Combatting **Climate Change**

Report of the Director of Public Health
Trafford 2019

www.trafford.gov.uk

Acknowledgements

Many thanks to all who have contributed to this report, in particular Jo Bryan, Paul Burton, Karen Cooney, Peter Davey, Ben Fryer, Hannah Gaffney, Helen Gollins, Kate Hardman, Jane Hynes, Vimi Jhatakia, Leifa Jennings, Alex Murray, Shaenaaz Ramjean, Donna Sager, Megan Skelhorn, Jane Wagstaff.

Foreword

We are pleased to see that this year, Trafford's Public Health Annual Report is on climate change. Trafford Council was one of the first local authorities to declare a climate emergency, in November 2018[1]; the Greater Manchester Health and Social Care Partnership declared a climate emergency in August 2019[2] and Greater Manchester has committed to being carbon neutral by 2038[3].

We are therefore in a great position to start making change real. Across the council, we are identifying the actions that we can take to reduce our carbon footprint and through this, improve the health, social and economic situation of our local families and communities.

The impact of climate change will affect all of us, but the poorest people in our society, who contribute the least to the problem, will feel the impact sooner and more acutely than others. We are therefore committed to doing what we can to reduce the risks and protect our population - and thereby deliver the consequent health, economic and social improvements to our borough.

Cllr Steven Adshead,
Executive Member for Environment, Clean Air and Climate Change

Cllr Jane Slater,
Executive Member for Health and Wellbeing

Contents

Introduction

Eleanor Roaf, Interim Director of Public Health

This year, Trafford's Public Health Annual Report is on how we can reduce the impact of climate change. We are at a point where decisions we make now will make the difference between vast areas of Earth being habitable or inhabitable for humans. This is a topic that is getting much publicity now, with the school strikes increasing press coverage, and the aim of the report is to provide more background and context to this. But this is not about doom and gloom. Our changing climate can be addressed, and most importantly, almost all of the actions that we need to take to reduce carbon emissions will also improve our health and our daily lives. Some need organisational and national action, but to get this we also need public demand for change.

The goals of the report are to:

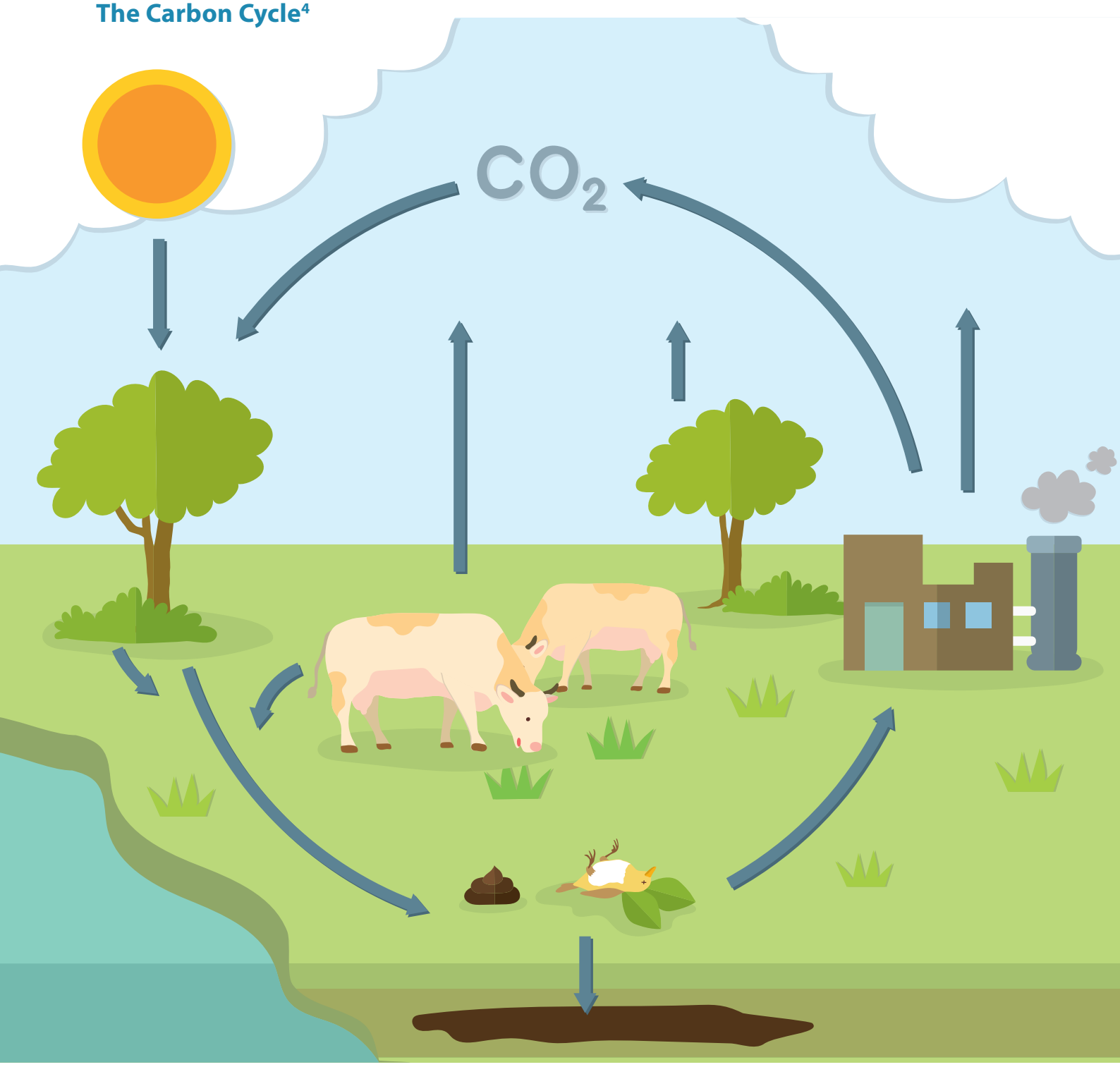
- Increase understanding of climate change and its consequences, and the role of carbon emissions in creating global warming
- Identify actions that can be taken to reduce our carbon footprint
- Create a demand for change and a vision of an improved life for individuals and families.

