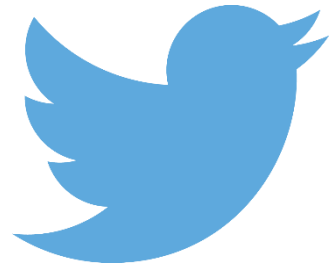


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# The Circular Economy – A Brief History

- The circular economy is a rapidly emerging concept promoted as transformative approach towards sustainable resource use within Planetary Boundaries
- It promises to **slow, narrow** and **close** socioeconomic material cycles by retaining value as long as possible.
- Minimizing primary resource use, waste and emissions.
- An economy that is restorative and regenerative by design.

*‘The circular economy is a new economic model for addressing human needs and fairly distributing resources without undermining the functioning of the biosphere or crossing any planetary boundaries’.*



## Why the need for change?

- **96% of the living mammal biomass on the Planet is made up of humans and livestock.** (36% humans/60% mostly cows and pigs)
- Domesticated poultry, mainly chickens, account for over **two and half times** the biomass of all wild birds.
- **Only 4%** of mammal biomass is made up of wild animals.
- 85% of commercial fish stocks have been seriously depleted
- Oxygen depleted ocean zones have increased by 75%.
- Marine mammals have reduced by 80%
- Reptiles and amphibians have been so thoroughly reduced they are now classed as **'negligible'** from a biomass perspective.
- c. **70% of the Earth forests have been degraded or destroyed, those which survive have declining plant and animal life**





**Wild Mammals**  
4% of global mammal biomass  
(land & marine mammals are each 2%)



**Humans**  
34% of global mammal biomass



**Livestock**  
62% of global mammal biomass

**Cattle**  
35%

**Pigs**  
12%

**Buffalo**  
5%

**Sheep**  
3%

**Goats**  
3%

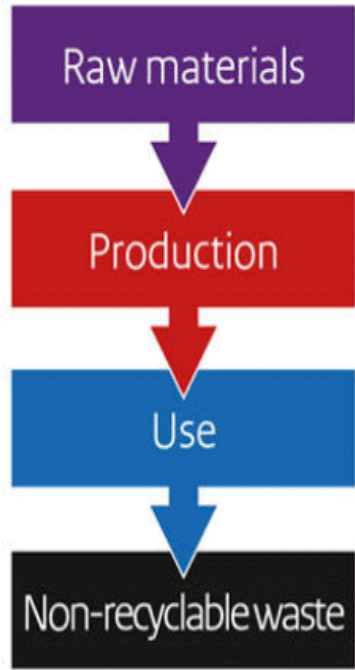
**Horses**  
2%

**Camels**  
1%

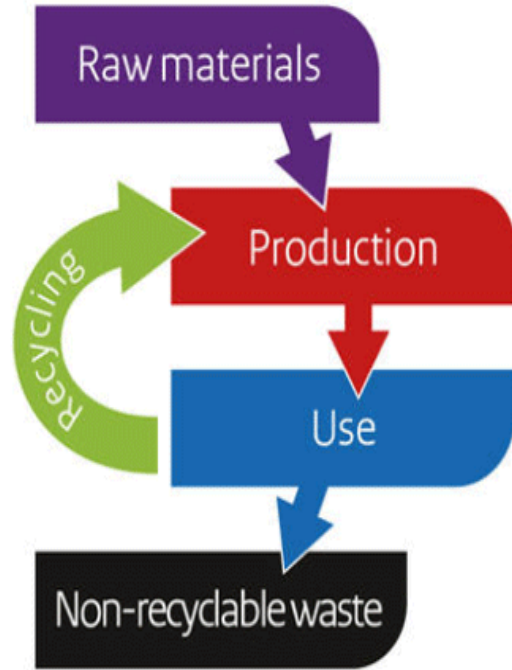
**Asses**  
1%

# From a linear to a circular economy

Linear economy



Reuse economy



Circular economy



## Closed loop systems

- A circular economy focuses on the management of materials ensuring that resource cycles are closed, in a similar way that occurs in **natural ecosystems**, where water and nutrients are continuously cycled.
- Ensure that materials can be cycled at the **highest value possible**, preferably as whole products, then as components, and finally recycled back down to basic raw materials (which can be extremely energy-intensive).
- **WASTE IS THEREFORE PLACED AT THE BEGINNING OF THE CYCLE RATHER THAN AT THE END.**



