

SUSTAINABLE FIBER TECHNOLOGIES: TO CONVERT AGRO-WASTE INTO CELLULOSIC FIBER PULP SUITABLE FOR MOLDED FIBER PACKAGING

“MOLDED FIBER PULP PRODUCTS.”
Most Sustainable Alternative to Replace
Single use plastics

100% Biodegradable, Compostable & Recyclable
Sustainable Packaging Solutions.



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SINGLE USE PLASTICS (SUPs)

- What is SUPs
- Single use plastics pollution?
- Ban on SUPs



SUSTAINABLE FIBER TECHNOLOGY

- Raw Material Types.
- Fiber Processing.
- Fiber Pulp Types.



APPLICATIONS

- Future insights
- Market segments & industrial applications



PROCESS & TECHNOLOGY

- Bought out pulp basis
- In-house Pulp Production Basis
- Pulp mill Solutions (Agro-waste & Reclaimed Fiber)

WHAT ARE SUPs

Single-use plastics, or disposable plastics, are used only once before they are thrown away or recycled. These items are things like plastic bags, straws, coffee stirrers, soda and water bottles and most food packaging. Up to 50% of plastics that we use are single-use.



SUPs Pollution

Each year, roughly 400 million tons of plastic is produced with 90% ending up as waste in landfill, incinerators, oceans and waterways.



