



# **!80D**

## *Professional*

**100% Biodegradable products**



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# *Professional*

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WHO WE ARE

# Who We Are

180D is a Taiwanese Eco-brand that produces industry changing, 100% biodegradable, disposable consumer products.

Our goal is to reduce plastics from the supply chain and carbon from the global footprint.





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WHY US


# Why Us

80% of brands with eco-friendly disposable products on the market are in fact, produced by third party resellers.

We have our own production line and have developed an innovative and eco-friendly material (CARBING).


By covering the entire process, from materials and development to production and distribution, our clients have a 100% guarantee of transparency and quality.

## MISSION



Providing 100%  
biodegradable  
and eco-friendly  
products.

## VISION



Eliminate non-  
biodegradable plastic  
products and equally  
harmful alternatives.



# VALUES





# Global Pollution

**Less than a 20% of all plastic  
is recycled globally**

Plastic pollution poses a great  
threat to our planet.

One of the major sources of plastic  
pollution is plastic straws.

It has been estimated that a total of  
600 billion straws are used annually  
worldwide.

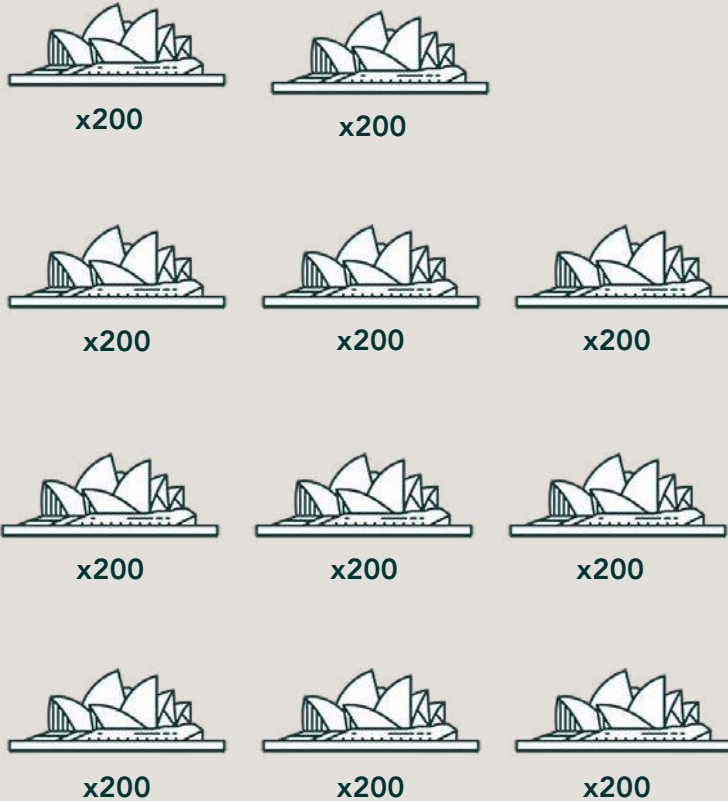


A photograph of a dead orca (killer whale) lying on a sandy beach. The orca is black with white patches on its chest and belly. The beach is littered with various pieces of plastic waste, including bottles, bags, and small debris. In the background, the ocean is visible with a few people swimming in the water under a clear blue sky.

**Millions of creatures  
die each year due to  
plastic pollution.**

**Every sea organism has microfibres  
of plastics in their body.**

## ENVIRONMENTAL IMPACT



**320 million\***

**tonnes plastic produced  
annually worldwide**

\*equivalent of two thousand times weight of  
The Sydney Opera House

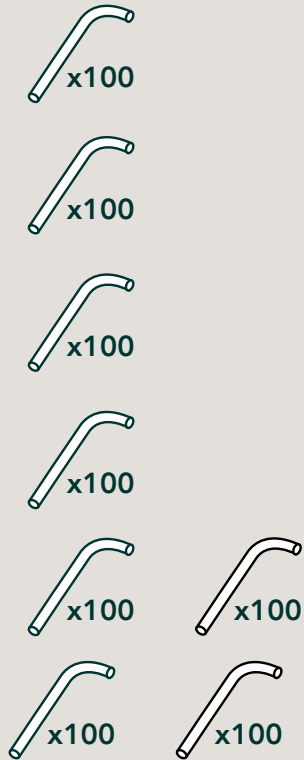


**8 million**

**tonnes of plastic trash  
fills our oceans**

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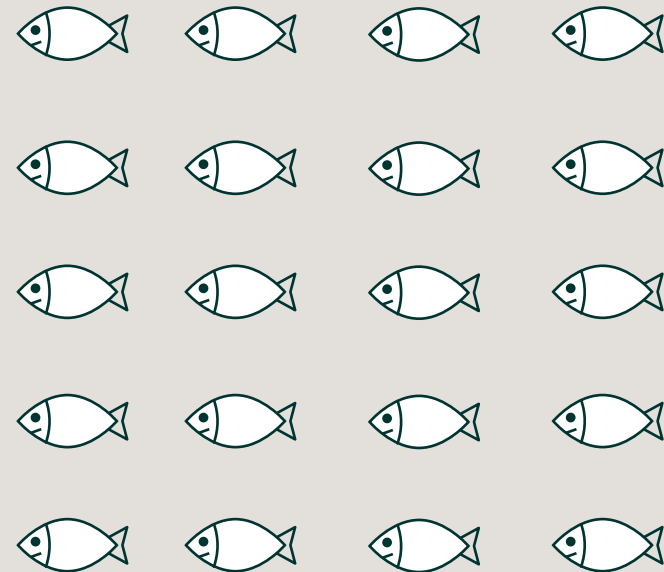
## ENVIRONMENTAL IMPACT



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**8 billion**

plastic straws on  
worlds beaches



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**1 million**

marine mammals, turtles, and sea  
birds are killed by plastic pollution



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More countries are taking action in banning single use plastic straws and searching for alternatives.