## Impacts of materials

- Considering how materials should be handled in a circular economy e.g. a material's toxicity, the scarcity of certain materials, the persistence of certain materials in the environment, its re-use/recyclability
- Evaluate whether or not our proposed solution for one area of impact will not be causing a problem in other areas . – **'burden shifting'**
- Burden shifting, occurs when we focus exclusively on one problem (for example: making light bulbs more energy efficient), without noticing that the solution could have negative, unintended consequences (e.g. some energy efficient light bulbs require the use of toxic and hazardous materials e.g. mercury).



## Using things rather than using them up

- A circular economy aims to **preserve value** in the form of energy, labour and materials i.e. designing for durability, repair, reuse, remanufacturing and recycling to keep products, components and materials circulating in the economy.
- **Improved use of bio-based materials** by encouraging many different uses for them as they cycle between the economy and natural systems. (e.g. cotton jeans).
- **Access rather than ownership** – why own a drill when you just want to put a few holes in the wall to hang a picture? ( Driverless cars – shared journeys)
- **Economic opportunities** – skills/workplaces for repair , re-use and remanufacture. As well as economic savings on less need for raw materials and energy.



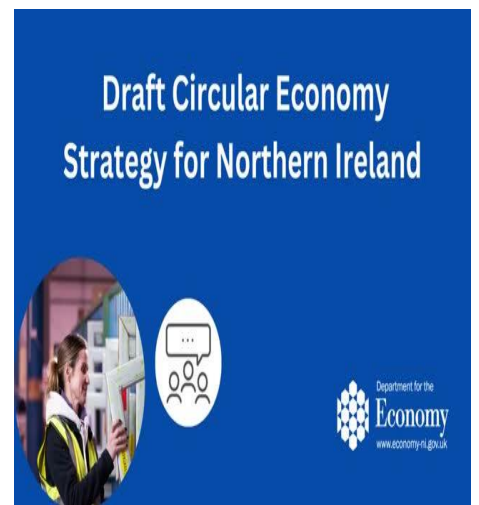


## Renewable Energy

- Materials are just one type of resource in our economy, where all flows are ultimately connected and influence one another. In a world with seemingly infinite energy, it's very easy to design and develop systems that will fully recover all materials through **extremely costly and energy-intensive recycling processes**.
- In a circular economy, all energy should be supplied from renewable or other sustainable forms.
- We therefore need to develop greater levels of energy production from renewables, whilst at the same time looking at how we can use the energy produced more efficiently.
- Generating renewable energy needs to be in a usable form which does not require the use of scarce materials, which are a constraint themselves.



- UK countries have all developed their own Circular economy strategies.
  - **Reduce use of natural resources – sustainable consumption.**
  - **Switch to materials which can be reused and renewable energy**
  - Ban or refuse single use products
  - Reduce food waste
  - **Prevent and cut down the amount of waste produced and re-use/ recycle waste**
  - **Hold onto products and materials for as long as possible**
  - Develop infrastructures to deliver a circular economy
  - **Involve communities and businesses ( design innovation /repair and reuse businesses)**
  - **Procurement of remanufactured, refurbished and recycled goods and products**
  - Develop low carbon and zero waste economies
  - **National education and behavioural change programmes**
  - Reduce impacts of waste disposal – bans on biodegradable waste
  - **Promote green skills, training and development opportunities**



# Beyond Recycling - a strategy to make the circular economy in Wales a reality

- Driving innovation in materials use
- Upscaling prevention and re-use
- Building on our recycling record
- Investing in infrastructure
- Enabling community and business action
- Aligning Government levers

<https://www.gov.wales/sites/default/files/publications/2021-03/beyond-recycling-strategy-document.pdf>



