‘An Earthen Ethic’

eBook Writing & Publishing Enterprise

Green Impact Report

DRAFT

Impact Template: v1.1

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About this Report

This report is created from a document template was developed by the Global Ecobrick Alliance (GEA) for the listing of regenerative products on the GoBrik Shop. All products that are added to the GoBrik Regen Store, must be accompanied by a Green Impact Report and must demonstrate a subtractive CO2 and Plastic impacts. It is under this condition that products in the store are considered “Regenerative”. The Green Impact Product Template and a further explanation of the terms and concepts herein can be found a www.ecobricks.org/principles.

Green Impact Reports are generated by the product, and not the GEA does not endorse, nor corroborate any of the information herein.

The Global Ecobrick Alliance

The GEA is a not-for-profit Earth Enterprise, that operates on regenerative principles. The GEA maintains the GoBrik platform and the Brikcoin manual blockchain. The GEA also maintains the GoBrik store as a space for regenerative products.

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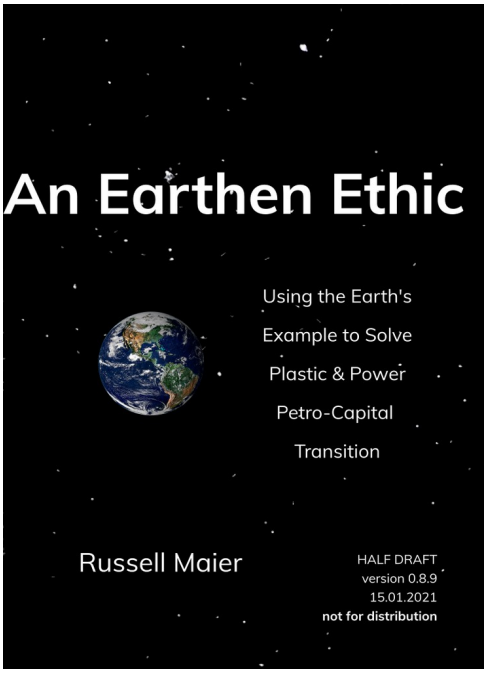

About the Enterprise

This impact report covers the enterprise of writing and publishing the eBook ‘An Earthen Ethic’. The enterprise covers the author’s household living over six months which sustained the creation of the book and its publishing to GoBrik store. There the eBook is being sold for both regular and brikcoin currency. This report also calcuates the CO2e and Plastic offsets genearted by the sale of the eBook on the GoBrik store.

CO2 Impact

One the clearest ways to measure the impact of a product is by measuring how much carbon dioxide (CO2) is produced by the various processes that make up its life-cycle. The impacts of the various processes behind the production, marketing, sale, consumption and disposal of a product all have measurable determinations of CO2 equivalency (CO2e) from the amount of oil, gas and electricity that they involve. When fossil fuels are burned to power cars, trucks and airplanes or used to power the factories that produce our products, CO2 is produced. CO2 enters the atmosphere and oceans, contributing to climate change and ocean acidification. Around the world and for specific countries there are well established and a widely accepted means for evaluating our 'carbon footprint' of each of these. The calculations in this report are based on our researched coefficients and are documented in the footnotes of the report.

Processes that Generate CO2

The author's personal household CO2 impacts over the course of the six months of writing:

Local Transportation

- 12 km/day average scooter travel x 180 days x 0.1kg CO2
  - = 216 kg CO2

Domestic Air Travel

- 0km x *0.32kg of CO2 per Km*
  - *= 0*

International Air Travel

- 0 km x *0.26Kg of CO2 per Km*
  - *= 0 kg*

Food

- 80% home or locally grown - estimated 50Kg CO2e per month for purchased groceries
    - = 300 kg CO2

Cafe Work

- Much of the book was written in cafes and restaurants in the locality of the author. Given that the author chose restaurants with locally grown coffee and food, the estimate CO2 impact of 10kg CO2e per visit/meal/coffee. Transportation is already included in the calculations above.
    - = 20 visits per months x 6 x 3Kg Coe = 360Kg

Household Electricity

- Home office electricity consumption of 30 kw/hr per month x 6 x 0.46 kg CO2[1]
    - 82.8 Kg CO2

Manuscript printing:

- An estimated 20 copies of the 30 page draft manuscript were printed in the process of writing this paper.
    - 20 copies x 30 pages x 0.001 KgCO2 per B&W print page: 6Kg CO2

Computer & Server Usage

The purchase of a product on the GEA server has the approximate impact of 1mb of transferred data, which has an estimated impact of 0.050 kg[2] per order. For 1000 orders this results in:

- Server Total: **50Kg** of CO2e

1 2019 US estimate for coal fired electricity generation. As Bali's electricity is coal generated, we're using this number.https://www.eia.gov/tools/faqs/faq.php?id=74&t=11

2 https://twosidesna.org/US/The-Carbon-Footprint-of-Email-is-quite-large/

- Amortized CO2e of author's laptop: 350kg of CO2 for a lifetime of 48 months[3] / 6 = 58.3
- Total = 108.3 Kg

Processes that Sequester CO2

Plastic Sequestration CO2 Credit

The Plastic Sequestration incurred by the eBooks sale in Brikcoins (see Plastic section below) prevents this plastic from degrading and releasing its carbon into the atmosphere as CO2. The GEA estimates that for each Kg of plastic 3.1 Kg of CO2 are also sequestered.[4]

