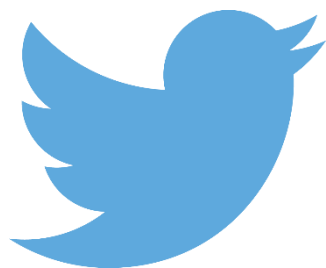


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The Circular Economy – A Brief History

- 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, thereby 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%

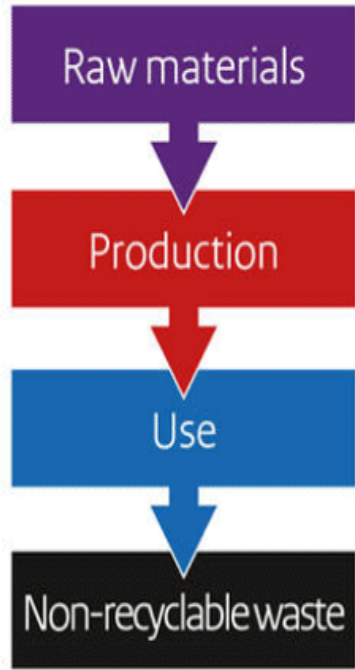
Horses
2%

Camels
1%

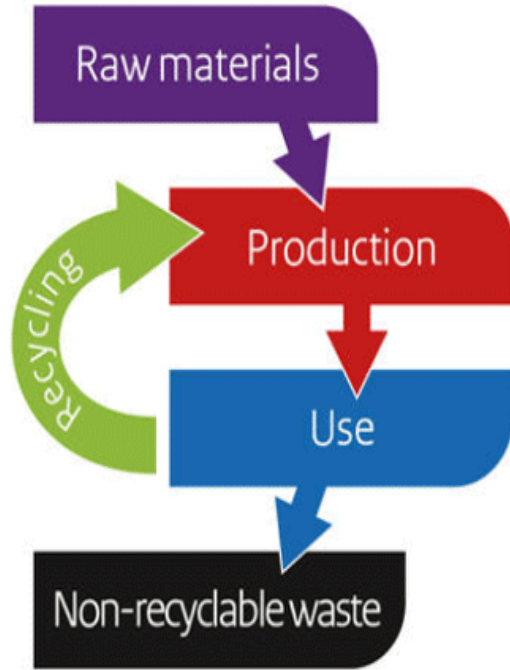
Asses
1%

From a linear to a circular economy

Linear economy



Reuse economy



Circular economy



Closed loop systems

- A great deal of focus in the circular economy field is on the management of materials and ensuring that resource cycles are closed, in a similar way that occurs in **natural ecosystems**, where water and nutrients are continuously cycled. : in a circular economy, all materials should be used in such a way that they can be cycled indefinitely, just as they theoretically can in nature.
- 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 or externality in one of the other areas . This problem, called “**burden shifting,**” occurs commonly 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 (your newly efficient light bulbs require the use of toxic and hazardous materials).

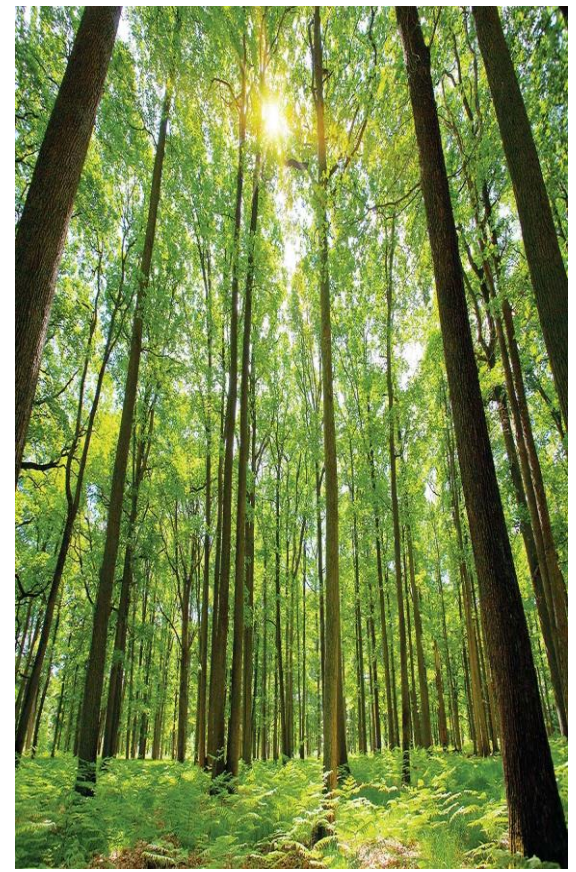
Renewable Energy

- 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 otherwise 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.
- Although we know the total amount of energy available on the planet is not a constraint as the sun produces more than enough for everything we need, collecting this renewable energy in usable form does require the use of scarce materials, which are a constraint themselves.