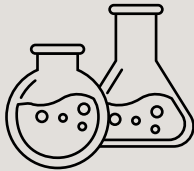


## PAPER STRAWS & DISPOSABLE PAPER PRODUCTS

**Non-environmental production.**



**Releasing corrosive acids and chemicals in to the water.**



**Coated with plastic and put together with glue -> tastes terrible**



**Get soggy easily and cannot be reused.**



**Not a solution!**

# Bamboo Fibre Straws



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## BAMBOO - THE MOST SUSTAINABLE CROP ON EARTH

### Reduce Carbon

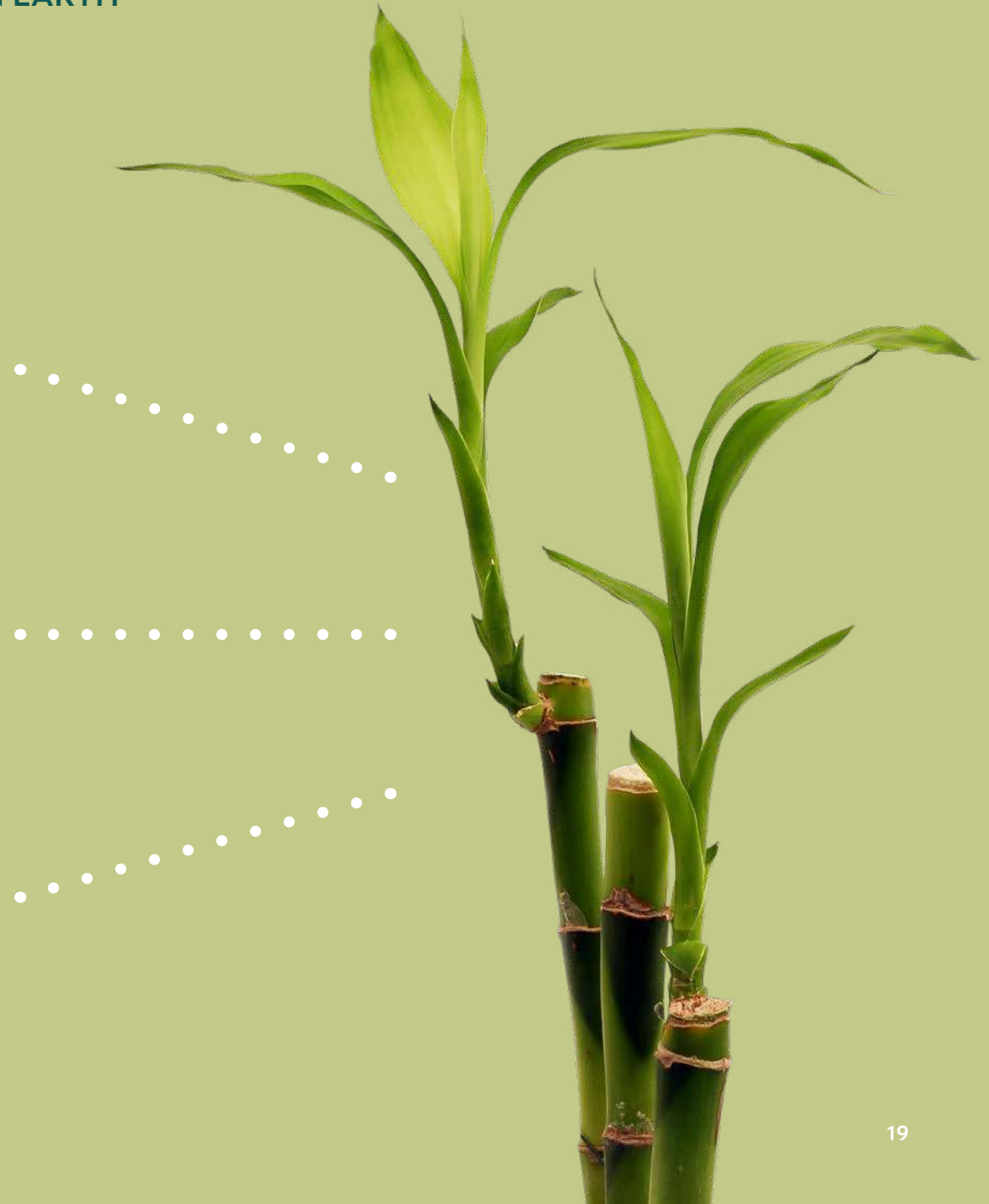
Store incredible amounts of carbon.  
A Powerful weapon against global warming.

