Waste and Climate Change

Ruth Dixon
Warwickshire County Council
Waste Management Team

Exploring the opportunities

- Local authorities declare a climate emergency
- WCC work on climate change mitigation in 2019/20
- WCC waste actions
- WDC waste actions
- Waste and Carbon Emissions
- The Circular Economy
- Focus on food waste
- Future opportunities

Warwickshire Authorities Declare a Climate Emergency

What next?

- Research to develop baseline data and action plans
- Plans published and commitments made
- Regular joint authority meetings plus Warwickshire Waste Patnership
- Work with neighbouring authorities and WMCA
- Work with communities and parish and town councils
- Work with Local Enterprise Partnership and local businesses

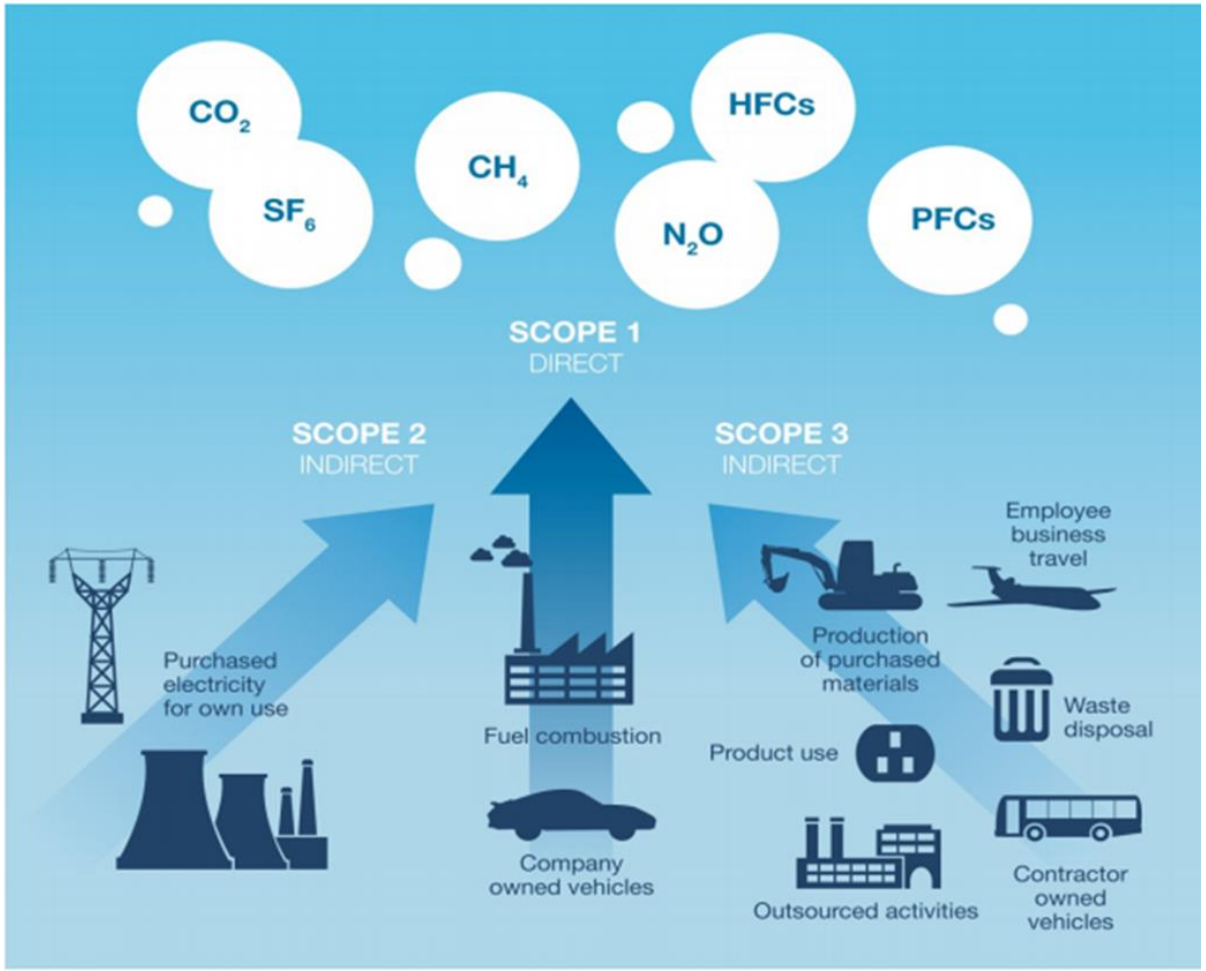
Analysing WCC emissions

Scope 1
Heating buildings
Council vehicles

Scope 2
Bought electricity

Scope 3
E.g. contractor operations, employee travel, waste, leased assets, investments

Wider Warwickshire
Communities, Businesses, Sustainable Transport Strategy



WCC Council Plan 2025

Agreed at Full Council 18th February 2020

- The Council will establish a cross-party group to steer the work that will deliver both climate change adaptation and mitigation.
- We will embed climate change considerations into everything we do, making carbon reduction everyone's responsibility.
- Climate change will be considered as part of all council decision making, including capital investments and procurement.
- We will work collaboratively with Government to provide guidance and incentives for carbon reduction.

WCC Council Plan 2025

Emissions the Council has indirect control over, i.e. from purchased goods and services, waste management, business travel, employee commuting and investments.

We will: -

- Reduce, recycle and compost more of our office and household waste and reduce our use of paper and single use plastic
- Develop and implement a new Joint waste strategy for Warwickshire and review the carbon impact of our investments
- Embrace and embed improved ICT to reduce printing, energy consumption and business travel, including commuting
- Provide zero carbon pool vehicles and encourage their use. Provide improved shower and storage facilities to encourage active travel
- Develop plans to reduce carbon emissions from our third-party contracts for highways, property and social services and investigate carbon reductions in non-corporate buildings