Environmental benefits of a circular economy

- A circular economy seeks to respect environmental boundaries through increasing the share of renewable or recyclable resources while reducing the consumption of raw materials and energy. In this way emissions and loss of natural resources will thus be reduced.
- Circular economy strategies could slow down nature degradation by reducing the demand for virgin materials, decreasing pressure on ecosystems that improve climate adaptation, such as mangroves protecting against flooding or forests regulating temperatures.
- 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.
- Promote and protect our natural environment.



Using things rather than using them up

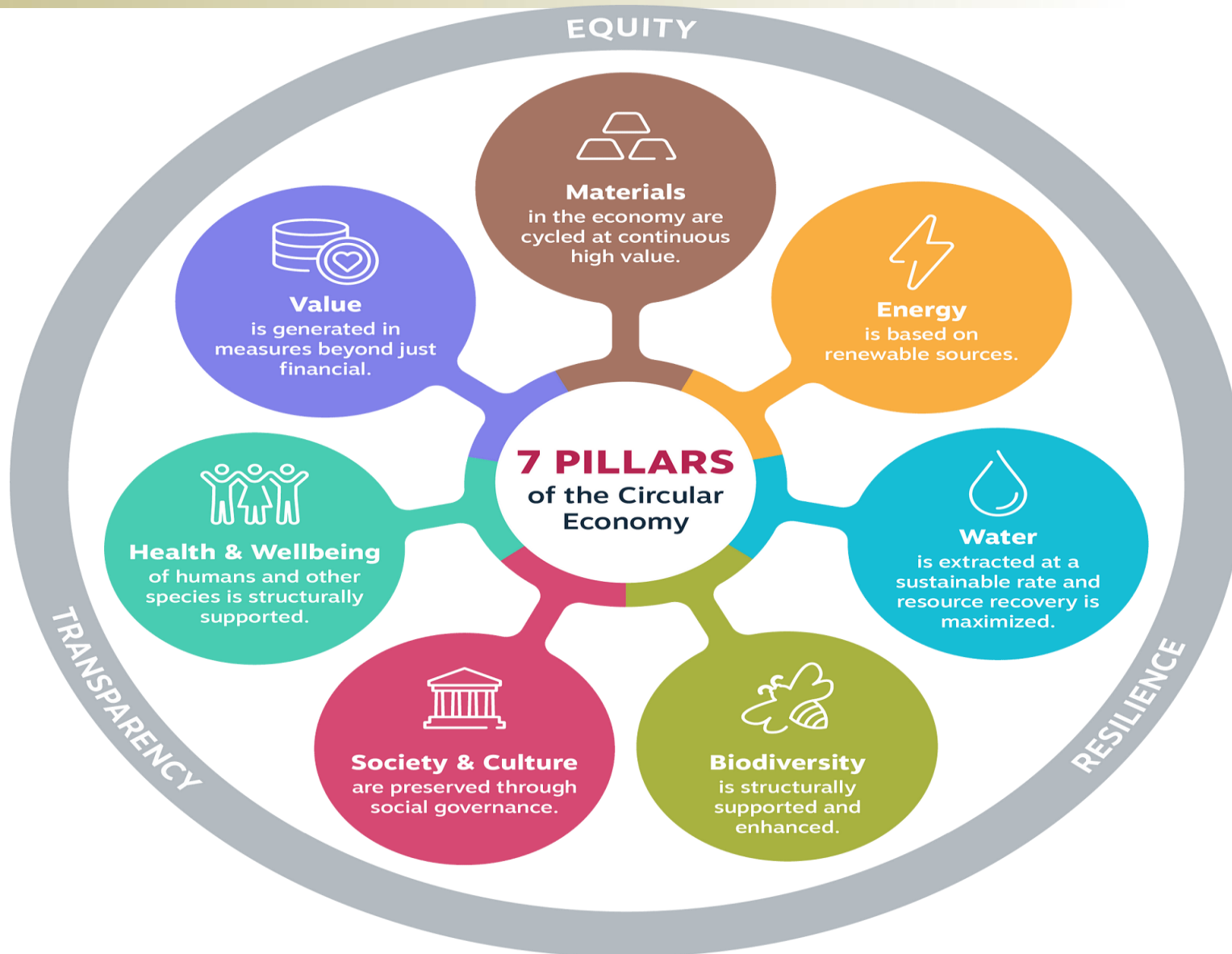
- A circular economy aims to preserve value in the form of energy, labour and materials i.e. designing for durability, repair, reuse, remanufacturing and recycling to keep products, components and materials circulating in the economy.
- Improved use of bio-based materials by encouraging many different 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.



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





- 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 produce 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




Why we need to move to a circular economy

- 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.
- Learn from nature, where everything has value and everything is used, where waste becomes a new resource.
- Smarter and more efficient use of resources will in the future enable people to enjoy a prosperous life on a **healthy planet**, with a stronger and more sustainable economy.
- ***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."***



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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