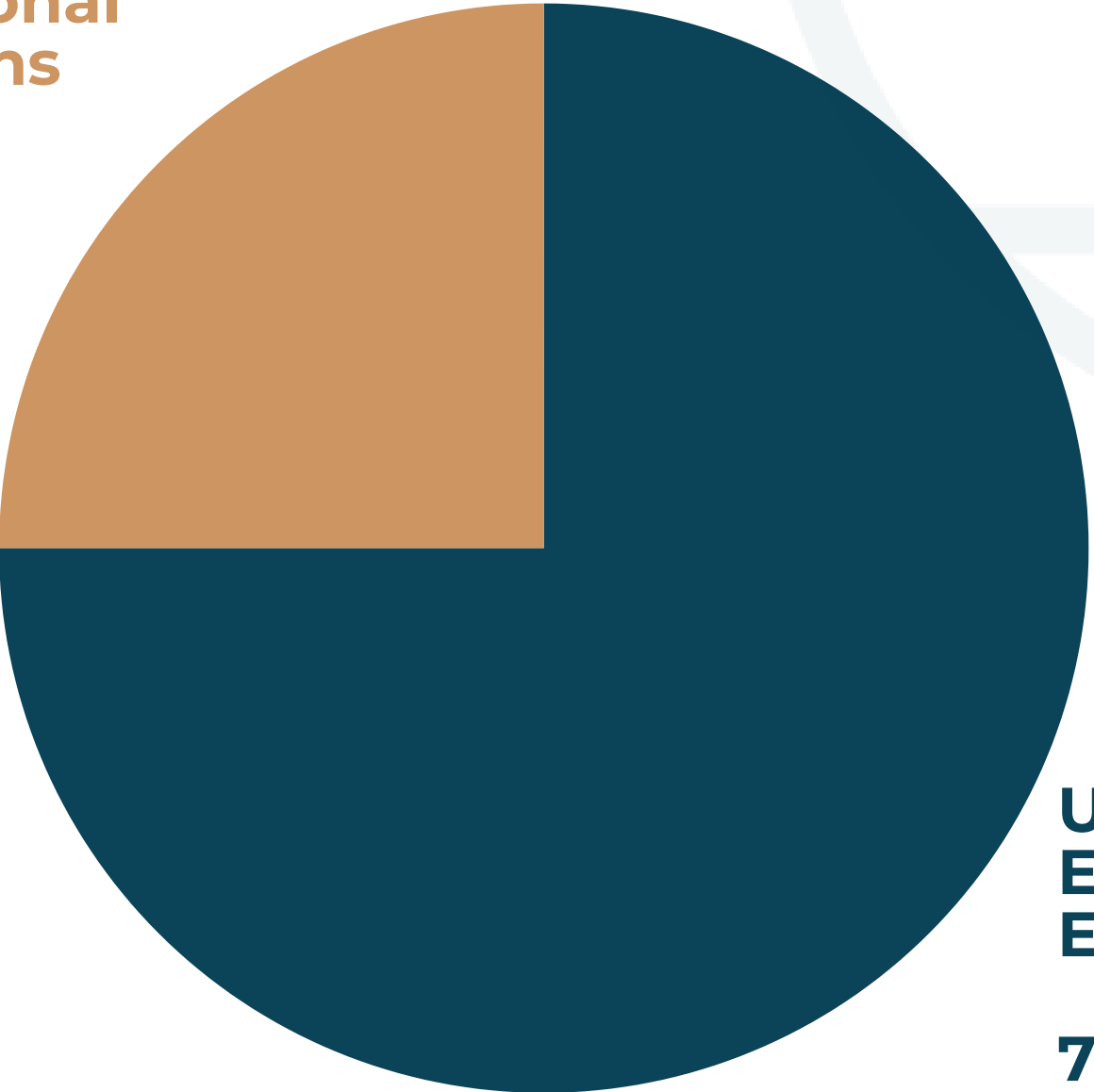
Operational Emissions represent ~**25% of the emissions over 60 years.**



The reuse of materials provided significant Embodied Emissions savings.