### World's Fastest Growing Plant

Reaching full maturity in just 3 years.  
Bamboo's rapid growth allows for frequent harvesting.

### Everyday Use

Bamboo is a versatile renewable resource, with a growing range of applications.





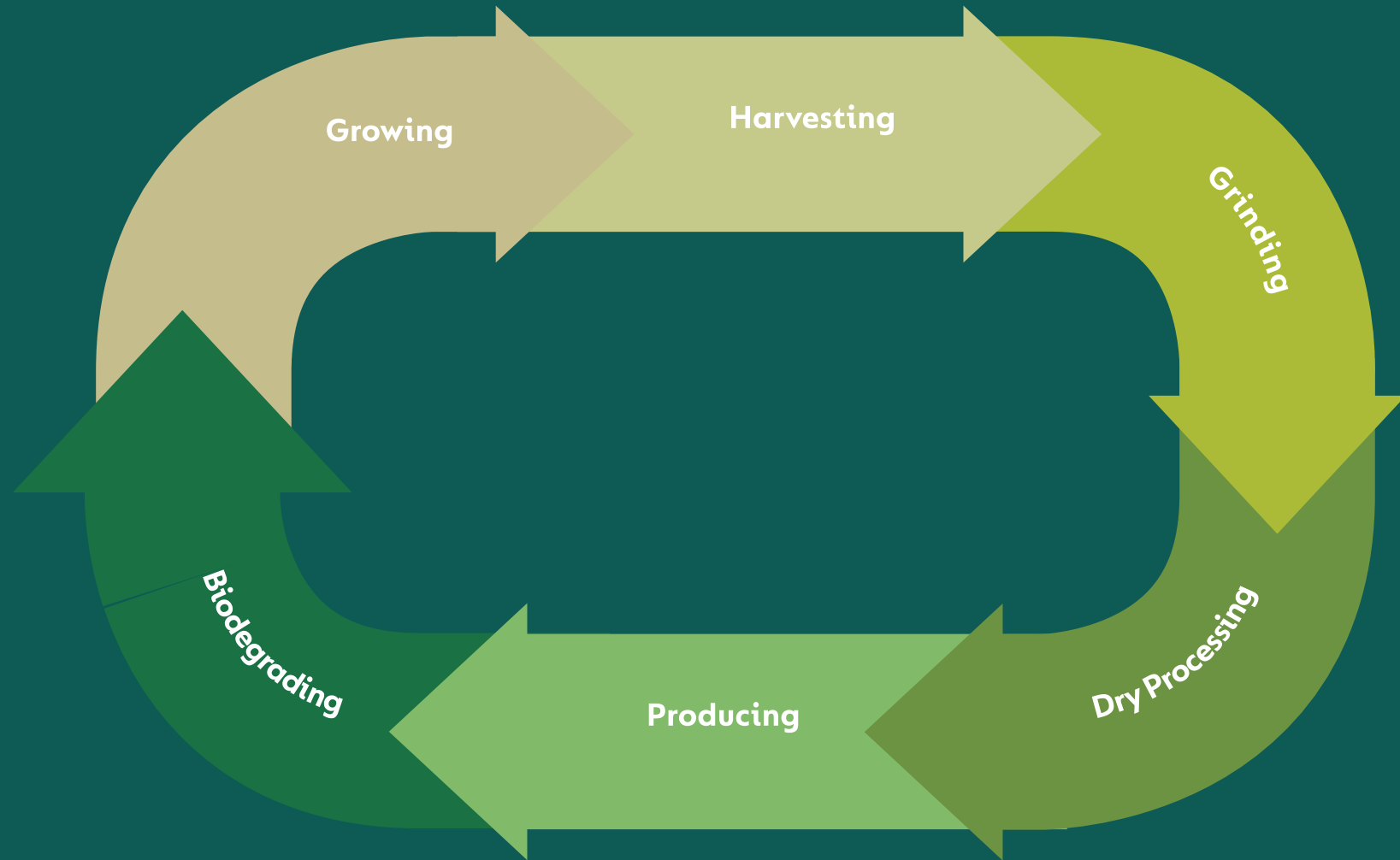
ONLY  
**3 years**  
TO MATURITY



A Powerful Weapon  
against global warming.

Bamboo store incredible  
amounts of carbon.

## PROCESSING OF BAMBOO - CYCLE OF LIFE



### **CARBING Material**

Detailed information about the process and our material is in the second part of this brochure



## PRODUCT FEATURES



+100°C  
-20°C

### Resistance

180D Straws have a temperature resistance of - 20~100 °C, and will never become soggy. Tested & Certified.



Plastic  
Free

### Traditional Plastic-Free

180D Straws are completely free of \*traditional plastic, and PLA.

120  
DAYS

### Biodegradable

180D fibre straws are able to break down in the natural environment without creating pollution in the water or soil. It happens in a span of 120 days in an controlled environment.



\*Our material does not contain any of the following traditional plastic materials: PVC, PET, PE, PP, PS, PC and PLA.





## Compostable & Combustable

Our bio-based straws can be safely disposed of as general waste after use, and burn without releasing any toxic chemicals.



## Natural Bamboo Fibre

180D Straws are made from natural bamboo fibre and bio-based polymers.



## Tests Certified

Made in Taiwan.