Warwick District Council
Carbon Action Plan Council Workstreams

Waste

- Measure waste produced by the Council operations so that it can be reduced and managed
- Reduce printing and paper waste through increase in digital systems and services
- Introduce low emission transport specifications into new waste collection contracts
- Consider how the Council can assist contractors to move to Ultra Low Emission Vehicles through ensuring depots have sufficient power supply and charging infrastructure

Procurement

- Strengthen sustainable procurement policies to purchase/lease energy efficient materials, services and technologies
- Incorporate carbon reduction requirements into new tender contracts
- Ensure new build and refurbishment contracts meet high sustainability standards set by the Council and adhere to these during construction

BEIS 2018 UK Greenhouse Gas Emissions

Transport was the largest emitting sector of UK greenhouse gas emissions in 2018

Other includes Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors (note that LULUCF acts as a net sink of emissions). The percentages may not sum to 100% due to rounding.

Energy supply delivered the largest reduction in emissions from 2017 to 2018

	2017-2018 % change	1990-2018 % change
Transport	↓ 1%	↓ 3%
Energy supply	↓ 7%	↓ 62%
Business	↓ 3%	↓ 31%
Residential	↑ 4%	↓ 14%
Agriculture	↓ 1%	↓ 16%
Waste management	↑ 1%	↓ 69%
Other	↓ 8%	↓ 89%

The energy supply sector has accounted for around half of the overall reduction in UK emissions since 1990, at which point it accounted for 35% of all emissions in the UK. It was the largest emitting sector until its emissions fell below transport in 2016.

About 75% of waste emissions in 2018 was from landfill

Zero Waste Scotland Metric

Carbon impact of the disposal and recycling of municipal waste

	kgCO_2e per tonne of material		
Material	**Recycled / composted**	**Incinerated**	**Landfilled**
Food waste	-21	-12	993
Waste electricals	-181	62	5
Glass	-755	69	5
Household waste		403	458
Metal	-2543	62	5
Hardcore	2	62	3
Paper and card	-547	-180	498
Plastic	-539	1665	5
Textiles	-5828	216	599
Green waste	-53	-39	214
Wood	-289	-271	925

Zero Waste Scotland Metric Applied to Warwickshire

Carbon impact of the disposal and recycling of municipal waste collected from both WCA and WDA sources – excluding impact of Kerbside collection

