



# Identifying & unlocking value in the rural economy through circular thinking

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# What could a circular rural economy look like?



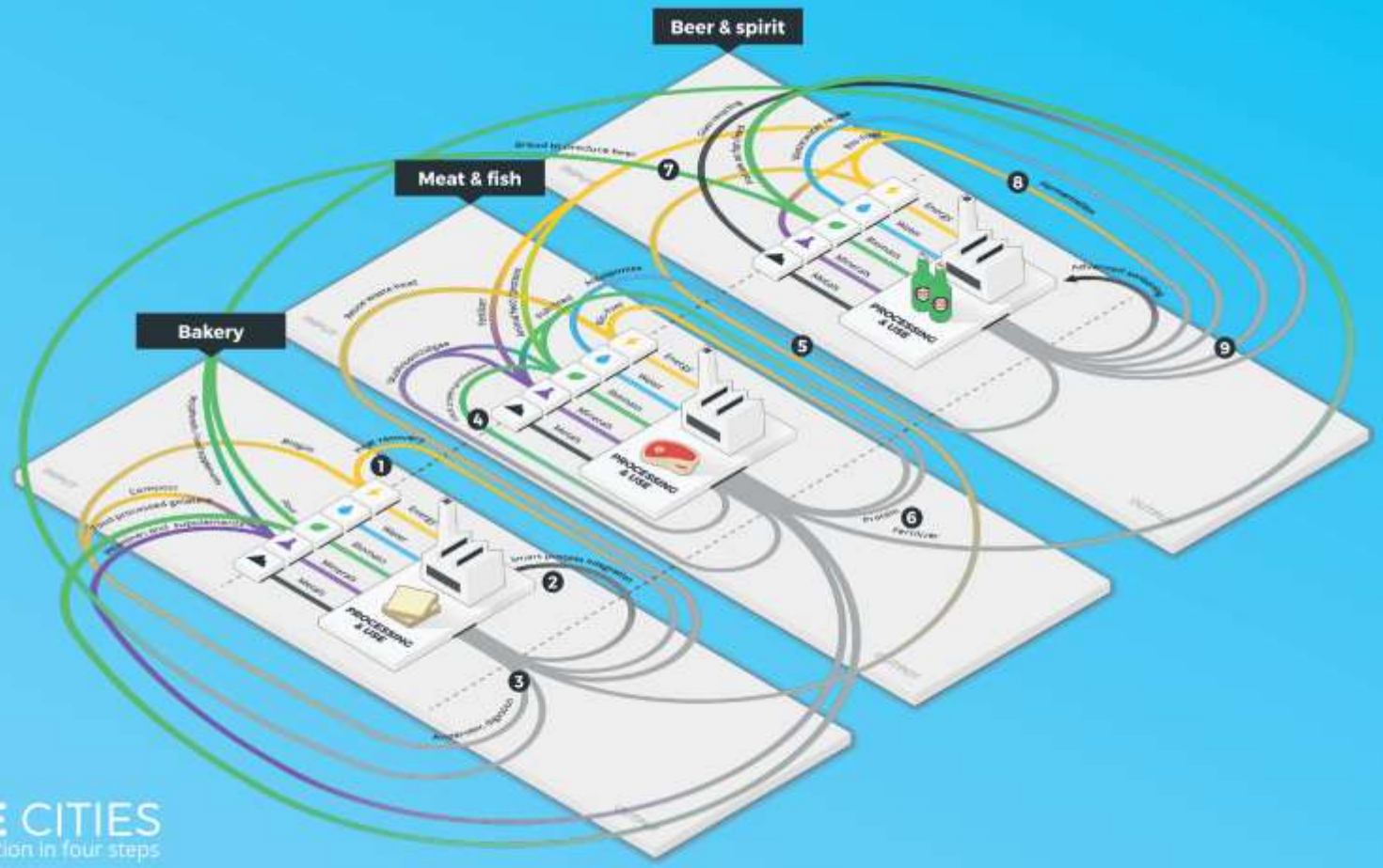
# From this



### Legend

- ⚡ ENERGY
- 💧 WATER
- 🌿 BIOMASS
- 🏭 WASTE
- ⬛ METALS
- 🔴 WASTE

# To this

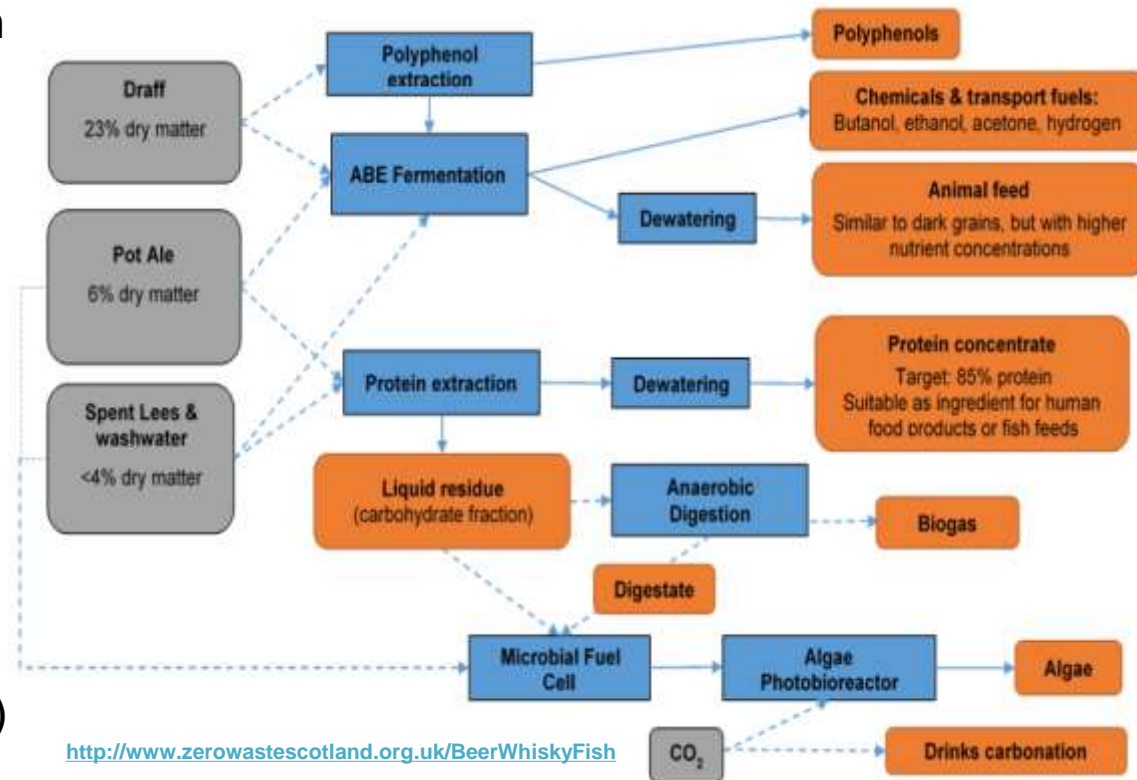


**CIRCLE CITIES**  
From scan to action in four steps

# Rural resources are waiting to be valorised

- Add-value to “waste” which cannot be eliminated through process efficiency
- Over 2 million tonnes of draff & pot ale currently disposed of annually (+ 680,000 tonnes as animal feed)
- Could produce higher value goods (e.g. protein up to £2000/t, polyphenols)

