

2020 Family Carbon Impact Report

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<https://tinyurl.com/2020carbonimpact>

Oct 2020

[Inaugural 2019 report here](#)

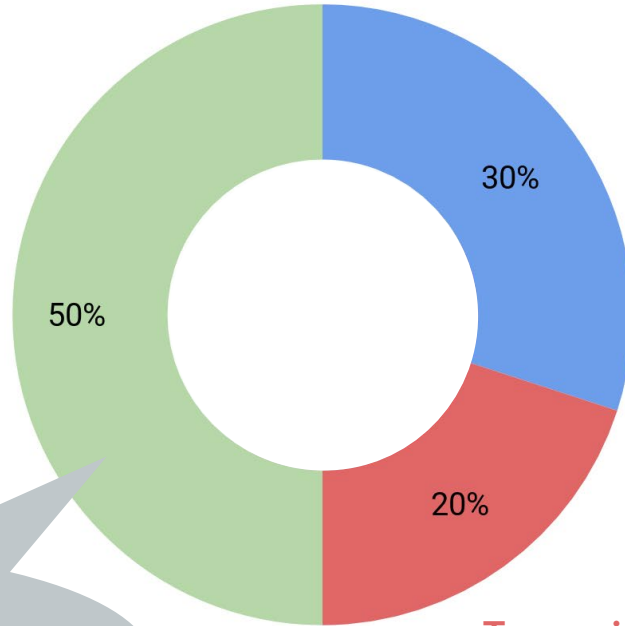


Why make a carbon impact assessment & report?

To address our emissions:

It's a drop in the bucket, but it's our drop. Now that we understand a bit about our lifestyle and the impact it has on the earth, we're taking a bit of ownership.

Dad taught me to leave the campsite cleaner than I found it. Today, the Earth is a pretty dirty campsite.



To support organizations doing the work:

It's extremely important that some humans spend their careers helping to educate, plant trees, preserve forest, save reefs, etc.

To provide a template for you:


Read this report, & let me know how I can help!


Assessment: Key factors for our family of 3


Factors reducing our family's footprint:



New  Global pandemic = fewer air flights.

 We walk, bike, and bus most places, or drive our electric vehicle.

 We happen to live in a place with an extremely clean electric grid (~90% renewable)¹.

 We eat mostly plants (but also consume dairy + eggs daily, and some meat/fish).

Factors increasing our family's footprint:



Carbon impact data was not available in some areas of our lives (misc things like household cleaners, stuffed animals, music/movie/art, mail/shipping), so we multiplied our sum total by 2 as a “Factor of Safety.”

New



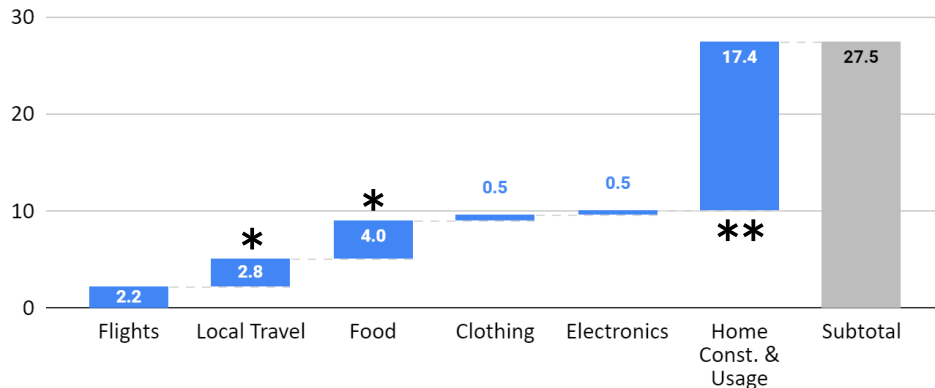
We purchased a new townhome, consuming considerable building resources + land.

Research on next slides

Assessment: Outputs & Observations



2020 Impact (Tons CO2e) by Category (before Factors of Safety)



* These categories happen to be extremely low compared with averages, due to our lifestyle choices and our power grid's renewable sources