		Carbon emissions (tCO_2e)					
Material	**Treatment**	**2013/14**	**2014/15**	**2015/16**	**2016/17**	**2017/18**	**2018/19**
Residual	EfW (incineration)	22,453	33,337	36,034	36,366	33,723	35,270
Residual	Landfill	31,263	17,168	16,561	16,343	19,980	18,523
Biowaste	In Vessel Composting (IVC)	-2,647	-3,139	-3,114	-2,707	-2,890	-2,854
HWRC	Recycling	-12,609	-14,087	-16,110	-17,099	-16,143	-16,432
Kerbside	Recycling	-37,530	-36,790	-35,910	-36,245	-35,890	-36,116
	Totals	**931**	**-3,511**	**-2,539**	**-3,342**	**-1,221**	**-1,609**

Warwick District Council
Warwick District current carbon profile

Sector	tCO_2e	%
Stationary Energy	532050	50
Transportation	507553	48
Waste	6669	<1
Industry	8717	<1
Agriculture	5143	<1
Total	1060132	

Scatter 2018/19

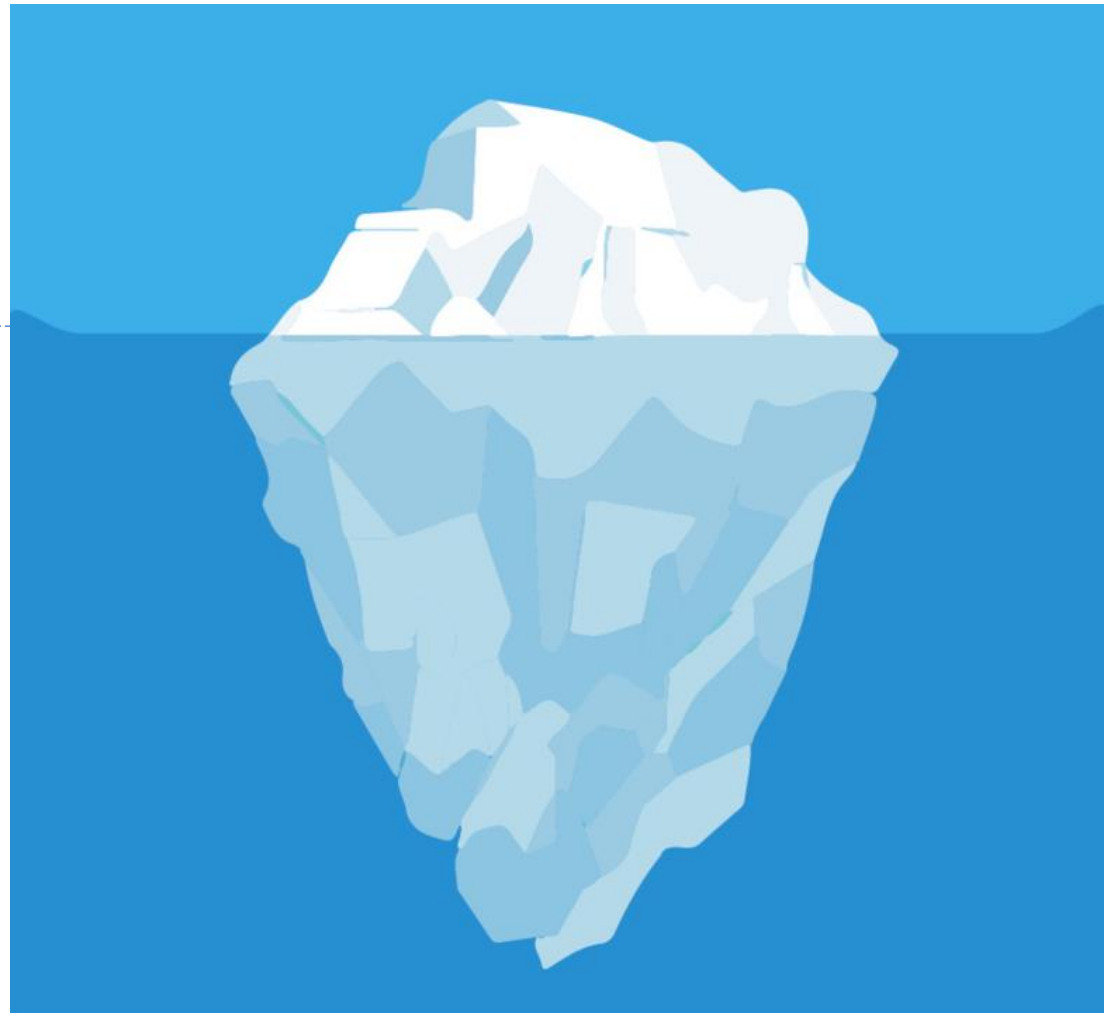
Disposal is the tip of the iceberg

Disposal emissions

Landfill, incineration, recycling

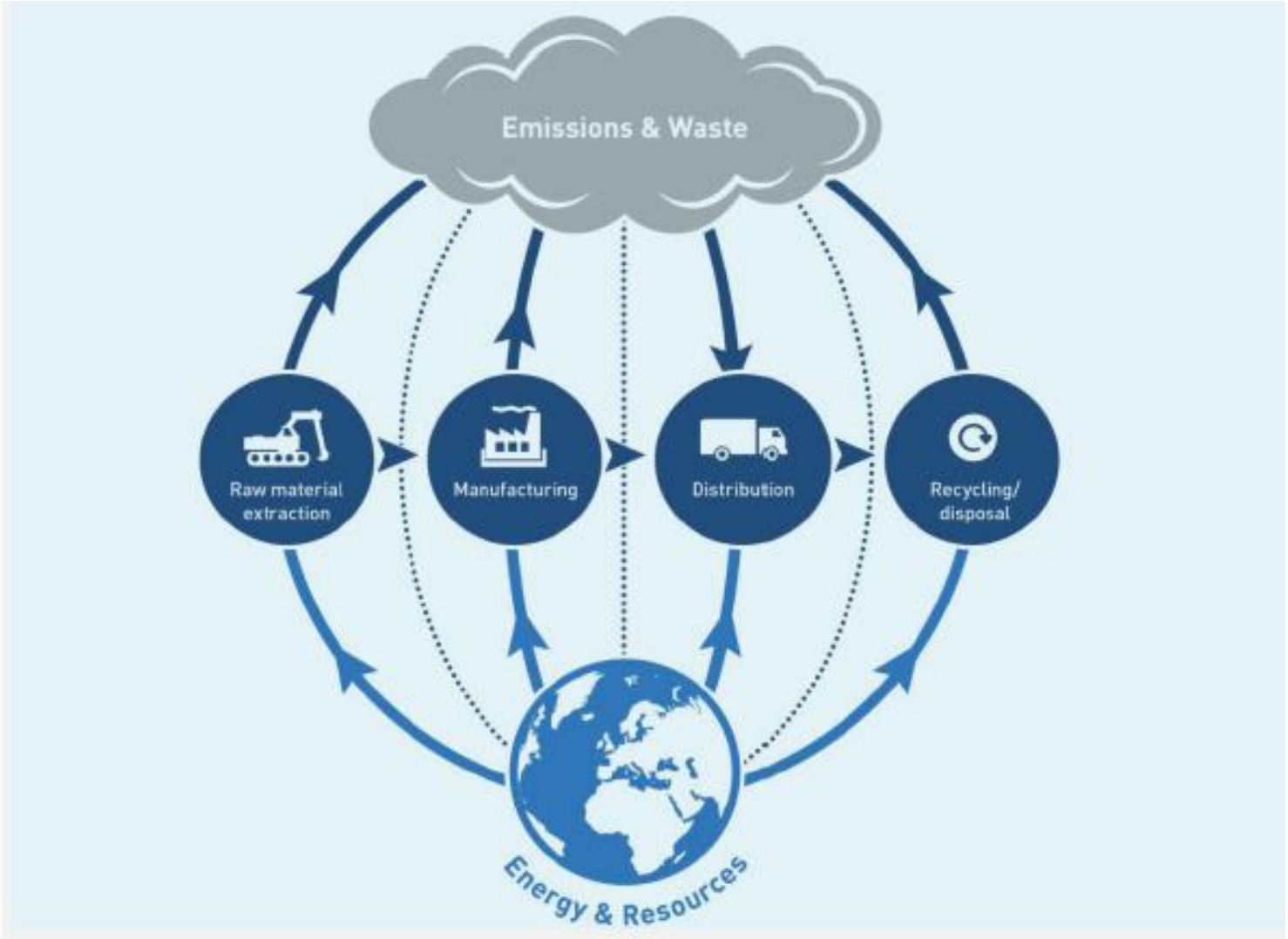