Operational Emissions

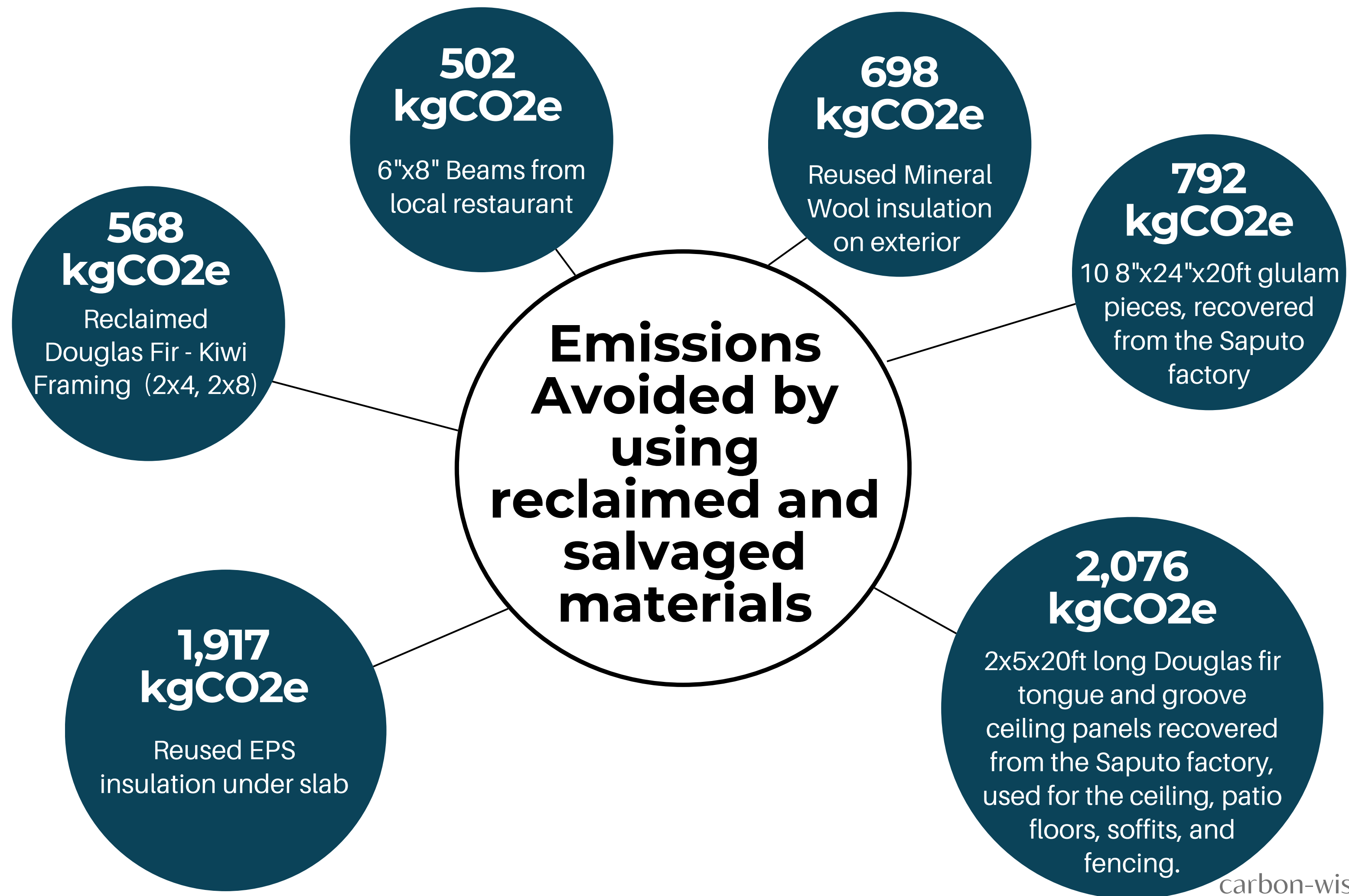
25%



Upfront Embodied Emissions

75%







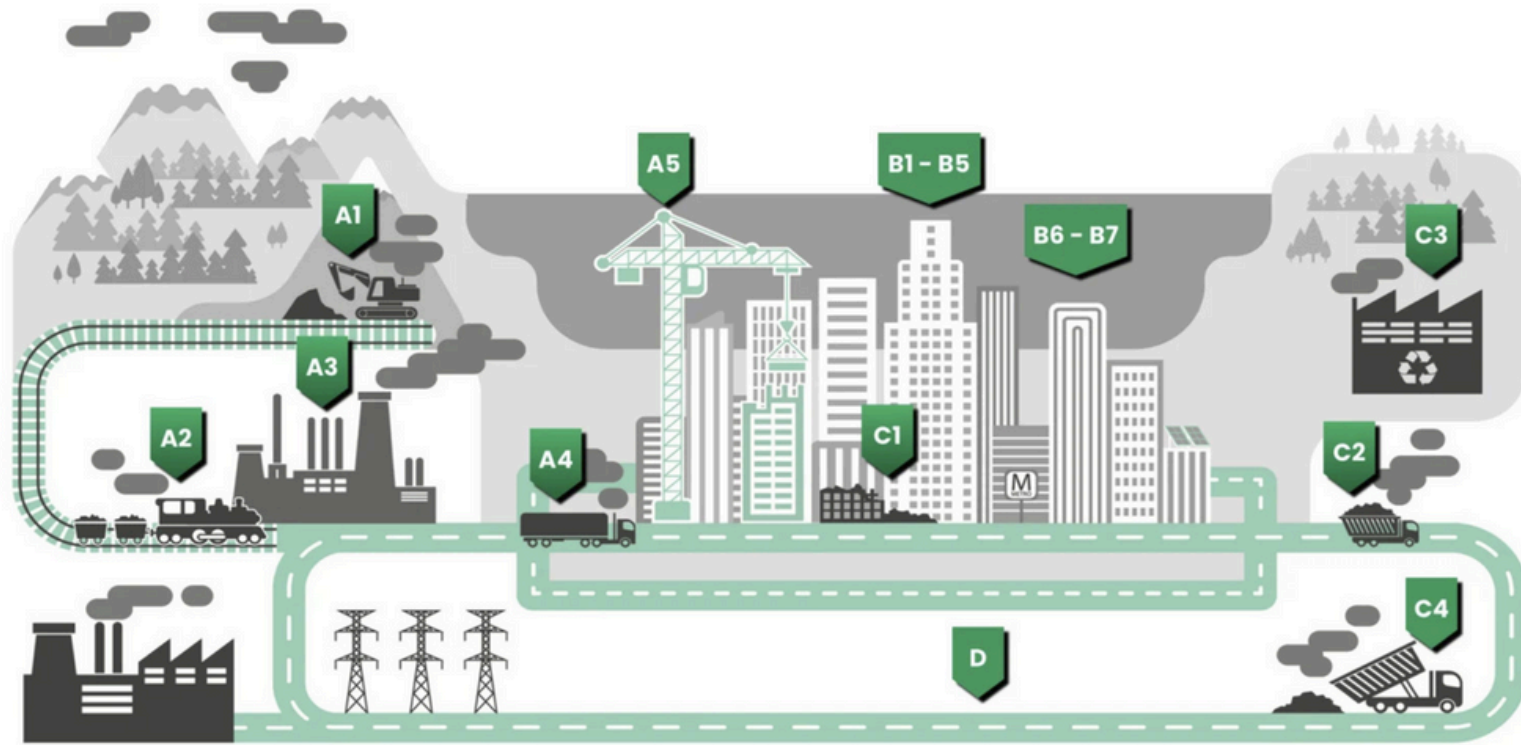
← Left

business as usual

Right →

strategies to  
avoid emissions





#### A1 - A3 Product stage

- A1 Raw material extraction
- A2 Transport to manufacturing site
- A3 Manufacturing

#### A4 - A5 Construction stage

- A4 Transport to construction site
- A5 Installation / Assembly

#### B1 - B5 Use stage

- B1 Use
- B2 Maintenance
- B3 Repair
- B4 Replacement
- B5 Refurbishment
- B6 Operational energy use
- B7 Operational water use