Adding value to whisky waste





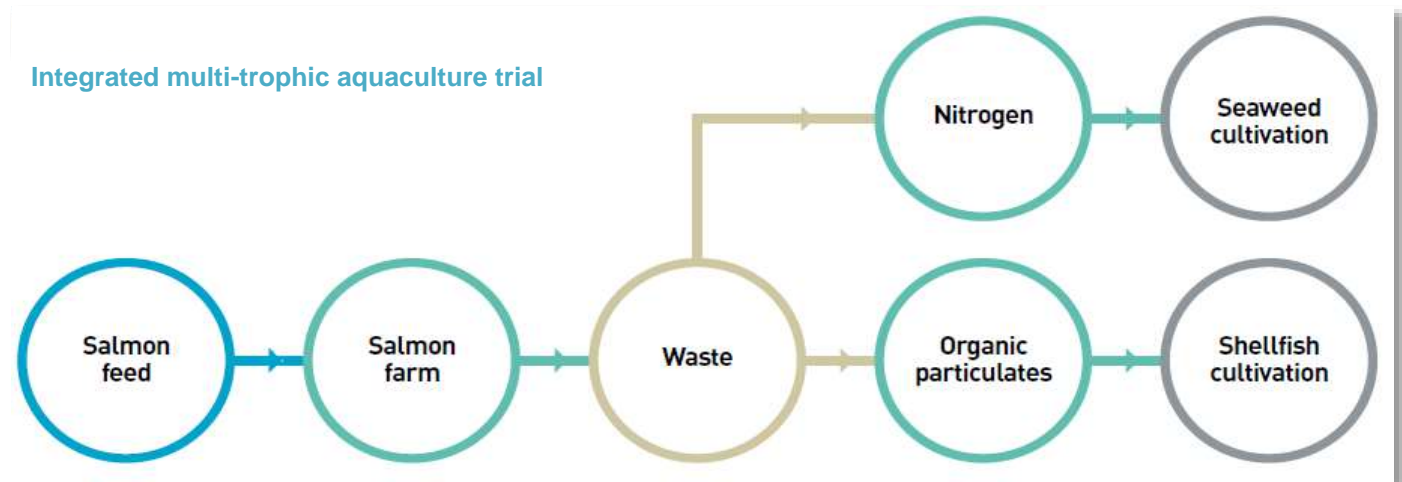
# Accelerating a circular economy

Our goal is to help speed up the transition to a more circular economy in Scotland.

By supporting businesses, stimulating innovation, and overcoming barriers to adoption of enabling practices.

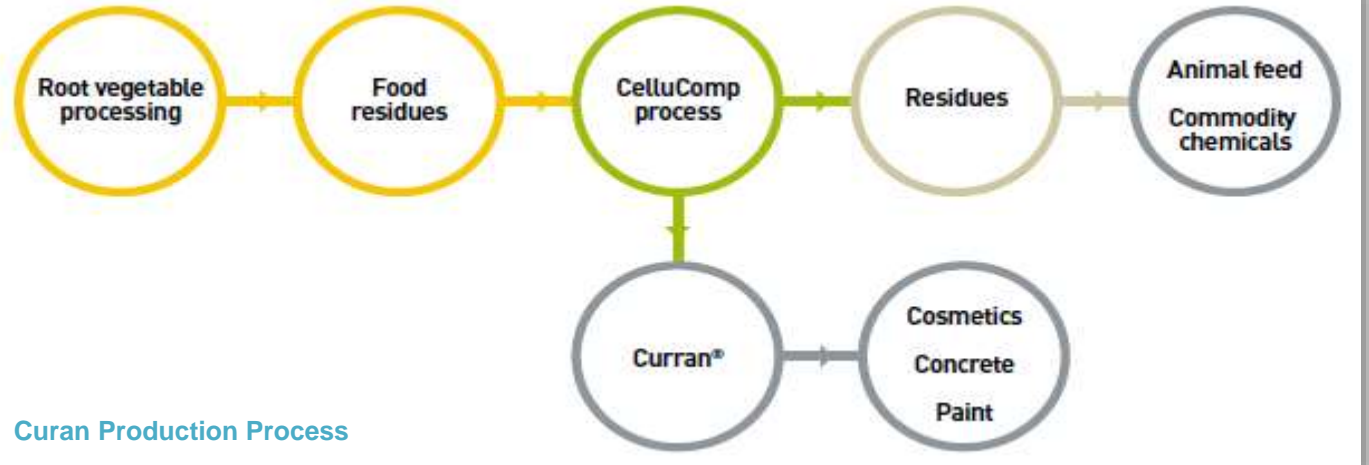
# What does this currently look like for businesses?

- Integrated Multi-Trophic Aquaculture (IMTA) trial
- Producing additional value streams by exploiting “waste” in existing business practices



# What does this currently look like for businesses?

- CelluComp produces a mechanical enhancer with thickening properties (Curran®) from root vegetable by-products (e.g. sugar beet)
- Producing additional value streams by exploiting “waste” in existing business practices





# What could it look like for business?

**Bakery**

**Benefits**

- Saving waste management costs of £45 per 500 kg in the pilot
- Marketing value

**Resources**

- 500 kg of bread
- Machine to slice the bread and oven to dry the bread in

**Investments**

- Time investment

**Example companies**

Warburtons and McVities

**Brewery**

**Benefits**

- Using fewer brewing ingredients (600 kg Barley, 0.5 kg yeast, and 1 kg Hops)
- Replacing 1/3 of the barley, thereby saving £30 per 50 kg of flour (per pilot of brewing 4,000 l).
- Beer with a story (Marketing)
- Premium for circular craft beer