Life cycle emissions

Raw materials
Manufacturing
Transport
Packaging

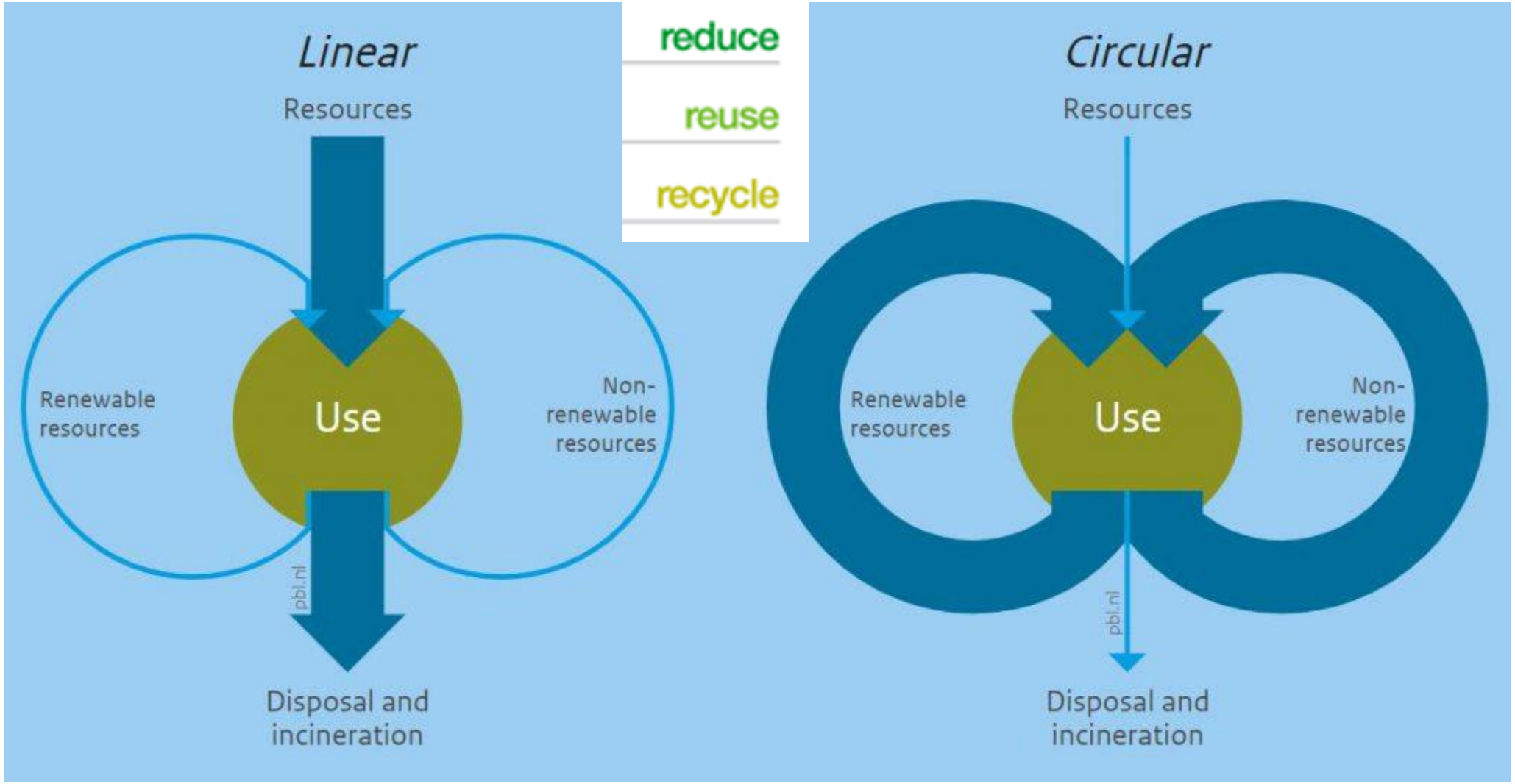


Total Global Carbon Impact of Waste

Energy and carbon is invested in a product in every step of the lifecycle

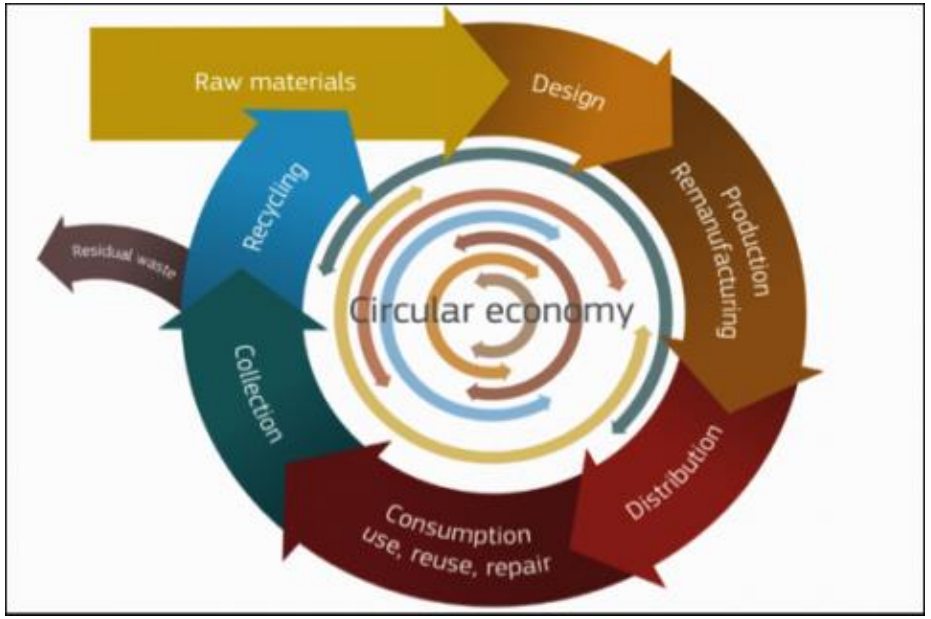


Waste hierarchy and circular economy



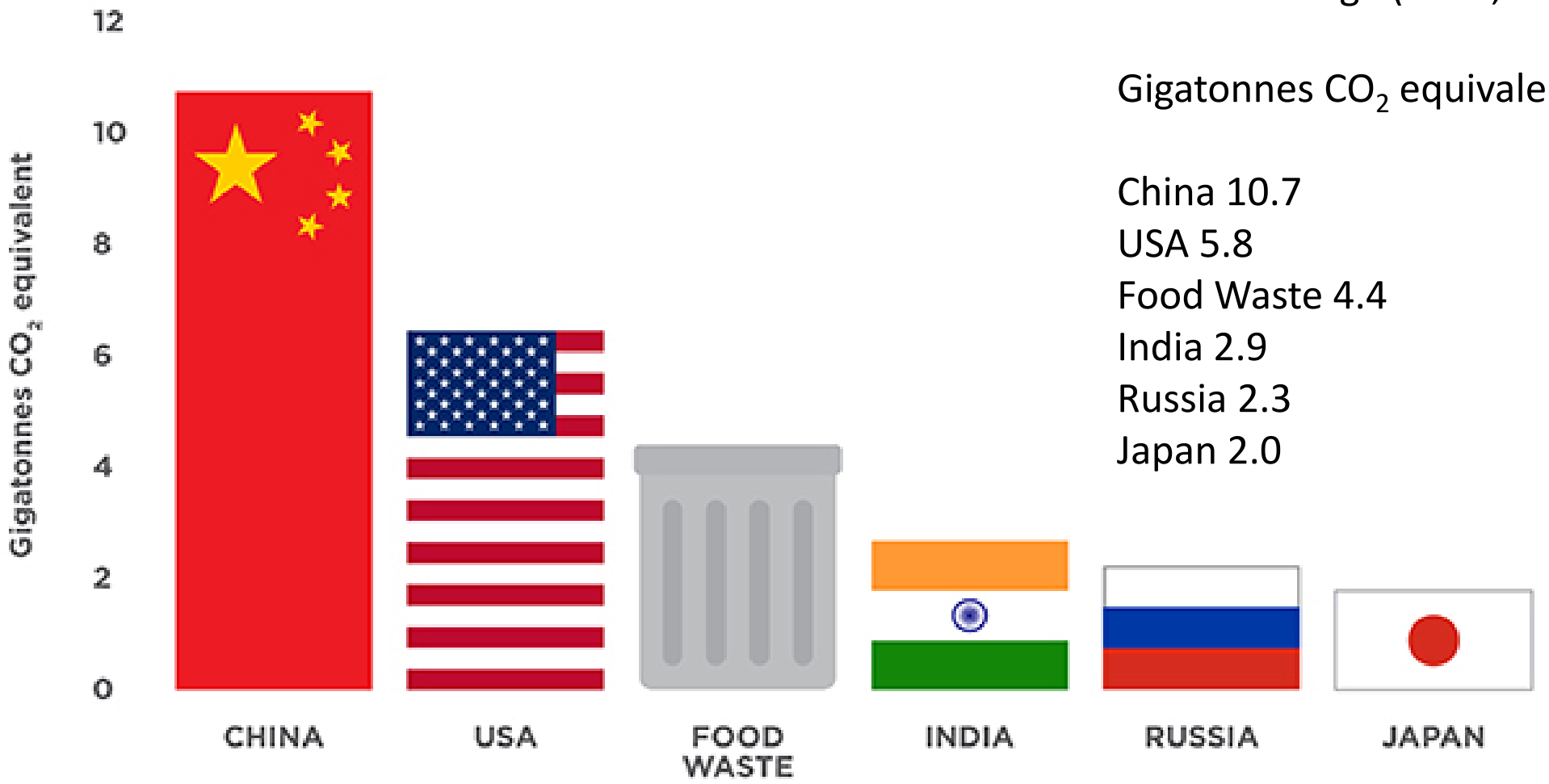
Circular Economy

- National Strategy
- Local strategy
- Public awareness
- In-house operations