This report aims to give a brief overview of the issue and some ways we can address it. Everyone will have different things that they find easy or hard to do, and the point isn't for us all to try and do everything suggested here. The main thing is to understand the impact of some of our choices, and to do what we can, when we can.

What is causing climate change and how do we address it?

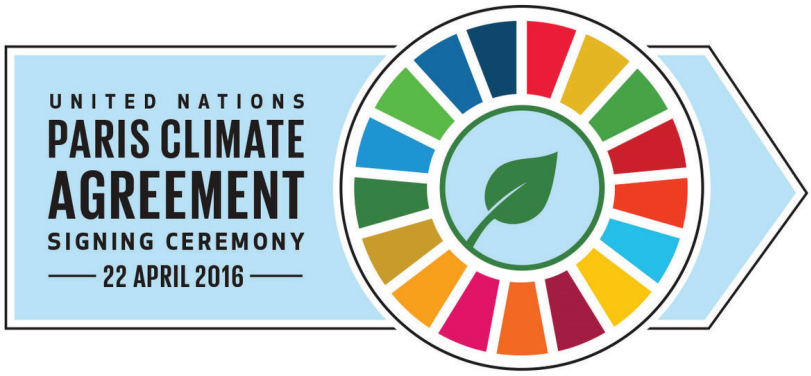
In very simple terms, our climate is warming because we are producing too much carbon dioxide and other 'greenhouse' gases: so-called because they lead to thermal energy being trapped by the atmosphere and causing the earth to become warmer. The greater the amount of these gases in our atmosphere, the warmer the earth becomes, and so our urgent need is to stop this increasing further by reducing the gases entering the atmosphere.