## Waste Not Newtown

- **Community Reuse & Repair Hub** will showcase reused and repaired goods in prominent public spaces and invest in the infrastructure behind a reuse and repair economy.
- The shop will be fitted out using wherever possible reused and reclaimed materials and equipment, from reclaimed timber flooring to repurposed lighting and electrical fittings
- Space for the sale of goods donated from the HWRC's (Household Waste Recycling Centre's) 'Salvage Shed'
- Repair Café that helps people keep products alive for longer and an ambition to establish a 'library of things' that allow families to borrow instead of buy.
- Zero plastic / refill shop and attempt to improve how small electrical appliances are repaired and reused.
- Reuse and repair workshops from upcycling old clothes to soldering broken radios back together.

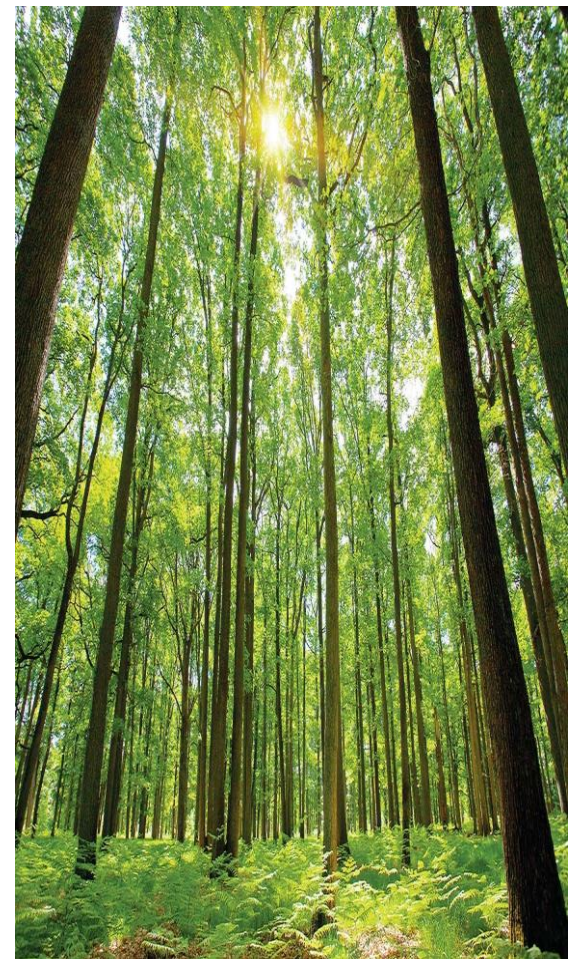
# National Award winning Reuse & Repair Shop Newtown



***If it can't be reduced, reused, repaired, rebuilt, refurbished, refinished, resold, recycled or composted, then it should be restricted, redesigned or removed from production."***

# Environmental benefits of a circular economy

- A circular economy seeks to **respect environmental boundaries** through increasing the share of renewable or recyclable resources by using less **raw materials and energy** and as a result lowering emissions and the loss of natural resources
- Circular economy strategies could slow down nature degradation by extracting less virgin materials, and decreasing pressure on ecosystems that improve climate adaptation.
- By adopting regenerative agricultural practices, **reduced demand for meat and dairy foods** (alternative proteins), **reducing food waste** and **protecting soils** (reducing chemical use) there is a real opportunity to enhance and protect biodiversity.
- A circular economy can be an important instrument to tackle the current triple planetary crises on climate, biodiversity and pollution. By keeping resources in the loop for longer, we'll avoid emitting greenhouse gases caused by the energy needed to make products

