



# Green Impact Product Report

**Product:** Ecojoiner – 600ml Aqua Bottle 6FV v1.0

**Impact Template:** v1.1

**Batch Estimate:** 1000 units

**Enterprise:** Omah Silah Bumi

**Date:** August 26<sup>th</sup> 2025

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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](http://www.ecobricks.org/principles).

Green Impact Reports are generated by the product, and not the GEA 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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*Towards Greening, Circular & Regenerative Design*



## CO2 Impact

One the clearest ways to measure the impact of a product is by measuring how much carbon dioxide (CO<sub>2</sub>) 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 CO<sub>2</sub> equivalency (CO<sub>2</sub>e) 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, CO<sub>2</sub> is produced. CO<sub>2</sub> 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 CO<sub>2</sub>

#### Production

- The cutting, drilling and routing of ecojoiners requires electricity. We estimate from our workshop electricity bill that 90 kwh of electricity are used to produce 1000 units. We estimate a [0.256 kg of CO<sub>2</sub> is produced per kWh of electricity](#).<sup>1</sup> This results in an impact of **23.4Kg** CO<sub>2</sub>.
- The shipping of completed ecojoiners from East Java to Jogja by truck (219km) have an impact of 0.069Kg/km according to the [ECTA](#).<sup>2</sup> This works out to an impact of **15.33kg** for shipping 1000 units to Bali.
- Production total: 38.73 Kg CO<sub>2</sub>e.

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1 <https://bulb.co.uk/carbon-tracker/>

2 [https://www.ecta.com/resources/Documents/Best Practices Guidelines/guideline\\_for\\_measuring\\_and\\_managing\\_co2.pdf](https://www.ecta.com/resources/Documents/Best Practices Guidelines/guideline_for_measuring_and_managing_co2.pdf)



## Materials

- Glue and finishing oils we use have CO2 production impacts. [Crownpaints estimates the CO2 impact of a 5L can to be as 13.58 kgCO2e](#).<sup>3</sup> We estimate that we need one 250ml can per 50, or 5L or epoxy paint, for 1000 Ecojoiner.
- Materials Total: **13.58Kg** of CO2e.

## 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](#)<sup>4</sup> per order.

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

## Shipping to Customers

- We're beginning with only Indonesian sales, and only shipping packages by domestic non-express shipping. Based on calculations in "[The environmental impact of mail](#)"<sup>5</sup> we estimate a CO2 footprint for our 250g Ecojoiner shipments of 75g.
- Shipping total: **75kg** of CO2e.

## Product Process that Sequester CO2

### Bamboo Plantation

- The growth, cultivation and replanting of the bamboo used for producing our ecojoiners has an estimated effect of sequestering 0.51Kg of CO2 per Kg of bamboo according to [a study of Asian bamboo products](#)<sup>6</sup>.

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3 <http://www.newlifepaints.com/carbon-impact-of-waste-paint-the-stats>

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

5 <https://www.pb.com/docs/US/pdf/Our-Company/Corporate-Responsibility/The-Environmental-Impact-of-Mail-A-Baseline-White-Paper.pdf>

6 <https://worldbamboo.net/wbcx/Keynotes/KeynotevanderLugt.pdf>



- As each 6FC ecojoiner (specifically for 600ml Aqua Bottles) has an average weight of 0.4Kg of bamboo, we estimate a 0,204 Kg sequestered through plantation per unit
- Plantation Sequestration per 1000 units: 2004 Kg

### Plastic Sequestration CO2 Credit

6FC Ecojoiners put six 600ml ecobricks to use. Ecobricks contain sequestered plastic. The average amount of plastic contained in a 600ml ecobrick is 234g of plastic<sup>7</sup>. The Plastic Sequestration inspired by the product (see Plastic section below) prevents this plastic from degrading and releasing its carbon into the atmosphere as CO<sub>2</sub>. The GEA estimates that for each Kg of plastic 6.1 Kg of CO<sub>2</sub> are also sequestered.<sup>8</sup>

- Total CO<sub>2</sub> Credit from Plastic Sequestration for 1000 units:  $1000 \times 6 \times 0.234 \times 6.1 = 8784 \text{ kg}$

### Replacing a similar Industrial Product

Products that replace similar plastic and/or industrially produced products can also claim a CO<sub>2</sub> credit.