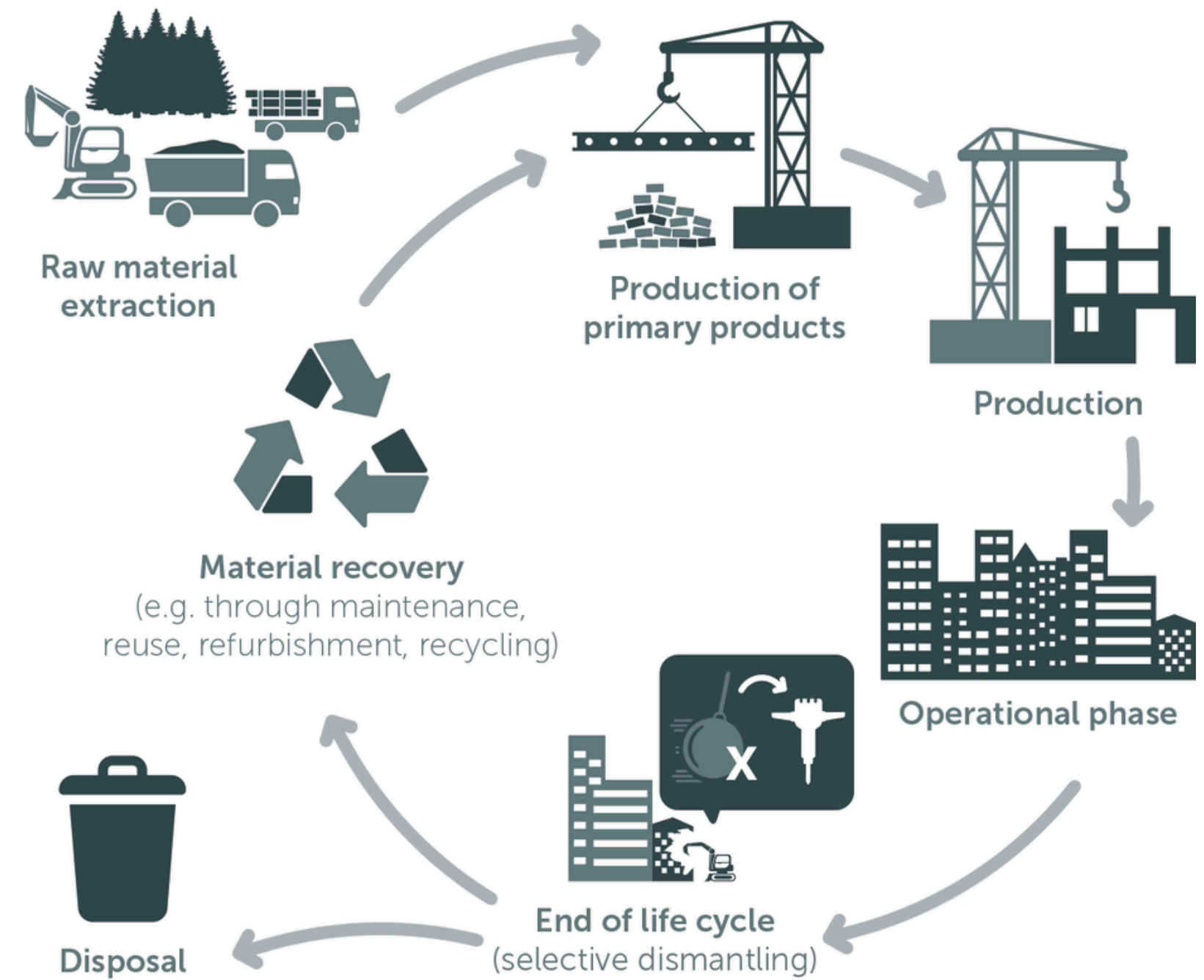
#### C1 - C4 End of life stage

- C1 Deconstruction & demolition
- C2 Transport
- C3 Waste processing
- C4 Disposal