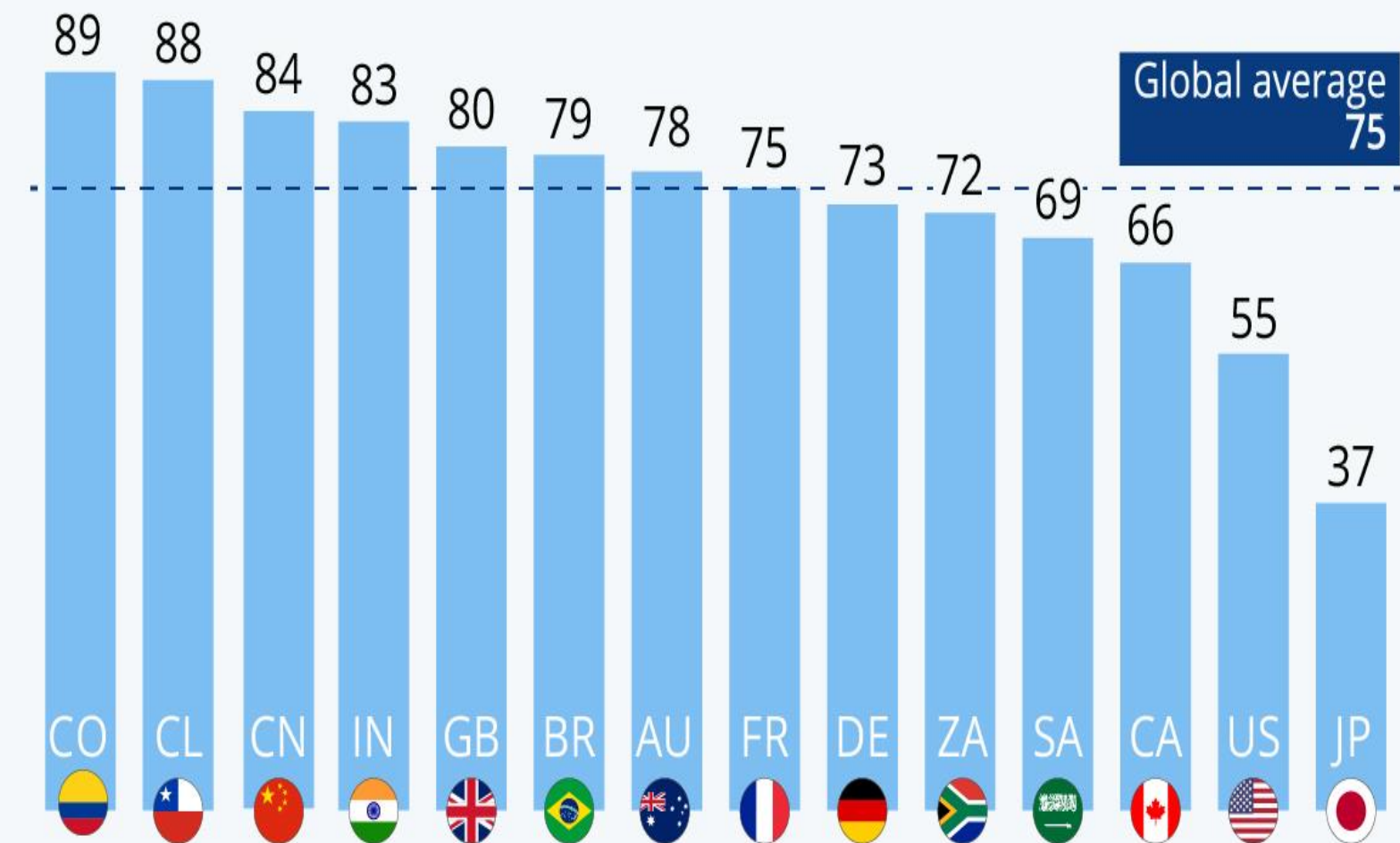
BAN IN SUPs

Plastic Waste Management Rules, 2016, as amended, provide the statutory framework and the prescribed authorities for enforcement of the rules, including ban on identified single use plastic items.

The notification also prohibits manufacture, import, stocking, distribution, sale and use of SUPs.

Overwhelming Supports for Banning Single-Use Plastics

% of respondents in selected countries who strongly agree/ tend to agree that single-use plastics should be banned



20,513 respondents (16-74 y/o) in 28 countries surveyed Aug 20-Sept 3, 2021.

Source: Ipsos



SUSTAINABLE FIBER TECHNOLOGY

Sustainable Fiber Technologies specializes in sustainable, environmentally friendly non-wood pulping. This technology uses agricultural residue as well as fiber specific crops (bagasse, reed, wheat straw, bamboo, etc.) as the raw material to make pulp for sustainable papers and packaging. Sustainable Fiber Technology's goal is to create solutions for a more sustainable future using less chemicals and replacing single use plastics.



What is Molded Fiber pulp Packaging

Molded fiber packaging mainly include pulp molded tableware, molded fiber plates and bowls, molded fiber meal boxes, molded fiber instant noodle bowls, molded fiber dishes, molded fiber cups, molded fiber clean dishes, etc.;

Molded pulp industrial packages products mainly include the shock-proof internal packaging of electronic products, medical instruments, gifts and other industrial products.



Unique performance advantages of molded fiber products:

Molded fiber products are environmentally friendly and naturally degradable. The pulp molding products buried in the soil can be completely naturally degraded within 3 months under the action of microorganisms, and do not need centralized compost treatment. Molded fiber products can be naturally degraded and recycled, which is an environment-friendly product.

- According to the different requirements of the user, the surface quality, color, pictures and other appearance elements can be processed on the product, post-processing.



- Pulp molded tableware products have a certain strength, good texture, smooth appearance; Molded pulp fine packaging products are more delicate appearance.
- Good waterproof and oil resistance properties. In the manufacture of pulp molding, the amount of the additives can produce waterproof, oil prevention effect.
- Raw materials have a wide source and a low cost. It is mainly an annual herb fiber raw pulp or with raw materials can be taken according to local conditions, local materials, inexhaustible.
- The pulp factory can use wet raw pulp (bleach or natural pulp) for raw materials;
- Molded pulp products used for molded pulp fine packaging have good seismic and cushioning effect, which can effectively protect the products from damage on the road.



TYPES OF PULP

Clean, renewable, recyclable biodegradable products by using lignocellulose as the raw materials

Virgin Pulp

- Mechanical pulping
- Chemical pulping

Available pulps

- sugarcane baggase
- Rice straw
- Wheat straw
- Bamboo

Recycled Pulp

The recycled fibers refer to the fibers that undergo several recycling runs, such as the:

