

# **Ana Luisa Carbon Footprint Methodology**

## **June 2020**

### **Methodology Document Purpose**

The Ana Luisa Product & Sustainability team partnered with Carbon Footprint Ltd, a ISO 14001:2015 certified company committed to evaluating, tracking and helping companies of all sizes reduce their environmental impact. Ana Luisa and Carbon Footprint Ltd created a thorough Life Cycle Assessment Report, using a cradle-to-grave approach of Ana Luisa's line of products and taking into account: embodied raw material emissions, transport of raw materials, manufacture/processing emissions, distribution to consumers and disposal of each product. The calculations led to establishing Ana Luisa's carbon footprint and emissions, using CO<sub>2</sub>e or carbon dioxide equivalent, which is a standard unit for measuring carbon footprint. The idea is to express the impact of greenhouse gases in terms of the amount of CO<sub>2</sub> that would create the same amount of warming.

100% of the cradle-to-grave emissions of all Ana Luisa business operations have been offset for Q1 2020 and Q2 2020, and will keep on being offset every quarter moving forward. We offset the carbon footprint of Ana Luisa's entire business through the purchase of verified, additional and permanent carbon offset, thanks to our partnership with Cool Effect, a 501(c)(3) nonprofit in the San Francisco Bay area. Of Cool Effect's many worthy causes, we've chosen to contribute to the Tri-City Forest Project, which preserves a combined forest area of 6,500 acres in Massachusetts. By protecting these trees from timber mills, local jobs are created, floods are prevented, and carbon-canceling oxygen is generated daily.

The purpose of this methodology document is to share additional details behind the product carbon footprint calculations by providing an overview of current methodology, assumptions and data sources.

### **Ana Luisa Mission & Products Characteristics**

Ana Luisa jewelry is made with clean, low-impact, recycled materials. Our production process respects both the craftspeople and the earth that makes our jewelry possible.

- Our solid gold pieces are made of 100% recycled gold from previously owned jewelry, industrial metals, and electronics components.
- We decided to use eco-brass as our base metal and thicker-than-ordinary platings for all our plated jewelry so we can guarantee it for life.
- We only use 100% recycled sterling silver made of 92.5% pure silver to match the highest standards of the industry for all of our pieces.
- Our diamonds are lab-grown, meaning their background is traceable, peaceful, and earth-friendly.

### **Life Cycle Assessment (LCA) & Carbon Footprint Calculation**

LCA is the assessment of the environmental impacts of a product or service during its life cycle. It incorporates the analysis of raw materials, manufacturing, transport, usage and disposal. LCA can evaluate several environmental impacts (air pollution, ozone layer depletion, climate change, etc.) or

focus on a single impact (e.g. climate change). When only climate change is considered it is called product carbon footprint or carbon LCA.

The product carbon footprint is derived from a combination of activity data provided by Ana Luisa and from publicly available sources (primary data) and emission factors extracted from internationally recognised metrics. Greenhouse gas (GHG) activity data is then multiplied by GHG emission factors to produce carbon metrics.

The accuracy of the data provided was deemed sufficient to provide a fair overall assessment of the carbon footprint calculation (*see table below.*)

<b>Data Set</b>	<b>Source of Data &amp; Comments</b>	<b>Accuracy</b>
Raw materials Embodied emissions	Individual metal weights and material types (solid gold, sterling silver, brass) provided by Ana Luisa.	Excellent
Raw materials Transport	Supplier and manufacturer locations were provided on the most part allowing transport emissions to be accurately calculated. Some locations were unknown and so a transport distance of 25km by truck was assumed where necessary.	Good
Manufacturing	For the manufacturing sites in Hong Kong and Mexico, accurate annual energy consumption data for the factories was acquired allowing Carbon Footprint to apportion the emissions to one earring.	Very Good
Product distribution	Ana Luisa provided a percentage split by country for where products are sent by air freight (e.g. 72.2% to US). The product distribution was modelled on delivery to the capital of each country with a 25km truck journey added to the end to account for delivery to the end customer.	Good
Disposal	Disposal was modelled as landfill for brass, gold plating and suede with the remainder of materials modelled as recycled.	Good
Office energy	Cool Effect's business emissions calculator was used to calculate the footprint of both offices in the US & Europe using actual annual operational data.	Very good

## **Current Calculation Limitations & 2021 Objectives**

We have been delving into our data and calculations with third-parties since January 2020. It is still a new and challenging process for us, therefore our objective for 2021 and onwards is to make it even more

thorough, documented, and of course to find better solutions to manage our carbon footprint while expanding our business. Here is a list of criteria we would like to add to our upcoming calculations:

- Our model currently only measures our carbon footprint and global warming potential, i.e. the CO<sub>2</sub>e, or carbon dioxide equivalent. This is the standard unit for measuring carbon footprints, however we would like to further incorporate water and waste in our upcoming calculations to have a more thorough overview of our impact as a business.

- We release small batches of new pieces every Friday. These pieces become part of our permanent collection if they meet our clients' expectations. We've been expanding our collection very quickly lately, each piece presenting a new assemblage of unique design specifications (stone, pearl, enamel, different clasps, closures, etc.). One of our main challenges will be to shift from overarching footprint estimates based on our most frequently used materials and references, to specifically delving into each piece's exact carbon footprint given its unique specification combination.

### **Emission Factors**

Material emission factors are sourced either from EcoInvent's database (v3.6) or the UK Government (BEIS, 2019). All EcoInvent factors account for all processes during the production of raw materials and all processes after that (including transport). Transportation and international electricity transmission and distribution factors are sourced from Defra/BEIS factors; published in June 2019 (v1.0). When an exact material emissions factor was not available for a raw material, a suitable alternative was researched and used instead.

### **References**

EcoInvent database v3.6 2019, available at <http://www.Ecoinvent.org/>

Guidelines to Defra's Greenhouse Gas (GHG) Conversion Factors for Company Reporting – annexes (June 2013)

UK Government GHG Conversion Factors for Company Reporting (v1.0 August 2019)

UK Government GHG Conversion Factors for Company Reporting (v1.0 August 2017)

Climate Transparency, 2018 Green to Brown Report for G20, available at <https://www.climate-transparency.org/g20-climate-performance/g20report2018>

Product Lifecycle Accounting and Reporting Standard - [https://ghgprotocol.org/sites/default/files/standards/Product-Life-Cycle-Accounting-Reporting-Standard\\_041613.pdf](https://ghgprotocol.org/sites/default/files/standards/Product-Life-Cycle-Accounting-Reporting-Standard_041613.pdf)

Desjardins, R.L., Worth, D., Verge, X.P.C., Maxime, D., Dyer, J. and Cerkowniak, D., Carbon Footprint of Beef Cattle, 2012, Sustainability