



BRAINCHILD
PRODUCTION

Sustainability Report

SAVE FOR REAL

FOREWORD

The sustainability and environmental philosophy of **BRAINCHILD Production** is rooted in reevaluating every aspect of our products, from materials and processing techniques to utility, durability, supply chains, and properties.

We don't chase after marketing trends, claims, or political statements; instead, **we define sustainability and environmental awareness through reasoned action.**



Our priorities include reducing materials, sourcing locally, and identifying meaningful alternatives, forming the foundation of **BRAINCHILD Production's** sustainability mission.

OUR ENERGY CONCEPT

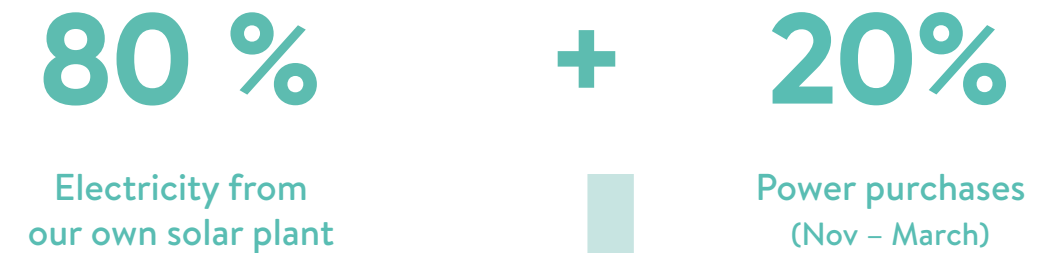
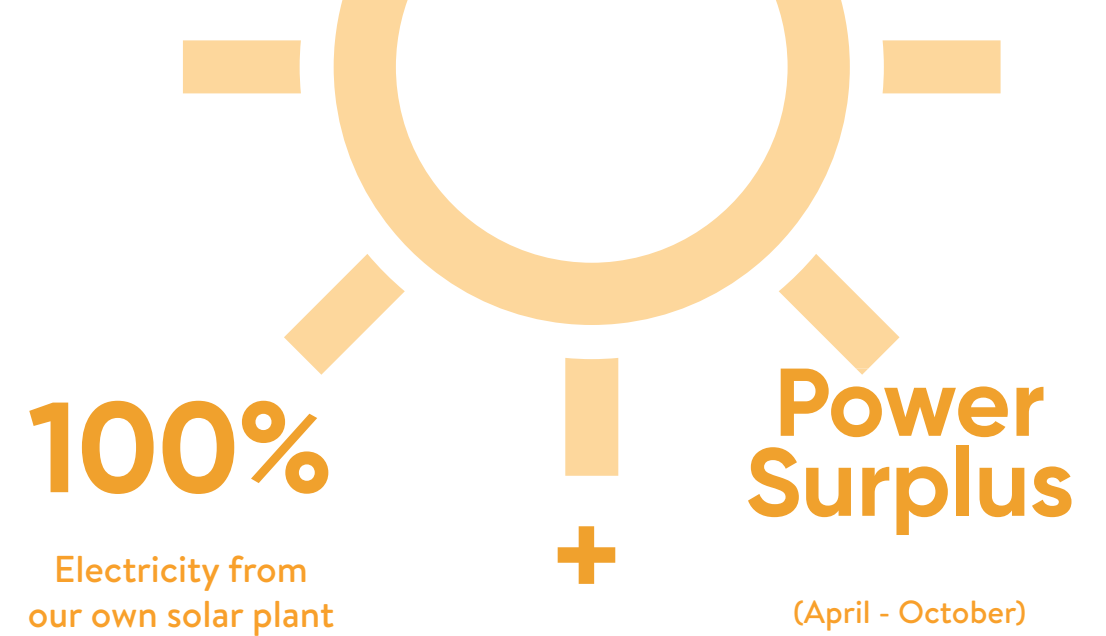
Our **100 kW solar system** generates the amount of electricity needed to sustain our annual production.

During summer, surplus energy is generated, which offsets additional energy purchases in winter.

Our production operates **entirely free of fossil fuels.**

We use no generators or fossil-fueled vehicles.

Heating and cooling systems are powered by a **heat pump**, driven by solar energy.



100kW Solar



Product

How We Make Our Products More Sustainable



THE KITE BAG

Our sustainable kite bag initiative begins by eliminating unnecessary accessories and replacing plastic components with sustainable alternatives. We analyzed kite bags from multiple brands to determine which features, such as buckles, adjusters, nets, zippers, and inner materials, are essential.

This approach has resulted in a kite bag made of **97% recycled or recyclable materials**, with an **average weight reduction of 24%** compared to standard bags.