**Resources**

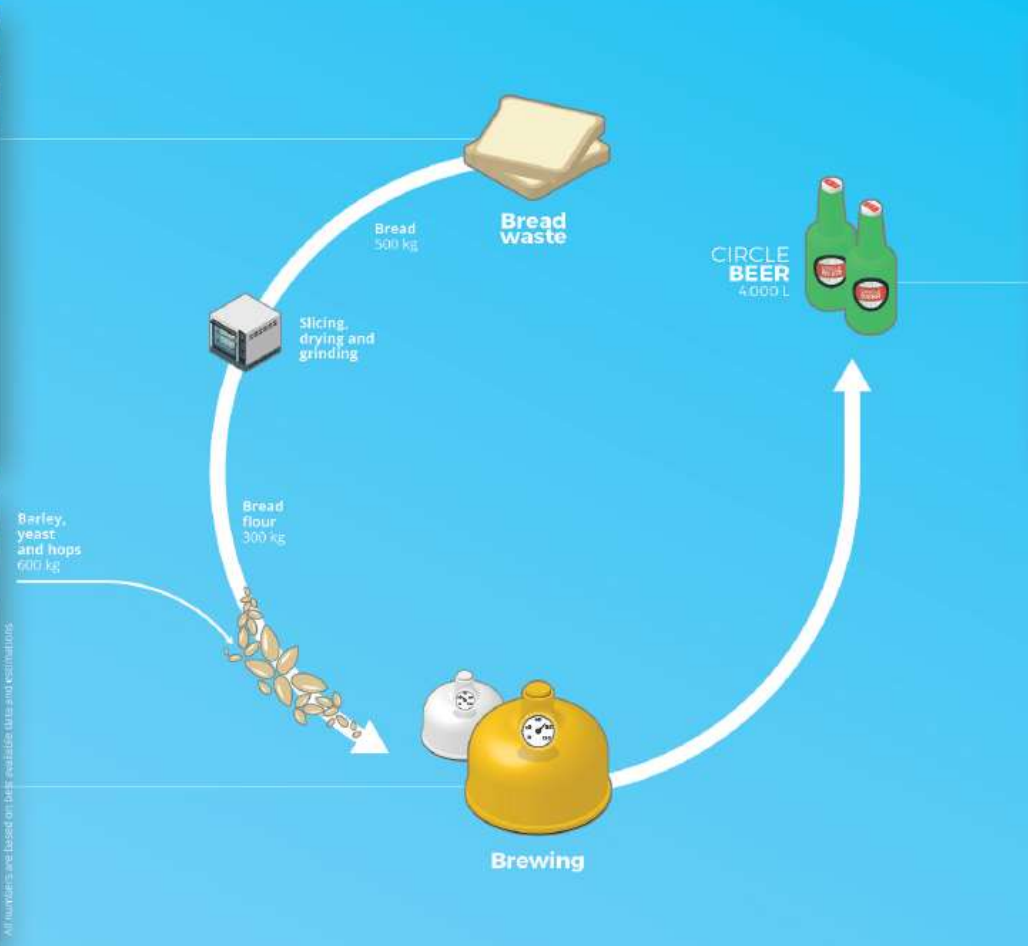
- Transportation of flour, one brewing cycle

**Investments**

- Time investment to create a first successful draft

**Example companies**

West and Tennants



**Bar**

**Benefits**

- Beer with a story, that entices consumers to taste it
- Increased sales
- Increased Brand reputation (marketing value)

**Resources**

- Marketing of the product

**Investments**

- Time investment

**Example companies**

The Glad Cafe and Brewdog

All numbers are based on their available data and estimations

# What could it look like for business?

**Brewery**

**Benefits**

- Saving waste management costs (300kg worth £30 for the pilot)
- Marketing value

**Resources**

- Centrifuge or oven to dry the spent grain

**Investments**

- Time investment to centrifuge / dry spent grain

**Example companies**

West and Tennants

**Bakery**

**Benefits**

- Normal bread ingredients (700kg flour, yeast, water) and 30% reduced flour use (Replacing 300kg of flour worth £30)
- Increased brand reputation
- Attracting new customers interested in sustainable and healthy bread

