



CLIMATE CHANGE: REDUCING CONSUMPTION and RETHINKING WASTE

Context: The latest (2022) International Panel on Climate Change (IPCC) report states that because of human activities, Earth:

- is currently 1.1°C warmer than in preindustrial time
- is already experiencing multiple impacts; **Need for adaptation**
- is likely to hit 1.5°C of warming within 20 years, with a narrow pathway to stay below that target; **Need for mitigation**
- must reach net-zero emissions by 2050 to avoid catastrophic warming.

Impact of waste on Climate Change

- When food, cardboard, natural fibres, branches, and other natural materials decompose they release carbon dioxide and methane.
- Methane has more than 80 times the warming power of carbon dioxide over the first 20 years after it reaches the atmosphere.
- Pollution in our eco-systems, both marine and terrestrial, damage the capacity of those eco-systems to act as sinks for the CO₂ in the atmosphere.
- There is a hierarchy of actions we can take to reduce our climate impact: Refuse (don't buy it), Reduce, Re-use, Re-purpose (use for something else), and Recycle.

Gabriola waste and recycling

- The RDN takes Gabriola's waste to the landfill. In 2008 Gabriola sent 265 tonnes of waste to the landfill, which resulted in 581 tonnes CO₂e. In 2012 the RDN calculated that 36% of residential waste was organic waste and subsequently implemented a composting program to transform the organic material into compost and prevent it from going to the landfill.
- Both GIRO and the RDN take items residents want to recycle. In 2008 Gabriolas put 155 tonnes of recycling into RDN curbside bins.
- GIRO received the following items for recycling in 2018:

PAPER	kg	PLASTIC	kg	METAL	kg	Miscellaneous	amount
Cardboard	60870	Polyethylene	390	Aluminum	4836	Electronics & TVs	58 bags
Mixed Paper	15500	#2	1280	Ferrous	104,118	Car battery	2142 kg
Newsprint	3620	Soft film	2720	Copper etc.	1862	Motor Oil	525 litres
Office Paper	680	Mixed	3850			Paint Cans	5700

Gabriola reuse and repurposing

- There are numerous informal re-use activities on Gabriola with people buying used items through online platforms and garage or yard sales. Both GIRO and the Gabe Shop also sell used items, primarily clothes, household items, and books. In addition, GIRO sells used appliances and construction materials.
- The C2C Threads initiative, which includes the ReLove Local products, repurposes textiles. The Island Futures Biodiesel & Glean initiatives repurpose waste vegetable oil from the restaurants.

Climate Change and the production of stuff

- The production of clothes and shoes results in more GHG emissions than international air travel and marine freight combined.
- Computers, phones, and other communications technology produce 2.1 to 3.9% of the world's GHG emissions.
- Just 16% of plastics worldwide are recycled. Twenty-five % are incinerated, 40% are landfilled and 19% are leaked into waterways and oceans.
- In 2019 the Center for International Environmental Law estimated that the production and incineration of plastics would add 850 million tonnes of GHG emissions to the atmosphere - equivalent to the emissions from 189 coal-fired power plants.
- Scientists predict that plastics will outweigh fish in the ocean by 2050.

Embodied Energy Use in stuff

- Embodied energy is attempts to measure the total of all the energy necessary for an entire product lifecycle. This lifecycle includes raw material extraction, transport, manufacture, assembly, installation, disassembly, deconstruction and/or decomposition.
- Embodied energy does not include the energy used while the product is in use (for example the electricity used to power a kettle).

Some examples:

Item	Embodied energy (MJ/unit)	Kg CO ₂ e (using coal as energy source)
Coffee maker	184	173
Smartphone	1,000	940
Washing machine	3,900	3666
Laptop	4,500	4230
Refrigerator	5,900	5546
Cell tower	100,000	94,000

Our consumption is out of control!

The overarching "R" is "Rethink"- let's rethink what we can do to create a zero-waste society.