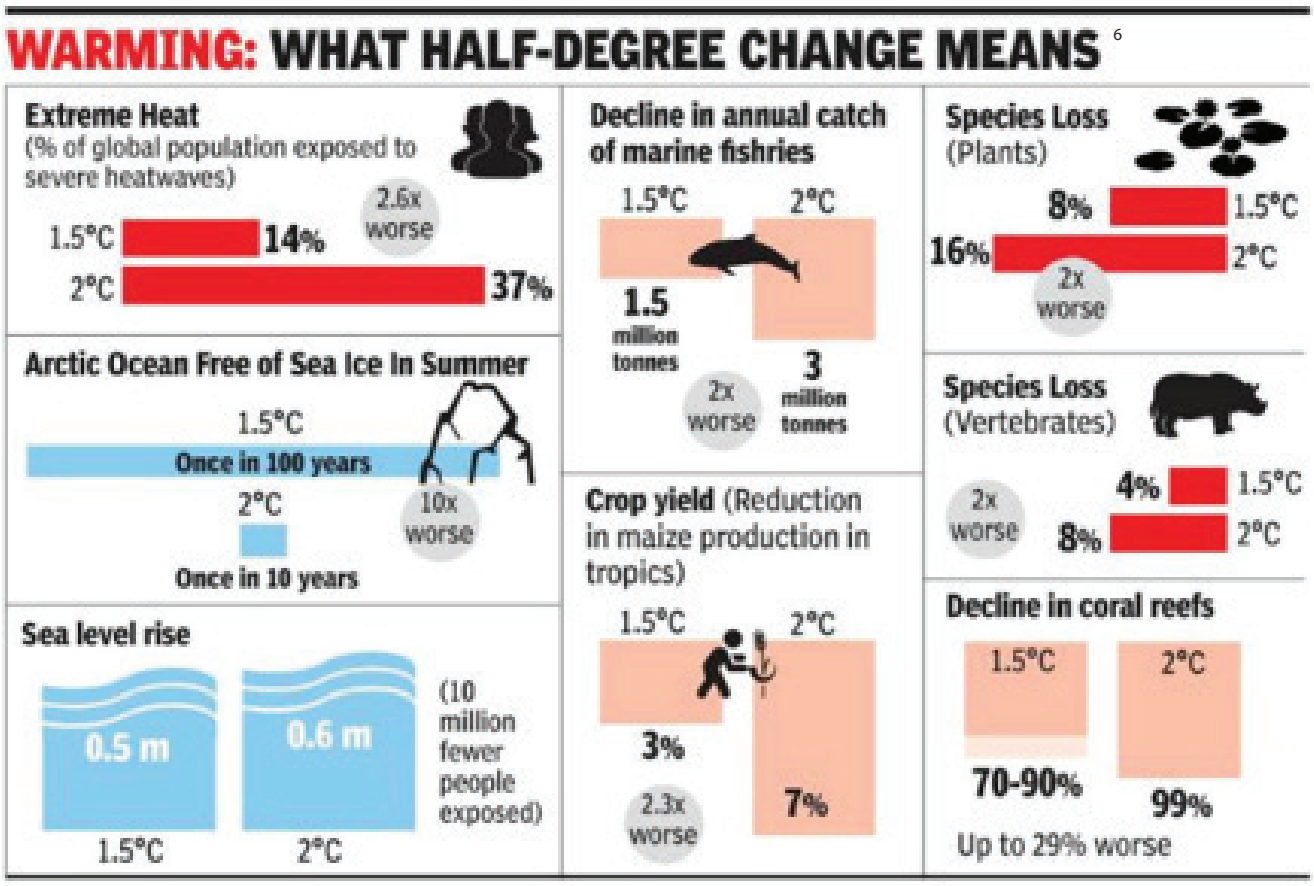
The Carbon Cycle[4]



All reputable scientific bodies are agreed that climate change is real and that excess carbon emissions are the cause.

The Paris Agreement[5] reached in December 2015 set a maximum increase in global temperature of 1.5 degrees from pre-industrial levels. This is agreed to be the maximum level of warming that is compatible with a long term future for humans on earth. The agreement was signed by 195 countries, and although the USA has now withdrawn, many of the states in the USA are still working to achieve this target. Many experts now predict that 2 degrees is a more likely best case – but this has serious consequences.





