



# TOAST ALE

## CRAFT BEER BREWED FROM SURPLUS BREAD

**In Nature waste does not exist but is food for the next stage of the cycle. The circular economy model describes this as the creation of 'cascaded uses', envisaging biological nutrients such as bread moving from one value extracting stage to another before safely returning to the biosphere.**

### Waste = food

One of the most frequently wasted foodstuff is bread - an incredible 44% of all bread produced in the UK is thrown away. Wasting food is unwise both from an economic and environmental perspective, but due to the short shelf life and varying demand is difficult to avoid.

### Beer innovation

The start-up Toast Ale has developed an unusual and appealing idea to address the problem by brewing beer. The company start by collecting surplus bread from delis, bakeries and sandwich makers. It's then incorporated into the brewing process with malted barley, hops, yeast and water. It is not a new technology, in fact one of the original beer recipes from ancient times used bread in the brewing process.

### Good beer sense

The use of surplus bread which replaces 33% of malted barley yields multiple benefits:

- Cost of raw ingredients reduced
- Fewer emissions associated with decomposing food waste
- Valorization of waste stream creates new job opportunities

**Size: < 10 employees; 10, 000 bottles/ month**

### Other cascading potential in brewing

- Every litre of beer generates 0.2kg of brewers spent grains (BSG) which amounts to 39 billion tonnes worldwide
- BSGs are rich in fibres, protein and carbohydrates which can be used to create a number of valuable products such as animal feed, human nutritional supplements, even edible packaging
- BSGs can also be used to grow mushrooms, generate energy and strengthen soils
- Water is used intensively in the brewing process, 4-10 litres is required per litre of beer produced.
- The recovery of fresh water from waste process water is valuable in its own right, but also the nutrients and energy contained within.

### Circular beer exercise

- Circular economy principles can be applied to beer in many ways.
- **Where are the other opportunities and what are the barriers to implementation?**



# MUD JEANS

## PIONEERING A LEASE MODEL FOR ORGANIC COTTON JEANS

**Mud Jeans seek to close the loop on jeans production. Customers can lease jeans and return them for repair or recycling. This reduces supply chain vulnerability to price fluctuations whilst reducing environmental impacts associated with traditional cotton crops.**

### Addressing industry crisis

In a trend found with other commodities, cotton prices have become more volatile in recent years, seeing a recent peak when prices tripled from 2010 to 2011. Mud Jeans are made with 30% recycled content and 70% organic cotton, a resource that is subject to similarly significant price fluctuation and supply disruption.

Recovery rates in the textiles industry tend to be low (around 25%) but through their leasing model, Mud Jeans manages to overcome the low recovery rate and maintain ownership on the valuable materials.

### Increase your business' resilience

Crucially, Van Son, the CEO of Mud Jeans understands the resilience that circularity could bring to his business, and how this will become an even greater competitive advantage in the future:

**“The most reliable way of getting your product back is to avoid selling it in the first place. “**

### How does it actually work?

- The user pays €25 as a 1-time membership fee and then pays a lease fee €7.5/month.
- Free repairs are included in the offering.

After one year, the user can:

- Keep the jeans as their own.
- Pay €10 'switching fee' and swap the jeans for a new pair.
- Return the jeans to the company and receive a €10 voucher to use at any point.

### Giving the jeans a new life

Once the jeans have been recovered, they are assessed and the materials will continue to flow through one of three loops:

- If the product is in good condition, it can be cleaned and re-used.
- In some cases, repair is required, and the denim may be given a stone wash or enzyme wash.
- If the product is beyond repair, the materials will be returned to the denim manufacturer to be recycled.

# FLOW2



## BUSINESS-TO-BUSINESS ASSET SHARING

**FLOW2 is the first B2B sharing marketplace that enables companies and institutions to share surplus of equipment, knowledge and skills of personnel. Users can register on the platform for free and participants pay a subscription to advertise their equipment on the platform, providing a revenue stream for FLOW2.**

### **Sharing underutilised products**

FLOW2 facilitates the sharing of underutilised business equipment and the skills & knowledge of personnel by establishing a transparent platform to enable accessibility and connectivity between supply and demand.

### **A win-win solution**

FLOW2 sees its platform as a win-win for businesses as companies who have committed the upfront capital investment on equipment can increase their revenue through using the platform to rent it out, while personnel not being deployed at full capacity. It also gives other companies access to equipment they need at rental prices and make it worthwhile as an alternative to investing in owning the equipment.

### **Key barrier**

One of the key barriers to medium and large companies switching to a model like FLOW2 is the mind-set change required to shift from ownership to access. Asset sharing is a new business process within

most organisations, and requires a different approach to traditional operations and procurement practices.

### **The key to success**

The key to a collaborative consumption business model's success is its ability to demonstrate to potential clients that the convenience of having access to equipment has more or equal benefits to owning the goods themselves.

**FLOW2 has designed the customer interface of their platform bearing this in mind:**

- Registration on the platform is free, enabling users to access an online planning tool for project managing equipment requirements and availability.
- Additional services, like online payments services, credit checks, tracking and trace service on assets and insurance through partnerships with other businesses are offered.
- Participants pay a subscription to advertise their equipment on the platform, providing a revenue stream for FLOW2.

**Size: ~10 employees, global service platform**