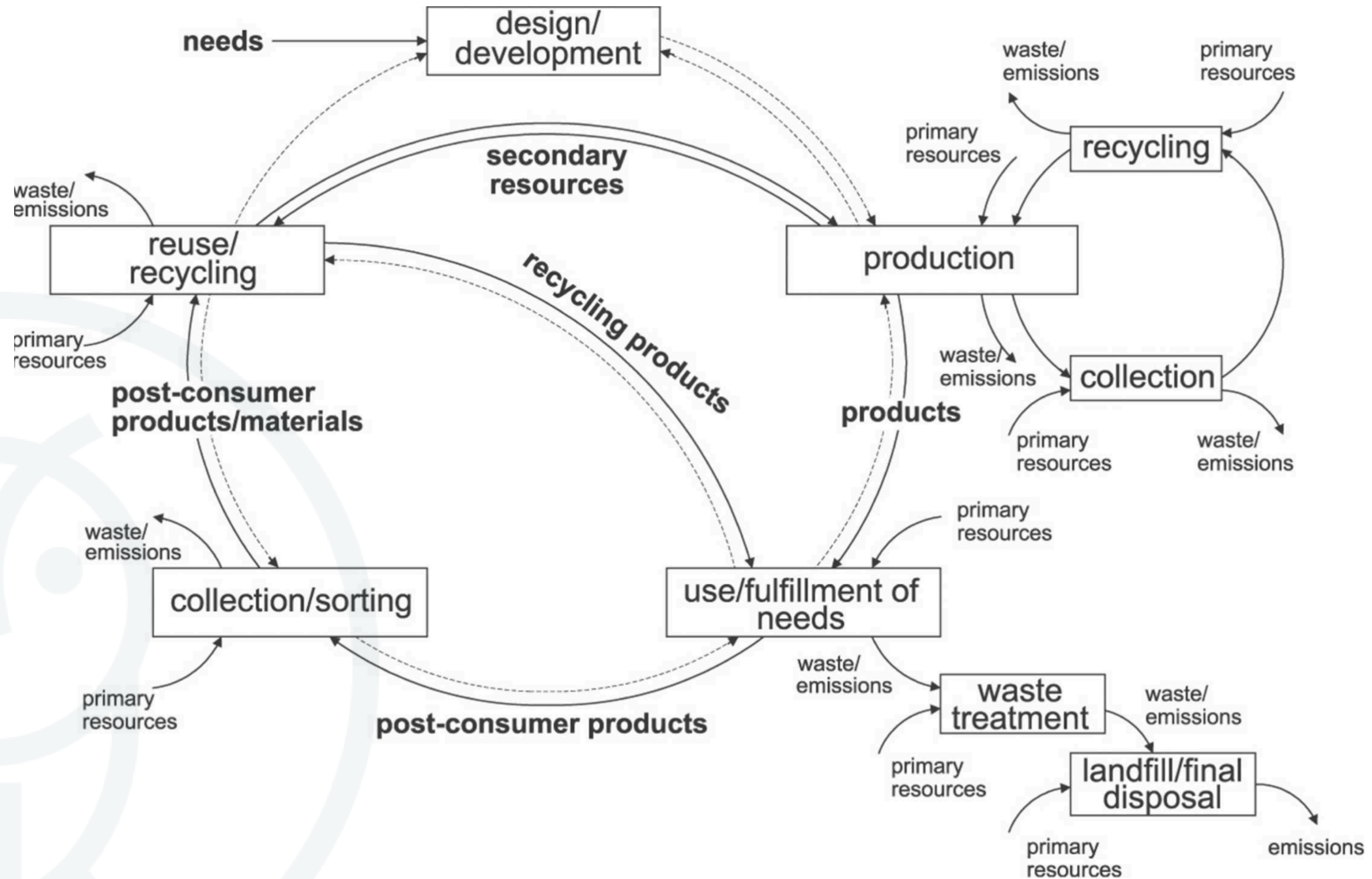
#### D - Benefits and loads beyond system boundary

Reuse, recovery and/or recycling potentials, expressed as net impacts and benefits

VS



# OR





# Get Connected With Us

## Contact Information

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 British Columbia and Canada