- Business opportunities



- Design for long life / reuse / repair / recycling
- Secondary raw materials
- Shift from petrochemical to plant-based
- Manufacturing / Remanufacturing
- Longevity in use
- Leasing economy
- Streaming and downloading
- Lending and sharing
- Repair and maintenance
- Reuse and redistribution
- Refurbish, upgrade and remanufacture
- Simplify and incentivise recycling

Focus on food waste



Food wastage footprint and climate change (2015, USFAO)

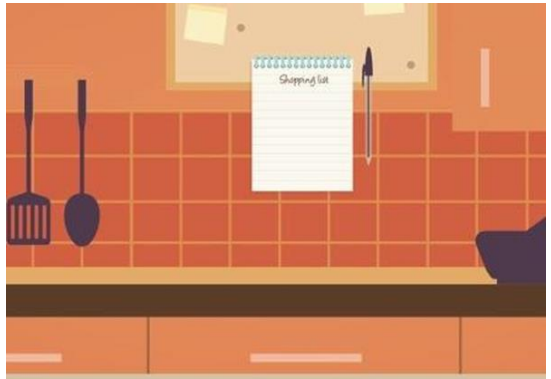
Gigatonnes CO_2 equivalent:

China 10.7
USA 5.8
Food Waste 4.4
India 2.9
Russia 2.3
Japan 2.0

Tackling food waste

Preventing food waste saves 50 times more emissions than recycling it

- Buy what you eat
  - Plan Meals
  - Check stocks
  - Shopping list
- Eat what you buy
  - Freeze
  - Storage
  - Date Labels
  - Portion size
  - Leftovers
- Compost or recycle any unavoidable food waste