Certifications : DIN, BPI, AS, SGS, FDA, LFGB, and Food Contact Material Tests.



## USAGE

Common plastic alternatives like paper-based products turn soggy, breaking down easily in liquids. Our manufacturing process uses bamboo as the base material giving our products ultimate durability.

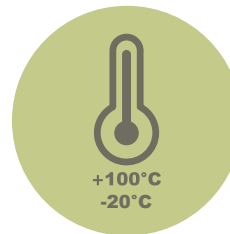
**01**

Our products are able to hold over 24 hours in liquids.



**02**

Our products have a heat resistance of -20°C to 100°C.



**Durability**

## COMPARISON CHART

	<b>!80D</b> <i>Professional</i>	<b>PAPER</b>	<b>PLA</b>	<b>PLA OR PP</b> <b>+ PLANT FIBER</b>
<b>USAGE</b>	Disposable	Disposable	Disposable	Disposable
<b>MATERIAL</b>	BioPBS+Bamboo	Paper	PLA	PLA/PP + Fiber
<b>TRANSPARENCY</b>	Non	Non	Transparent	Semi
<b>COLOR</b>	Natural	Printed	Coloured	Brown
<b>ODOR</b>	Natural	Paper/Glue	Non	Natural
<b>DURABILITY</b>	High	Low	Middle	Middle
<b>HEAT RESISTANCE</b>	High 100°C	Low Below 50°C	Mid 50~60°C	Mid 50~60°C
<b>FOOD CONTACT SAFETY</b>	Safe	Glue/Plasticizer	Safe	Safe/Plasticizer
<b>ECO FRIENDLY</b>	Biodegradable	Biodegradable	Non-Biodegradable	Non-Biodegradable
<b>COMPOST</b>	Compostable	Compostable	Industrial Compostable	Industrial / Non Compostable
<b>AFFECTED BY HUMID</b>	Low	High	Mid	Mid
<b>COST</b>	**	**	**	**

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# CERTIFICATIONS

180D's acquiring numerous worldwide certifications, guarantees quality and ensures consumer confidence by properly identifying our biodegradable products and their distinctive characteristics.





**DIN Certco**

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### **ECO Certificates**

DIN Home/Industrial Compostable,  
BPI, AS Compostable, Intertek,  
Taiwan Green Mark



**Taiwan Food  
Contact Material**

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### **Food Safety Certificates**

USA FDA, EFSA, LFGB, Taiwan FDA,  
JIS Japan, China GB, Australia  
Standards



**ISO 22000  
ISO 9000**

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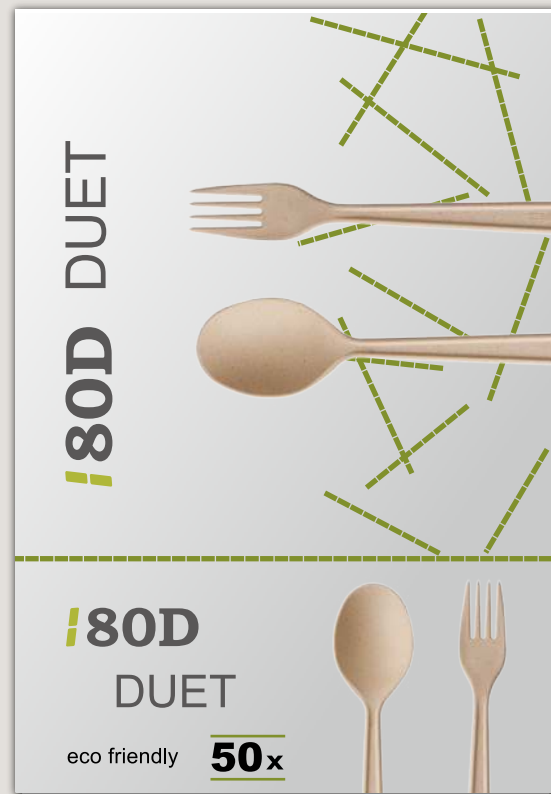
### **Factory Quality Standard**

ISO 22000, ISO 9000, HACCP



# Product Line

We've developed a full range of bio-based disposable tableware and cutlery including spoons, forks, knives, plates and more.



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## PRODUCT LINE



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### Straws

180D Straws  
Size : Ø 6mm x 230mm



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### Shakey

180D Straws  
Size : Ø 8mm x 230mm



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### Smoothee

180D Straws  
Size : Ø 10 x 230mm



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## PRODUCT LINE



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### **Bobba**

180D Straws

Size : Ø 12 mm x 230mm



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### **Samurai - Knife**

180D Utensils



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### **Poseidon - Fork**

180D Utensils

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## PRODUCT LINE



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**Soupmate - Spoon**  
180D Utensils



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**Sweetie - Teaspoon**  
180D Utensils



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**Tang - Chinese spoon**  
180D Utensils

PRODUCT LINE



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**DUO**  
180D Utensils - Sets  
Include : Knife, Fork



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**DUET**  
180D Utensils - Sets  
Include : Spoon, Fork



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**TRIO**  
180D Utensils - Sets  
Include : Knife, Fork, Spoon



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180D PROFESSIONAL

# 180D Professional

180D Professional products are designed to serve professional businesses like restaurants, catering companies, airlines, fast food chains, food stalls, etc...