**Resources**

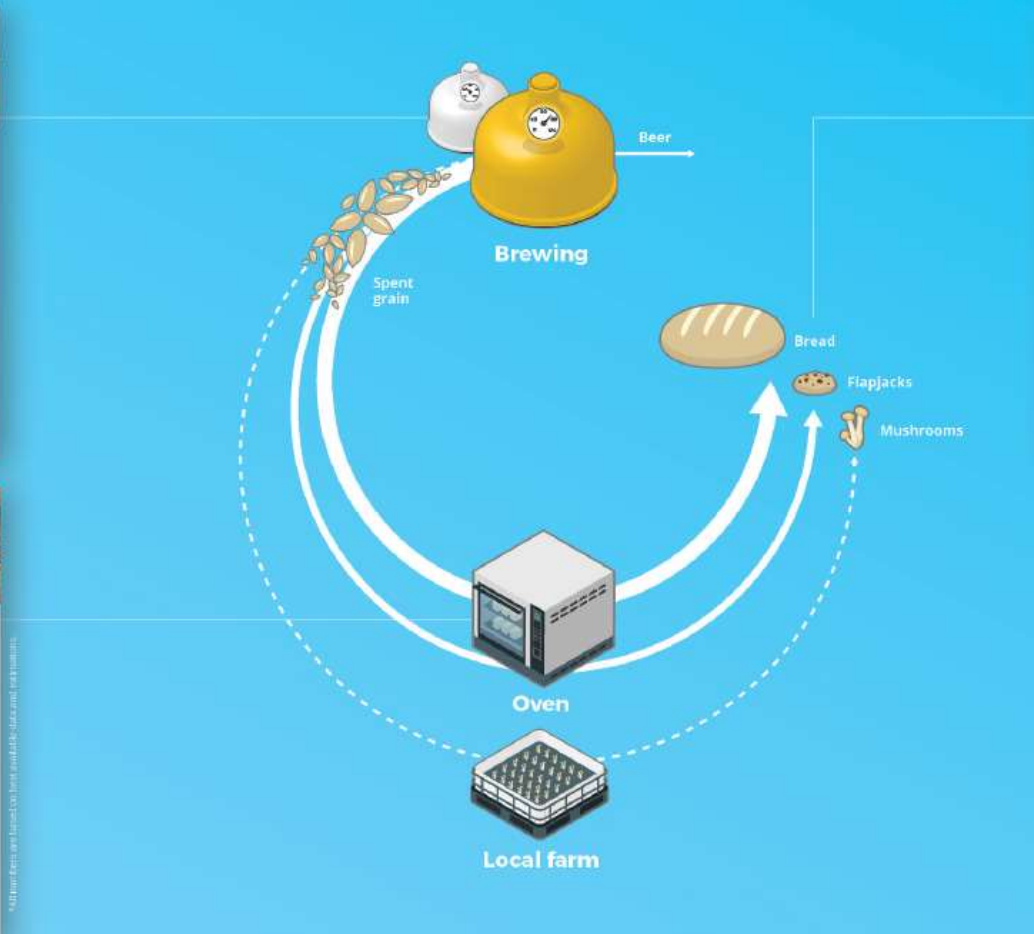
- Transporting spent grain from breweries to the bakery
- Mill machinery

**Investments**

- Time investment to test the recipe

**Example companies**

Warburtons and McVities



**Bar / Restaurant**

**Benefits**

- Craft Bread with a story (Marketing)
- Sales of a locally produced bread made from beer
- Revenues through bread sales (£4 per kg of bread)

**Resources**

- Transportation of the bread from the bakery to the bar/restaurant

**Investments**

- Marketing

**Example companies**

Two Fat Ladies and Social Bite

\*All figures are based on best available data and are estimates.



# Unlocking value opportunities with a little help from ZWS

- **Business support** for SMEs & consortia
- **Project funding** via the Circular Economy Investment Fund
- **Forum for ideas:** Scottish Circular Economy Business Network
- **Resource efficiency** audits and **support** for implementation of cost savings



European Union



gov.scot

### **EUROPE & SCOTLAND**

European Regional Development Fund  
Investing in a Smart, Sustainable and Inclusive Future

# Resource Efficient Circular Economy Accelerator Programme 2014-2018



# Get in-touch

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