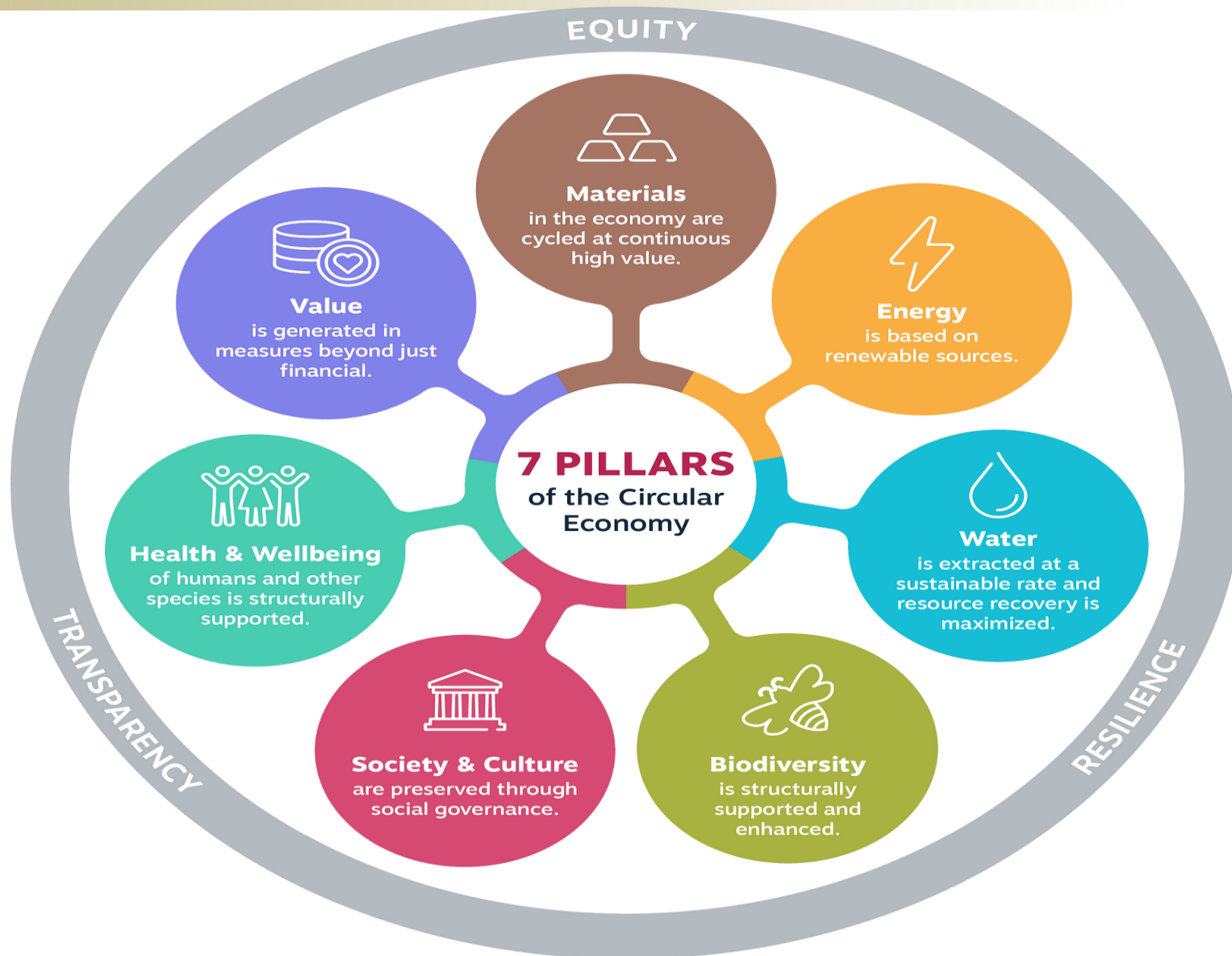


## What will the world look like when it is “circular”?

- Materials are cycled at continuous high value.
- All energy is based on renewable sources.
- Biodiversity is supported and enhanced through human activity.
- Human society and culture are preserved.
- The health and wellbeing of humans and other species are structurally supported.
- Human activities maximize generation of societal value.
- Water resources are extracted and cycled sustainably







## A Closing thought.



We are the first generation  
to feel the impacts of  
climate change and we are  
the last generation to do  
something about it

# **NEW MUNICIPALISM**

Delivering for local people and local economies

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