All 180D Professional products can be customized to meet the specific needs of our professional clients.



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180D PROFESSIONAL



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**Tray - Long**  
180D Professional

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**180D PROFESSIONAL**



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**Tray - Medium**  
180D Professional



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**Container with Lid - Round**  
180D Professional

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## 180D PROFESSIONAL



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**Container - Oval**  
180D Professional



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**Lunch Box**  
180D Professional



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180D PROFESSIONAL



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**Double Container**  
180D Professional



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**Tray - Flat**  
180D Professional

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## 180D PROFESSIONAL



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**Spoon - Take Out**  
180D Professional



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**Fork - Take Out**  
180D Professional



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**Knife - Take Out**  
180D Professional

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## 180D PROFESSIONAL



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**Utensils Set – Take Out**  
180D Professional



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**Chinese Spoon - Take Out**  
180D Professional



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**Teaspoon - Light**  
180D Professional

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## 180D PROFESSIONAL



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**Spoon - Light**  
180D Professional



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**Knife - Light**  
180D Professional



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**Fork - Light**  
180D Professional

180D PROFESSIONAL

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**Stirrer**  
180D Professional



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**Juice Box Straw**  
180D Professional



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**Twistee Straw**  
180D Professional

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## 180D PROFESSIONAL



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### Lid 01

180D Professional  
Size:



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### Lid 02

180D Professional  
Size:



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### Lid 03

180D Professional  
Size:

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## 180D PROFESSIONAL - PEARL WHITE



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### **180D Professional Pearl White Series**

All 180D Professional products  
can be produced in pearl white.



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**For a Better Tomorrow**





**CARBING**

佳 敏 企 業

Innovative 100% Ecofriendly Material



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# CARBING

## Mission

We are committed to providing 100% biodegradable eco-friendly material that can be adopted by any manufacturing machine and replace a wide variety of traditional plastic products – including bottles, containers, cup lids, disposable plates, plastic mulch, and more.





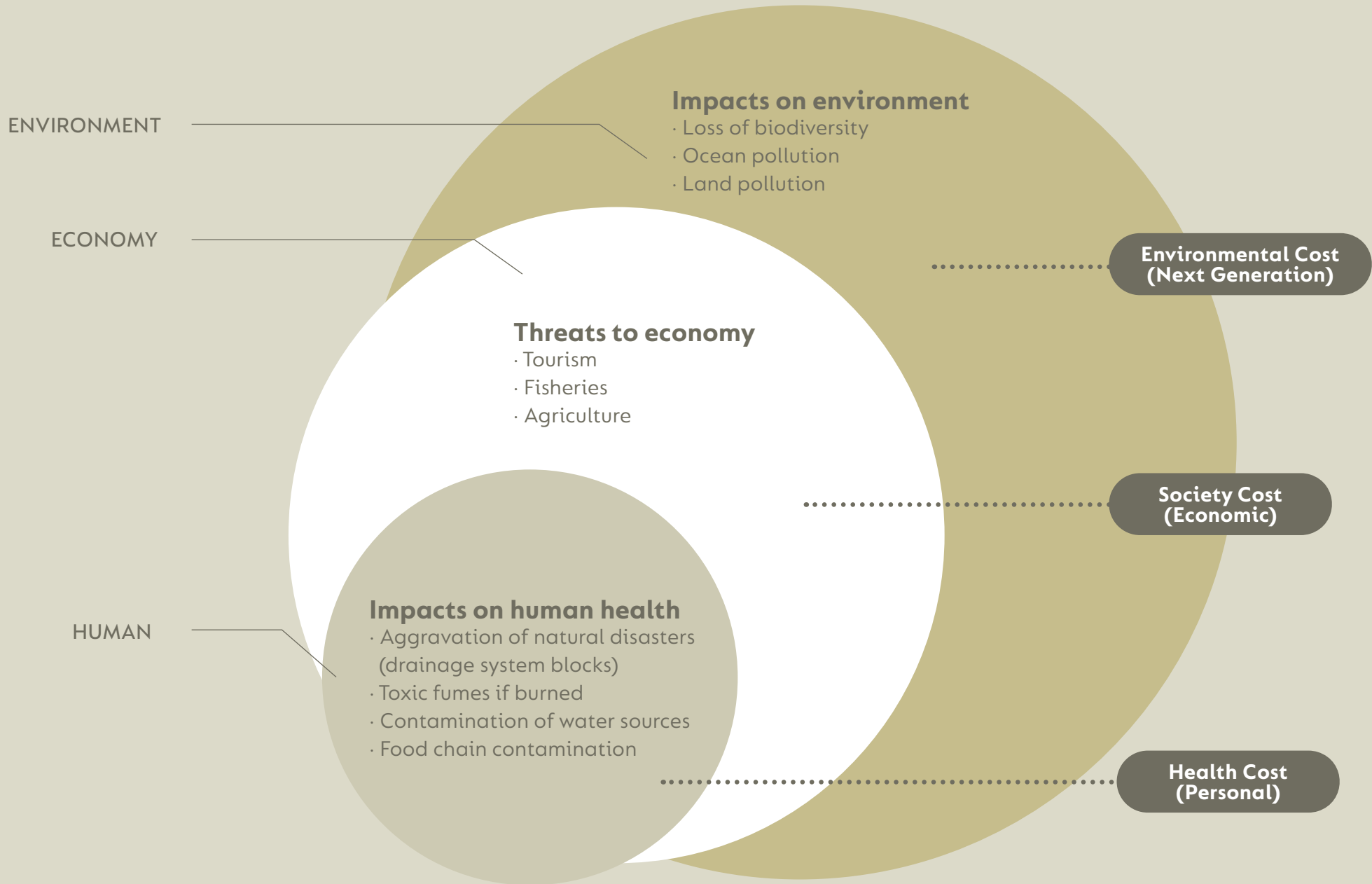
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We aim to build a better future with a sustainable circle of life.