- The author is allocating 2000 copies of the eBook for sale at 100 BRK each. This results in 2000Kg of plastic sequestered, which also has the CO2 sequestration equivalent of:
  - = 2000 Kg x 3.1 = 6200 Kg CO2 e

Forest Presiding

The author's household food forest supports four trees:

- Moringa: 150 Kg CO2/year @ 6 months = 75Kg
- Coconut: 150 Kg CO2/year @ 6 months = 75Kg
- Avocado: 150 Kg CO2/year @ 6 months = 75Kg
- Jackfruit: 150 Kg CO2/year @ 6 months = 75Kg

  = 600 Kg CO2

Bamboo

The author's initiatives supports the growth of one stand of bamboo:

- 300 Kg / CO2 year / 2 = 150Kg

3 Dell estimates that the CO2e of a business laptop is 350 Kg CO2e

4 Www.ecobricks.org/why

CO2 Impacts				DRAFT
CO2 Produced during 6 months enterprise of writing and publishing				
Process	**Details**	**Kg of CO2**	**Units**	**Total**
Local Transportation	Avg of 12 km of one Scooter driving per day	0.1 Kg per km	180 days	+216 Kg
Domestic Air	None	0Kg		+0Kg
Int'l Air Travel	None	0 Kg		+0kg
Groceries	Monthly non-garden food	50 Kg / month	6 months	300 kg
Cafe Work	Average of 20 cafe/co-working visits per month	10 Kg /month	6 months	360 Kg
Electricity	Avg. 30 Kw/hr per month @ 0.46 kgCO2e/kw/hr	13.6Kg /month	6 months	82.8 Kg
Printing	20 manuscript prints of 30 pages each.	0.01Kg per page	60 pages	6 Kg
Laptop + Server	Amortized impact	58.3	2	58.3 Kg
Total CO2 Produced				**1023.1 Kg**
CO2 Sequestered				
Process	**Details**	**C02/Kg**	**Units**	**Total**
Plastic Sequestration	Ebooks sold @ 100 BRK each	-3.1	2000	-6200 Kg
Forest Presiding	Trees	-75	4	-600 kg
Bamboo Presiding	One bamboo groove	- 150	1	-75 kg
Total Sequestered				**-6875 kg**
Total CO2 Impact				**-5851kg**

Plastic Impact

The plastic that is generated the product's life cycle has its own environmental impact. The disposal and recycling of plastic impacts the environment. Recycling can only process plastic several times-- each time plastic is recycled its value decreases until eventually it is no longer worth recycling. Consequently, all plastic, including recycled plastic, eventually ends up loose in the environment where it degrades into micro-plastics and chemicals that impact local ecologies. To estimate the products environmental impact, we record the net weight of all the plastic produced and consumed in its life-cycle.

Our product can also result in the removal of plastic from the biosphere. This is measure in Kg of plastic avoided and/or sequestered.

Plastic Production

Plastic Production

- No plastic was used in the writing and publishing of the Ebook

Marketing / Labeling

- No plastic used.

Shipping

- All books sold as ebooks. No shipping involved.

Plastic Sequestration

Plastic can be sequestered through company ecobricking corresponding to the product or through the sale of the product with a Brikcoin price. Products can thus claim a plastic offset impact corresponding to how many brikcoins are gained by the sale. Currently (07/20) *1ß = 0.11492 Kg of plastic sequestered*.[5]

Allocated Brikcoin Sales

- Allocated Brikcoin Sales: 500 BRK
- Sequestration: **57.5 Kg plastic**

5 https://www.gobrik.com/#cr/

Replacing Plastic Cups and Tumblers

- The average plastic/paper coffee cup contains 3g is plastic. A one year impact of plastic/paper cups by one consumer is estimated to be 260 x 0.003Kg = 0.156 Kg plastic Estimates from Office Climate Solutions[6]
- The average 16oz. reusable steel tumbler weighs 315 grams for the cup and 60 grams for the plastic lid.[7] The one year impact would be 0.06 kg for one consumer.
- In 2013 1.84% of coffees in Starbucks were served in reusable cups Ref We will estimate however that an EarthCup replaces in one year 80% of the impact of tumbler and 20% of the impact of paper/plastic cups
  - 0.156 * 20% + 0.06 X 80% = 0.03 + 0.048 = 0.078 Kg per unit
- Total sequestration of **78Kg** plastic per 1000 units

6 https://www.officeclimatesolutions.com/the-carbon-cost-of-coffee-cups.html
7 https://www.officeclimatesolutions.com/the-carbon-cost-of-coffee-cups.html

Plastic Impacts				DRAFT
Plastic Produced				
Process	**Details**	**Kg Plastic/unit**	**Units**	**Total**
Household	Consumption	3.6 Kg		3.6 Kg
Manufacturing	none			
Marketing	none			
Shipping	none			
Total Produced				**0 kg**
Plastic Sequestered				
Process	**Details**	**Kg Plastic/unit**	**Units**	**Total**
Ecobricking	Household ecobricked plastic	5.2 Kg		-5.2
BRK Sales	2000 BRK sales allocated @100 BRK	3.1 Kg	2000	- **6200**
Household Offsetting	AES Plastic Offset Purchased in last 6 months	402.7 Kg		-402.73
Total Sequestered				**-6607.9 kg**
Total Plastic Impact				**-6604.3 kg**