Available pulps

- Office waste paper
- card paper
- corrugate
- news paper



Applications

Safe & Hygienic Packaging

FRUITS PACKAGING





BEVERAGE
PACKAGING



INDUSTRIAL PACKAGING PRODUCTS



ELECTRONICS PACKAGING



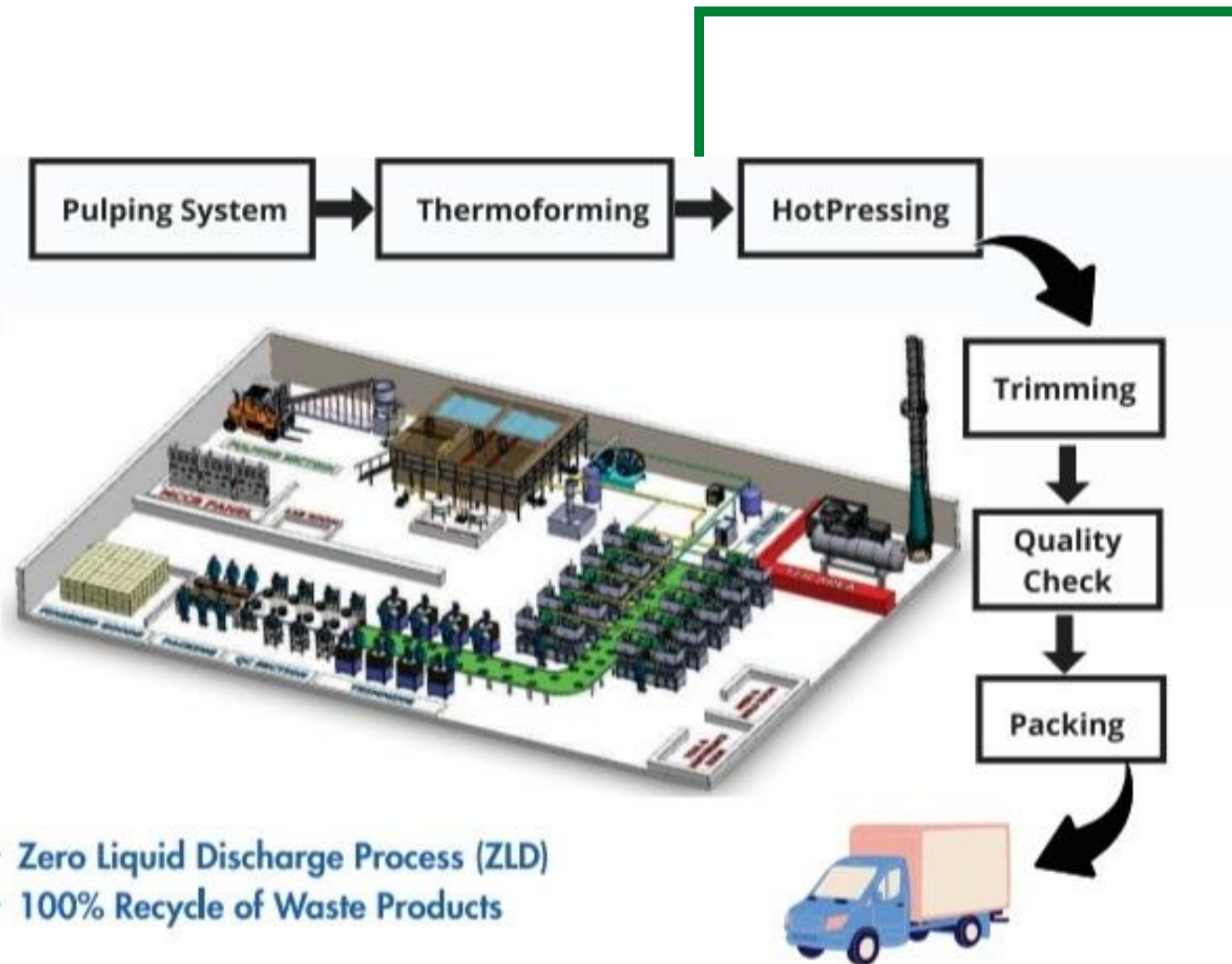
MEDICAL DISPOSABLE PACKAGING





Process & Technologies

- **Bought-out Pulp**
- **In-house Pulp**
- **Using reclaimed fiber.**



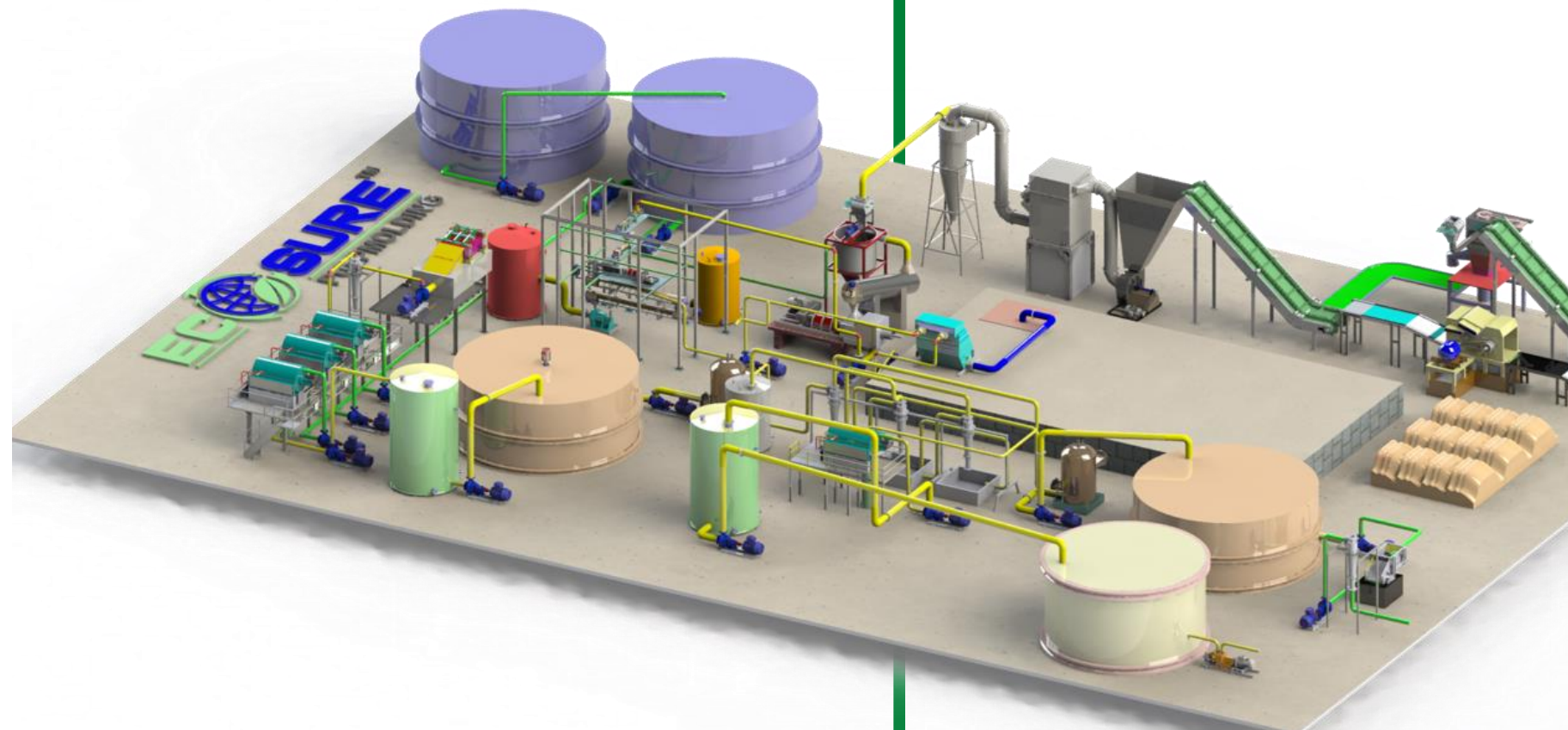
BOUGHT OUT PULP BASIS

These Projects are offered on
Purchased pulp basis to
produce Fiber Pulp Molded
Tableware Products

(3 TPD - 20 TPD)

TPD : Tons Per Day

- ★ Zero Liquid Discharge Process (ZLD)
- ★ 100% Recycle of Waste Products



IN-HOUSE PULP PRODUCTION BASIS

**These Projects are end to
end solutions consist of both
Pulp mills & Tableware
Production units
(10 TPD - 50 TPD)**

BEER BOTTLE

FUTURE OF PACKAGING

Sustainability is the Call.!



LIQUOR BOTTLE



**FUTURE OF
PACKAGING**

Sustainability is the Call.!

CUTLERY



**FUTURE OF
PACKAGING**

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Thank You