- Ecojoiners provide a substitute for plastic furniture that is industrially produced. The initial use of ecojoiners is to make tables and chairs. Eight ecojoiners make one chair that can replace a standard polypropylene (PP) monobloc chair. recent Environmental Product Declaration for a standard polypropylene monobloc chair reports a cradle-to-grave carbon footprint of approximately **17.6 kg CO<sub>2</sub>e per chair**, covering raw materials, manufacturing, transport, use, and end-of-life.<sup>9</sup>
  - Since it requires six ecojoiners to make one such chair, we can claim  $17.6 / 6 = \mathbf{2.93 \text{ CO}_2\text{e}}$  offset estimate per joiner. For 1000 units: 2933 kg CO<sub>2</sub>e

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7 See Global Ecobrick Alliance Plastic Coefficients For ecological accounting  
<https://ecobricks.org/en/coefficients.php>

8 [www.ecobricks.org/why](http://www.ecobricks.org/why)

9 Nardi S.p.A. (2021). *Environmental Product Declaration: Trill Armchair (Polypropylene Monobloc Chair)*. EPDItaly. Retrieved from <https://environdec.com/library/epd13383>



<b>CO2 Impacts</b>				
<b>CO2 Produced per 1000 units</b>				
<b>Process</b>	<b>Details</b>	<b>Kg of CO2</b>	<b>Units</b>	<b>Total</b>
Production	Electric sanding	23.4Kg	Batch	+38.73 Kg
Materials	Glue, paint	13.58Kg	Batch	+13.58Kg
Server	GoBrik Shop + emails	0.05 / unit	1000	+50kg
Shipping	Indonesian Delivery	0.075	1000	75kg
<b>Total CO2 Produced</b>				<b>+177.31 kg</b>
<b>CO2 Sequestered</b>				
<b>Process</b>	<b>Details</b>	<b>CO2/Kg</b>	<b>Units</b>	<b>Total</b>
Bamboo	0.4 Kg of bamboo per product @ 0.51Kg CO2 per Kg bamboo	-0.204Kg CO2	1000	-204 kg
Plastic Offsetting	Six 234g Ecobricks	1.43.Kg CO2	6000	- 8580 kg
Replacement of Plastic Product	8 ecojoiners replace one monobloc plastic chair.	- 2.93 Kg CO2	1000	- 2930 kg
<b>Total Sequestered</b>				<b>-11,714 kg</b>
<b>Total CO2 Impact</b>				<b>-11536 kg</b>
<b>Per unit sequestration</b>				<b>-11.5kg CO2e</b>





## 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.

Ecojoiners also directly sponsor in the removal of plastic from the biosphere by their application of ecobricks. This is measure in Kg of plastic avoided and/or sequestered.<sup>10</sup>

## Plastic Production

### Manufacturing

We estimate that we need one 250ml (@250g) can of epoxy glue per 50 ecojoiners. We also will use 100 grams of pen and 3 glue bottles per 1000 units. We use a paper/plastic sticker for the ecojoiners that weighs 1g.

- Total plastic impact: 13.6 kg plastic per 1000 ecojoiners

### Marketing / Labeling

We've managed to completely eliminate plastic from our packaging and labeling.

### Shipping

- The Indonesian post office uses plastic coating labels for shipping and often insists on putting plastic tape on packages. We've designed our packaging to minimize this need. Per package plastic is about 3g.

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<sup>10</sup> See Plastic Sequestration: <https://ecobricks.org/en/sequest.php>



- For 1000 units shipped = 3Kg plastic

## Plastic Sequestration

6FC Ecojoiners put six 600ml ecobricks to use. Ecobricks contain sequestered plastic. The average amount of plastic contained in a 600ml ecobrick is 234g of plastic<sup>11</sup>.

## Replacing Plastic Equivalent Products

Ecojoiners provide a substitute for plastic furniture that is industrially produced. The initial use of ecojoiners is to make tables and chairs. Eight ecojoiners make one chair that can replace a standard polypropylene (PP) monobloc chair that weighs on average ~2.5–5 kg of plastic depending on model/reinforcement. We will use the 4.7Kg value of the PP Trill Armchair<sup>12</sup>.

- Given that eight ecojoiners are required to make one chair, one ecojoiner can claim an offset of 0.587kg of plastic

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11 See Global Ecobrick Alliance Plastic Coefficients For ecological accounting  
<https://ecobricks.org/en/coefficients.php>

12 See page 4: Nardi S.p.A. (2021). *Environmental Product Declaration: Trill Armchair (Polypropylene Monobloc Chair)*. EPDItaly. Retrieved from <https://enviromdec.com/library/epd13383>



<b>Plastic Impacts</b>				
<b>Plastic Produced</b>				
<b>Process</b>	<b>Details</b>	<b>Kg Plastic/unit</b>	<b>Units</b>	<b>Total</b>
Manufacturing	Glue bottles, epoxy, pen, sticker	13.6kg	batch	+13.6 kg
Marketing	none	0.000	-	-
Shipping	Tape, stickers	0.003		3Kg
<b>Total Produced</b>				<b>+16.6 kg</b>
<b>Plastic Sequestered</b>				
<b>Process</b>	<b>Details</b>	<b>Kg Plastic/unit</b>	<b>Units</b>	<b>Total</b>
Sponsored Ecobricking	6 ecobricks per ecojoiner	0.234kg	1000	1404kg
Plastic Replacement	Plastic cups and tumblers not bought	0.587 Kg	1000	587 Kg
<b>Total Sequestered</b>				<b>-1991 kg</b>
<b>Total Plastic Impact</b>				<b>-1974 kg</b>
Impact per unit				1.97 kg of plastic