 **97%**
BRAINCHILD KITE BAG

Percentage of recycled or recyclable components

 **-24%**
BRAINCHILD KITE BAG

On average lighter than other kite bags.

Components of a kite bag produced at BRAINCHILD Production

Components	Material	Eco	Source	Goal 2025
Basic Material	Polyester undyed			European Supplier
Hook & Adjuster	Wood			Alternative/ Recycled Plastic
Webbings / Bungees	Polyester			
Yarn	Polyester undyed			
Shoulderstraps	Foam			Ecofriendly Alternative
Cotton bags / Covers	Cotton			



Kite Bag Comparison

Brand	Produced in Asia	Produced at BRAINCHILD	Weight difference in kg Asia vs. BRAINCHILD	Weight difference in %	Weight difference of 1,000 bags in kg
Kite bag 9m Kite					
Brand (A)	0.65 kg	0.557 kg	0.093 kg	14%	93 kg
Brand (B)	0.66 kg	0.494 kg	0.166 kg	25%	166 kg
Brand (C)	0.858 kg	0.616 kg	0.242 kg	28%	242 kg
Brand (D)	0.61 kg	0.494 kg	0.116 kg	19%	11.6 kg
Brand (E)	0.575 kg	0.494 kg	0.181 kg	14%	8.1 kg
Brand (F)	0.91 kg	0.494 kg	0.0416 kg	46%	41.6 kg
Brand (G)	0.63 kg	0.494 kg	0.136 kg	22%	13.6 kg

Conclusion: If you compare a kite bag produced in Asia with a kite bag produced by **BRAINCHILD**, the bag is on average **24% lighter**.

This results in a weight and material saving of 575.90 kg per 1000 bags.

WATER RESOURCE CONSERVATION

By exclusively using white materials, we reduce **water consumption by 75%** compared to the typical requirements for dyeing textiles.

This practice also minimizes surplus storage and **reduces material waste by approximately 8%.**

DIGITAL PRINTING

Digital printing with **water-based Ecolnk** offers an eco-friendly alternative to conventional dyed materials and traditional printing methods, such as screen printing.



 **-8%**

MATERIAL WASTE
by using digital printing



KITES & WINGS

All kites and wings follow **BRAINCHILD's** core principles and modular design system. This includes optimized processing techniques, careful material selection, and lightweight hardware components such as battens and valves.

These measures lead to an **average weight reduction of approximately 24% per kite.**

 **-24%**
BRAINCHILD KITE

On average lighter than other kites on the market.

Componentes of a Kites produced at BRAINCHILD Production

Main Componentes ca. 75%	Material	ECO	Source	Goal 2025
Canopy 01	Polyester / white			
Canopy 02	Polyester / natural			
Dacron	Polyester / natural			No alternative available until yet
Bladder ca. 20%	Material	ECO	Source	Goal 2025
Bladder	25% biobased			
Others ca. 5%	Material	ECO	Source	Goal 2025
Webbing	PET			
Webbing belt	PET			
Yarn	PET			
Valve (Deflation)	Pure-TPU from Germany			
Valve (Inflation)	Pure-TPU			Local source
Plastic Clips	PA			

Percentages of the material components of a kite in %:

Canopy & Leading Edge
75%

Bladder
20%

Others
5%

Kite Comparison

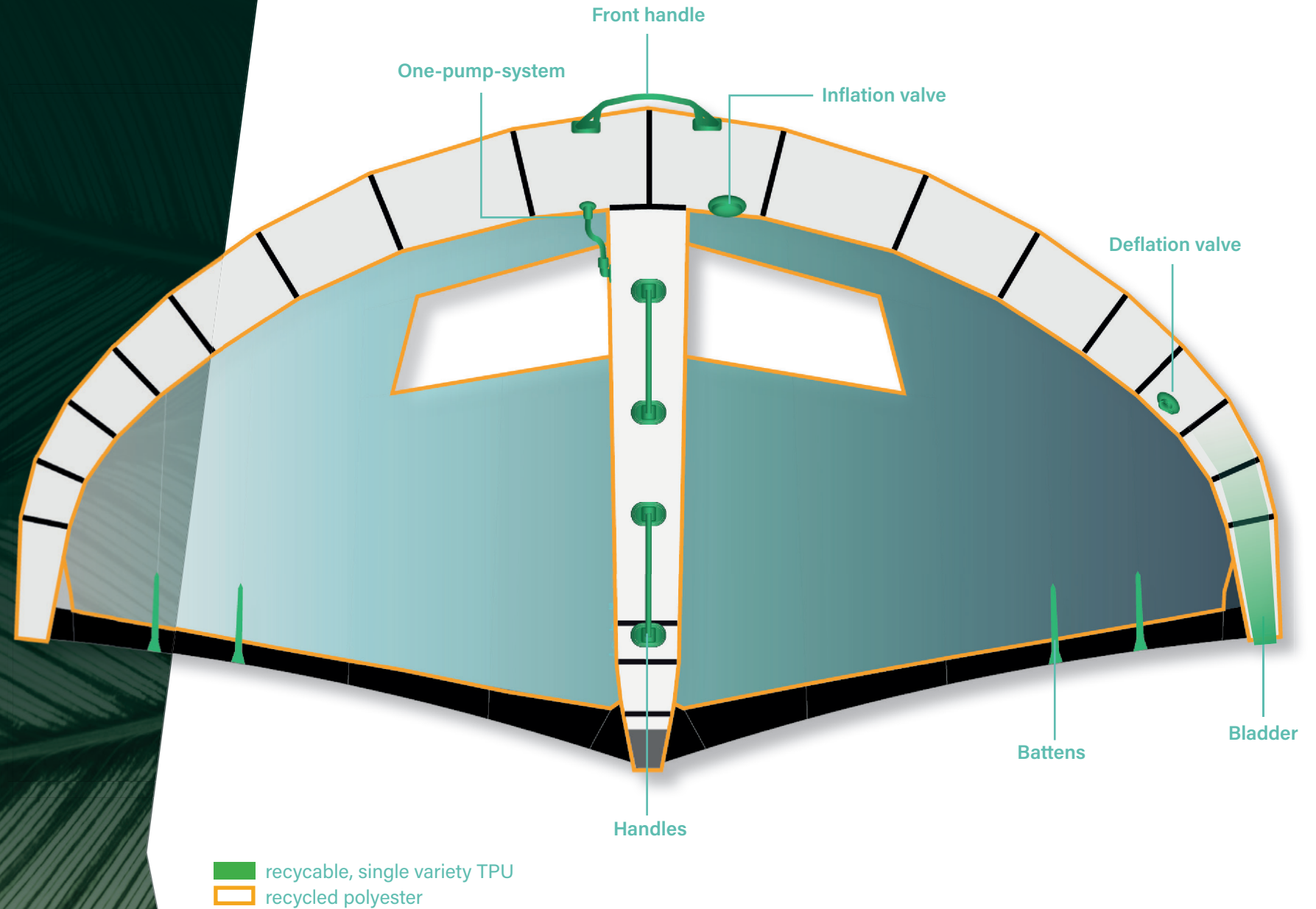
Brand	Produced in Asia	Produced at BRAINCHILD	Weight difference in kg Asia vs. BRAINCHILD	Weight difference in %	Weight difference of 100 kites in kg
9m Kite / 3 Strut					
Brand (A)	<i>Kite 9m</i> 2.895 kg	<i>THRIVE 2024</i> 2.3 kg	0.595 kg	21%	59.5 kg
Brand (B)	<i>Kite 9m</i> 3.07 kg	<i>TRIGGER 2024</i> 2.52 kg	0.55 kg	18%	55 kg
Brand (C)	<i>Kite 9m</i> 2.75 kg	<i>THRIVE 2024</i> 2.3 kg	0.45 kg	16%	45 kg
Brand (D)	<i>Kite 9m</i> 2.82 kg	<i>THRIVE 2024</i> 2.3 kg	0.52kg	18%	52 kg

Conclusion: If you compare 3-strut kites produced in Asia with 3-strut kites produced at BRAINCHILD Production, we can achieve a kite that is on **average 24% lighter**. This results in a **weight and material saving of 52.88 kg per 100 kites produced** by BRAINCHILD Production.

BRAINCHILD ARE PRODUCED FROM „CRADLE TO CRADLE“

ADVANTAGE

-  Product components are designed to be recyclable
-  Production is equipped with self-sufficient energy supply
1MW Solar power units with 300kwh of energy buffer
-  Short transport routes to European main markets
-  Local sourcing reduces footprint
-  Usage of recycled and European-based materials



EUROPEAN PRODUCTION

BRAINCHILD Production manufactures all products in North Macedonia, at the heart of Europe. Prioritizing **European suppliers** for raw materials and tool production significantly **reduces transport distances** compared to the global production processes typically used for wings and kites.



Study Case: The Transport of a Bladder in comparison to a production in Asia

Germany	.....	2.000 km	.....	North Macedonia
		(LKW)		
North Macedonia	.....	2.300 km	.....	Kite Customer Netherlands
		(LKW)		
Germany	.....	12.879 km	.....	Sri Lanka
		(Sea freight)		
Sri Lanka	.....	7.700 km	.....	Kite Customer Austria
		(Air freight)		



BRAINCHILD

WE FOCUS ON DURABILITY

Our mission is to develop durable products that meet the **highest standards of quality** and **longevity**. In cases where recycled components compromise lifespan, we opt for alternatives that ensure greater durability.