** The impact of our move to a newly built townhome, even when spread over 10 years, is massive

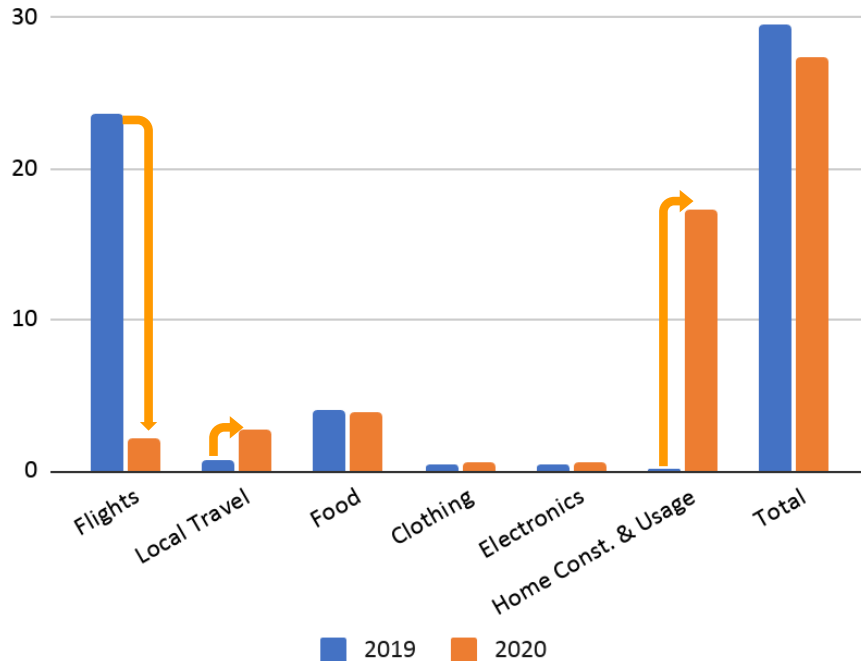
Total year's impact, raw sum	27.46	Tons CO2
Buffer for errors (eg. Tons vs. Tonnes)	10%	
Buffer for unknowns (e.g. music/art)	200%	
Total by year, loaded	60.42	Tons CO2

Email me for calculations:
hbonwit@gmail.com

Incidentally, our detailed calculations yielded the same result as the original estimate:
Our average impact was about 20 Tons per person!

Our 2020 carbon impact was same as 2019, for different reasons

2019 and 2020 Impact (Tons CO₂e)



Takeaways:

- Flights were our biggest area in 2019
- Higher home emissions, due to construction (10 year amortization) vs. simply operating a home
- Higher local travel due to buying a new electric vehicle (sold our old one & we are amortizing this one's construction over 10 years)

Major 2020 impact driver: new townhouse

In past years we didn't include the construction of our residence, since we moved into existing buildings. In 2020 we moved to a newly built townhouse, so I wanted to understand its impact.

The City of Vancouver has a [great report](#) on the carbon used to create residential buildings.

I could likely assume 650 kg CO₂E/m², since our townhouse is “Built Green Canada,” and is “Step 3,” but accounting for that gets murky, so I've gone with the more conservative 700 kg CO₂E/m².

Table 2 French E+C- embodied carbon limit values by building type

BUILDING TYPE	ENTRY LEVEL: CARBONE 1 - KG CO2E / M2	GOOD PERFORMANCE: CARBONE 2 - KG CO2E / M2
Single family or row houses	700	650
Apartment buildings	800	750
Office buildings	1050	900
Other regulated building types	1050	750

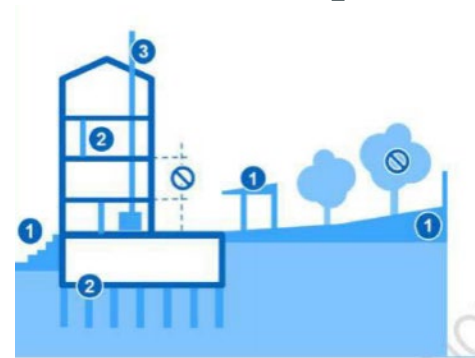


Figure 12 The assessed parts of the building in the prc

Our townhouse is 175 m², and I've chosen an accelerated offset schedule over the next 10 years.

Impact of residences is mostly up front on a clean grid...

I found it **very** interesting how **little** the **operation** of a building contributes to the total carbon footprint. Usage is only a single digit percentage when compared with construction materials, transport, etc. I'm guessing this is thanks to Vancouver's clean grid for heating, cooking, lighting, etc.

It's interesting to me that these absolute values are roughly half of what the previous table indicates, but it could be due to building type, structural material, etc.

Given the range of figures, and the disparity between information sources, we'll assume the conservative 700 kg CO₂E/m² & use a big factor of safety.

Other resources which are interesting (but too complicated for me) are:

- [EC3 webtool](#)
- [OneClickLCA](#)
- [Tally](#)



Figure 10 GWP of buildings assessed by E3: breakdown by life cycle phases

Action plan: minimize flights, offset, & educate



1. Need to maintain scrutiny on air flights.
2. Offset our 2020 impact of 60 Tons CO₂ twofold:
 - 60 T of [protection of old growth forests \(why\)](#)
 - + 60 T of [reforest & reinvigorate land](#)
3. Continue to invest in climate education non-profits through gifts and time:

[SPEC](#)

[Squamish CAN](#)

Where do we stand?

It's only a drop in the bucket,
but it's our drop in the bucket.

If everyone drips their drop,
the bucket will overflow.



BP said it well:

but Andrew said it better...

<https://twitter.com/andrwhenderson/status/1187386101960454146>



BP 
@BP_plc



The first step to reducing your emissions is to know where you stand. Find out your [#carbonfootprint](#) with our new calculator & share your pledge today!



Andrew Henderson
@andrwhenderson



i pledge not to spill 4.9 million barrels of oil into the gulf of mexico