CARBING is determined to change the way the world uses disposables with biodegradable natural plant fibre products.



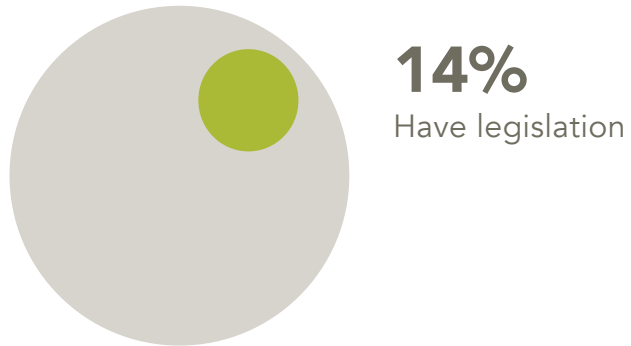
# IMPACT OF MISMANAGED SINGLE-USE PLASTICS



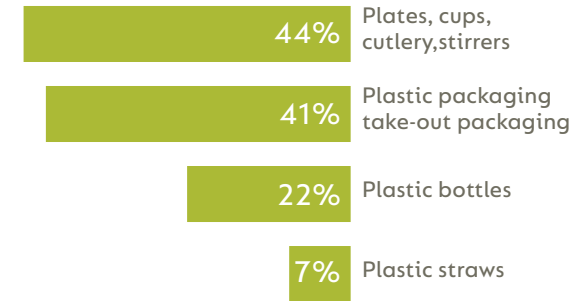


## COUNTRIES THAT BANNED PLASTIC ITEMS

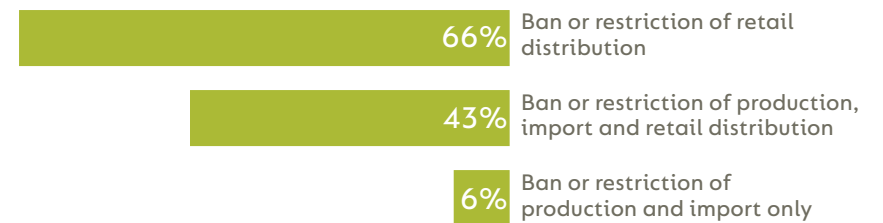
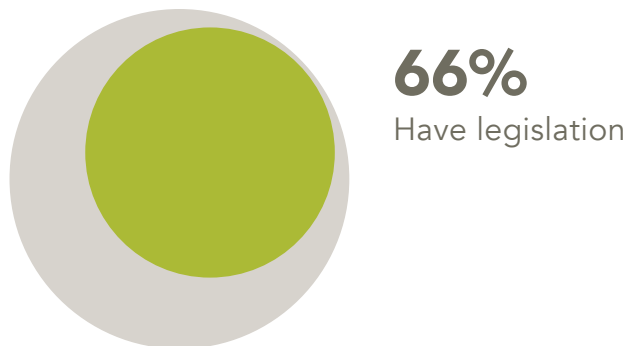
### COUNTRIES RESTRICTING SINGLE-USE PLASTIC ITEMS



EU: Ban of ten single-use plastic items (including straws) to go into effect in 2021