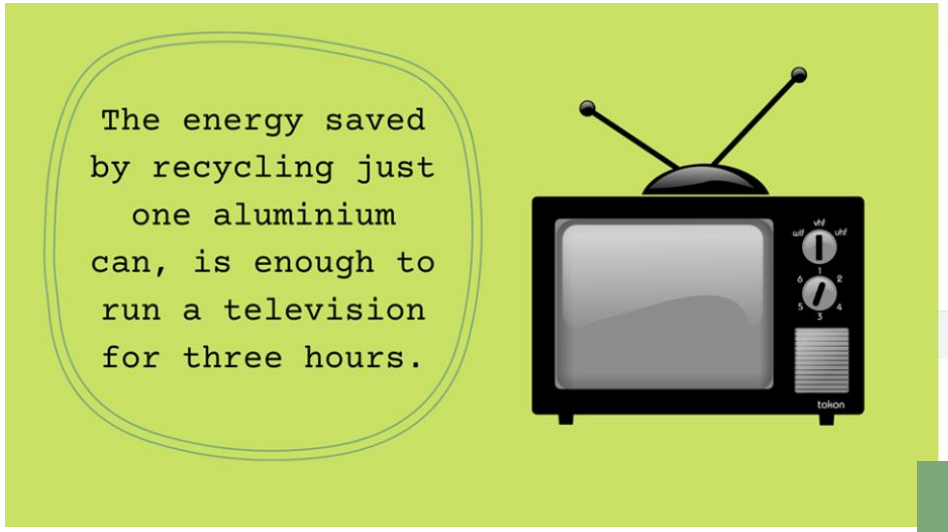
Planning your meals helps you use up all your food. Check your cupboards, fridge and freezer before going to the shops.

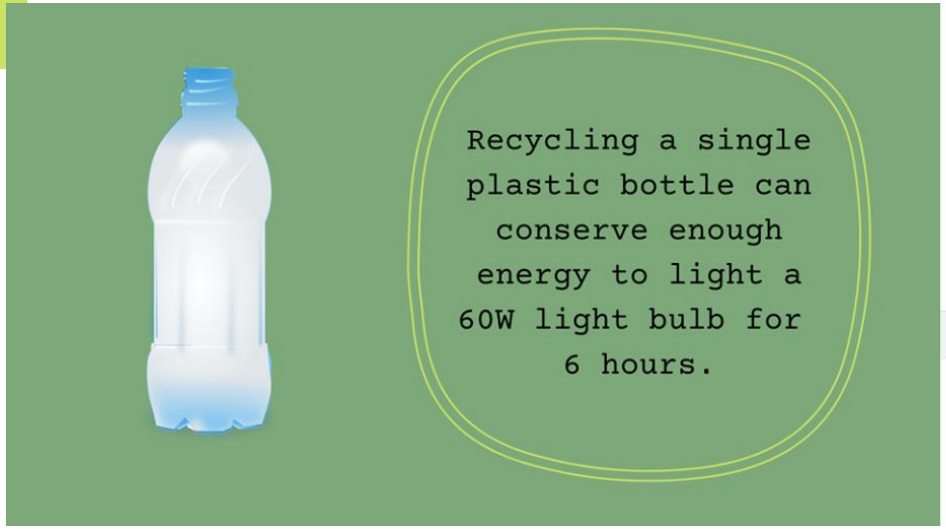
You can freeze any food right up to the 'use by' date, ideal if your plans change.

WCC tackling internal waste

- ISO14001 Environmental Management System to reduce impacts
- Staff, contractor and visitor training and communications
- Centralised spend on consumables
- Controls on procurement
- Measurement of printing
- Using IT to reduce paper
- Steps to reduce catering waste
- Reusing furniture and stationary
- Recycling provision and monitoring

WCC promoting the carbon impacts of reducing waste and recycling more





Warwickshire Waste Partnership tackling waste and carbon emissions

- Overall waste per household and residual waste per household is gradually decreasing
- Dry recycling is increasing
- Landfill is decreasing
- Seeking to measure and monitor emissions from waste
- Put in place measures to reduce service emissions
- Contribute to the next stage of consultation on the National Resources and Waste Strategy
- Influence the public on this journey through campaigns and communications