Through extensive marketing as a **“label”** and the introduction of new product standards, we aim to influence the industry and encourage more sustainable production practices, particularly in Asia.

The background of the image is a close-up, top-down view of several large, green fern fronds. The fronds are layered, creating a sense of depth and texture. The lighting is soft, highlighting the intricate vein patterns of the leaves. The overall color palette is a range of greens, from light lime to deep forest green.

EMPLOYEES

Good Working Conditions at BRAINCHILD Production



WORKING CONDITIONS

BRAINCHILD Production guarantees workplace safety!

In addition to standard safety measures, we provide employees with **climate-controlled working environments** powered by heat pumps.

This alleviates the physical challenges posed by extreme summer heat and winter cold, fostering a **more efficient** and **comfortable workspace**.

ADDITIONAL BENEFITS

All **BRAINCHILD** employees receive private supplemental **health insurance**.

SHARED TRANSPORTATION

We provide **shared transportation services** for employees, with multiple city stops to facilitate commuting. The average daily commute is approximately 16 km per person (round trip).

COMPARISON:

Scenario 1: Individual Commute by Car

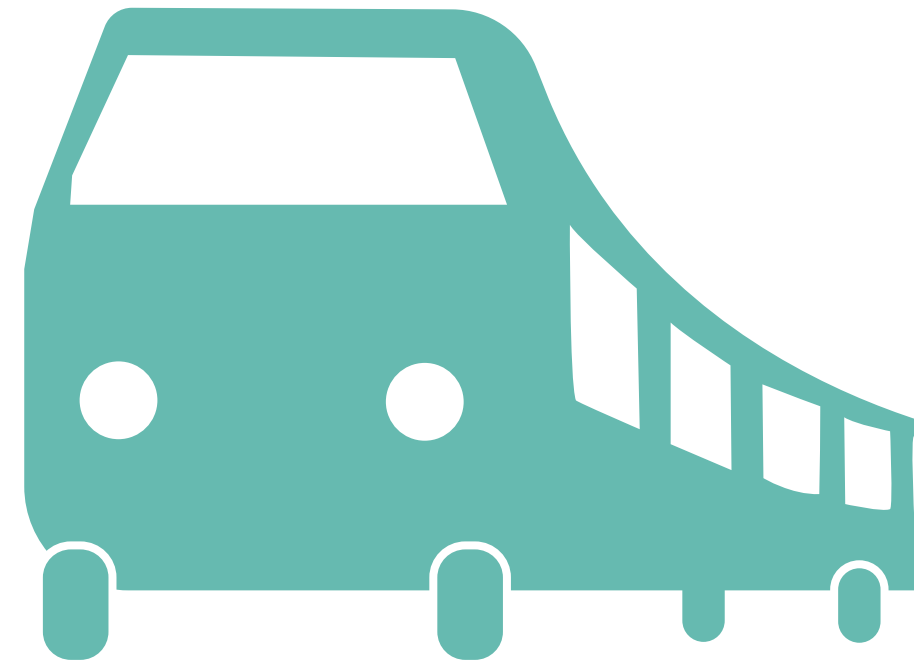
Average daily commute 16 km/Person x (230 working days/year – 25 days of holiday) = 3.280 km/Person

3.280 km/year x 80 Employees = 262.400 km by car

Scenario 2: Shared Transportation

Average daily commute 16 km/80 Persons x (230 working days/year – 25 days holiday) = 4.080 km / 80 Persons

4.080 km/year x 2 Busses with 40 Persons = 8.160 km by shared transportation



The background of the slide is a close-up photograph of several green fern fronds. The fronds are layered and overlap, creating a dense, textured pattern. The lighting is soft, highlighting the intricate vein structure of the leaves. The overall color palette is a range of greens, from light lime to deep forest green.

Goals

What we aim to achieve

RECYCLED RAW MATERIALS AND RECYCLABLE END PRODUCTS

The materials we use are of paramount importance to our mission. One critical focus is plastics. Plastic components can and should be made from recycled or recyclable materials.

In collaboration with local companies, **we aim to recycle plastics for nearly all of our hardware components by utilizing leftovers from the automotive.**

RECYCLING PLANT IN OUR OWN FACILITY

In the long term, we aspire to establish an **in-house recycling station.**

This approach ensures a flawless recycling process by giving us complete transparency and control over the origins of all materials used in our production.





BRAINCHILD
PRODUCTION

BRAINCHILD Production Doo

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