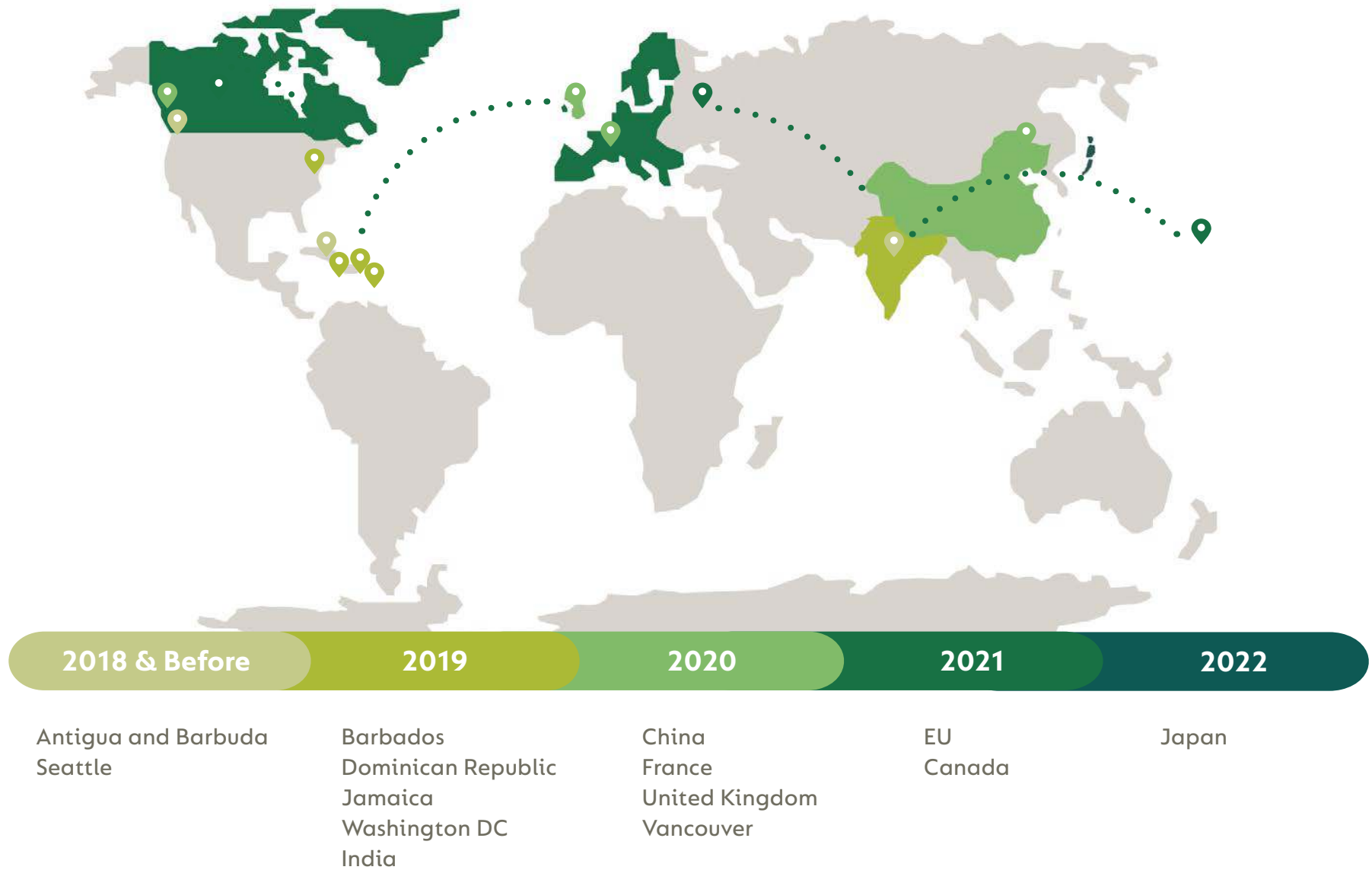


### COUNTRIES RESTRICTING PLASTIC BAGS



# WORLD'S TREND

Countries/Cities ban single-use plastic items





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# CARBING

# Development

Our plant fibre based material CARBING is the only material that is completely environmentally friendly in all stages:

- . Material Composition
- . Manufacturing
- . Usage
- . Disposal



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## Minimal Impact on the World's Natural Resources.

There are 185 thousand hectares of bamboo forest in Taiwan. Only 11 thousand hectares is required to supply the world with its annual use of over 600 billion straws.

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## MATERIAL COMPOSITION

Our manufacturing technique supports a range of plant fibers, from sugar cane and coconut husks to coffee grounds and more. We've chosen bamboo because of its superior strength and sustainability.

Bamboo, unlike other plants, has a shorter maturity stage of 3 years making it more sustainable.





## BioPBS

Our Biobased PBS, a biodegradable and compostable food-grade material, which comes from PTTMCC, a subsidiary of Mitsubishi Group, Japan.

## Plant Fibre

Our compound technology can apply to various plant fibers. We choose bamboo because of its remarkable sustainability.

## Dried Process

With our innovative drying processing technology in compounding BioPBS + plant fibre. We produce the most natural and environmentally friendly material without generating air and water pollution.

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## MANUFACTURING

To reduce plastic pollution, many people have opted to use paper based alternatives. Although paper is a viable option for reducing plastic pollution; the process of making pulp, creates massive amounts of water pollution due to the bleaching process which uses chlorine based chemicals. Our manufacturing creates no water pollution in the process.



### Dry Forming Process



Our process of “dry forming and processing” requires zero chemicals to bleach or alter the structure of the plant material. The technique of “dry forming and processing” solely involves the grinding of plant material into powder and processing them into CARBING resins.

Consequently, we avoid the creation of any sort of water pollution during the manufacturing of our products. In addition, our processing temperature is strictly controlled under 200°C to effectively ensure low carbon emissions.



## DISPOSAL

CARBING can be disposed as general waste and composted in the nature. Since our material is compostable, disposing of it in nature causes zero water or soil pollution, and no toxic gas is created during waste incineration.

When buried in the soil, our material starts breaking down in a span of 45 days and completely disintegrates in 120 days.

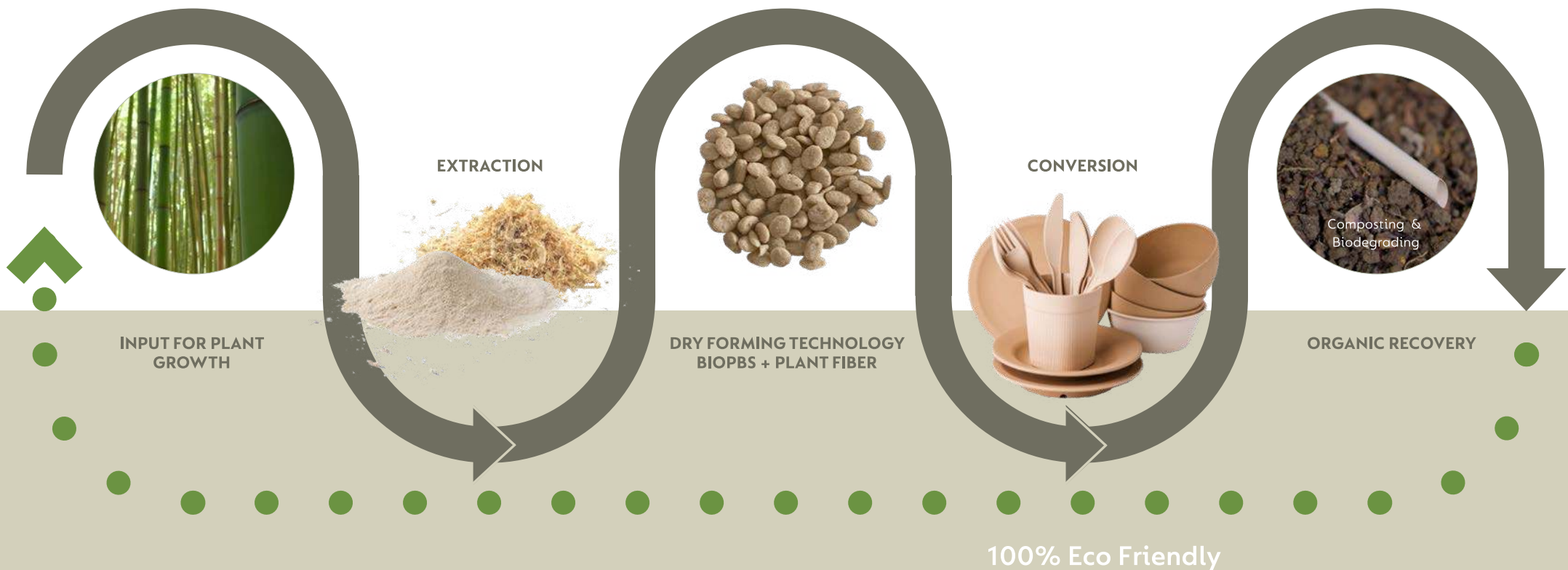


**Biodegradation 6 Months 2018.09 – 2019.02**

	Test material	Reference material
45 days biodegradation rate	49%	72%
Overall biodegradation rate	93%	96%
Test duration (days)	120	120
Observation	No abnormal finding	No abnormal finding

## SUSTAINABILITY

All products made of CARBING are fully sustainable without sacrificing the advantages of traditional plastic disposables, and superior to other alternatives on the market.





## Dried & Vacuum Sealed

The moisture of each CARBING resin is controlled **below 0.1%** (>1,000ppm) and then vacuum sealed in aluminium foil packaging.

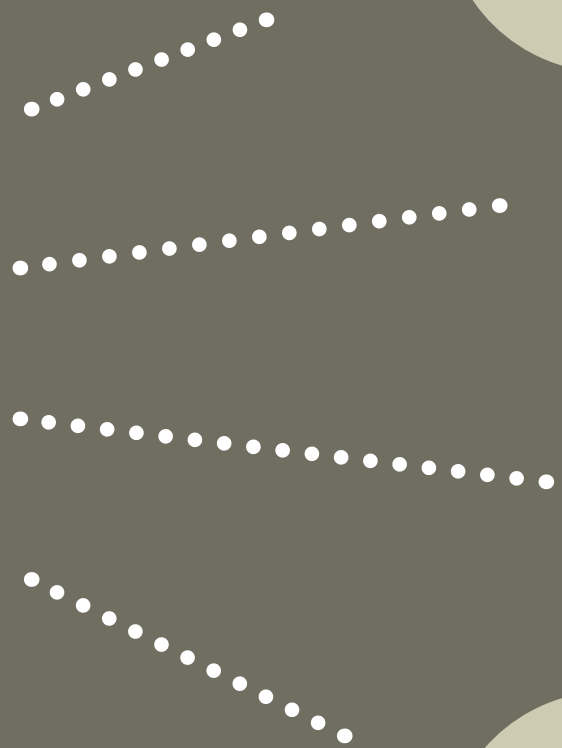
\*It is recommended to keep packages sealed until ready to process and to use the entire 25 kg or 800 kg bag. All unused material should be sealed airtight. Prior to next use all material should be predried to a moisture content of less than 1,000ppm (preferably less than 700ppm).



# COMPATIBILITY

The CARBING material fits most standard plastic production machinery, such as injection, vacuum blister, and hot pressing.

No extra investment in new equipment is needed and only minor fine tuning is required to accommodate the CARBING material's characteristics.



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## FOR A BETTER TOMORROW

CARBING is determined to change the way the world uses disposable products with out biodegradable natural bamboo fiber products. We aim to build a better future with a sustainable circle of life.

## JOIN US!

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