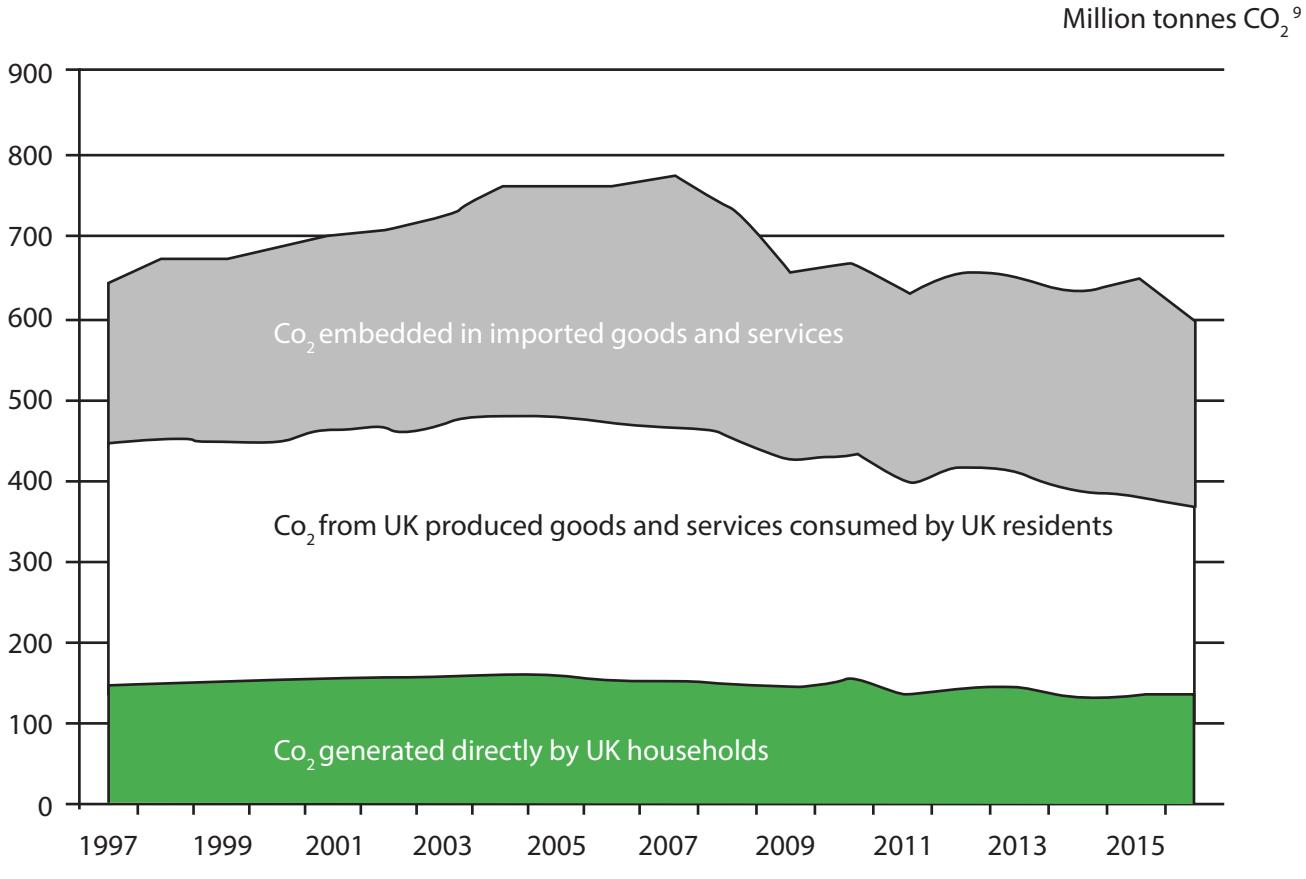
The impact of the changing climate is being seen already. Rising sea temperatures melt the polar icecaps and raise the sea level, putting many coastal areas and islands at risk. It also changes weather patterns, making extreme weather such as droughts, heatwaves and floods more likely. These impacts are felt most quickly in the global south, although its average carbon footprint is much lower than in the global north. We are starting to see 'climate migrants' where people are leaving areas because they are uninhabitable.
So this is an inequalities issue, with the biggest impacts being initially felt in the areas that are contributing the least to the problem. Within individual countries, too, we find that richer people have bigger carbon footprints that poorer people, and are also more able to protect themselves from the impact of climate change - although we are now all starting to feel the impact.

What is a carbon footprint?

'Carbon footprint' is a shorthand way of describing the full climate change impact of something by calculating its CO_2 emissions. It includes production and freight costs, and it allows us to make comparisons between very disparate things – e.g. riding a bike versus eating a banana. They are usually described in terms of CO_2 equivalence, as the different greenhouse gases all have different impacts on the climate – some are much more damaging than carbon dioxide[8].

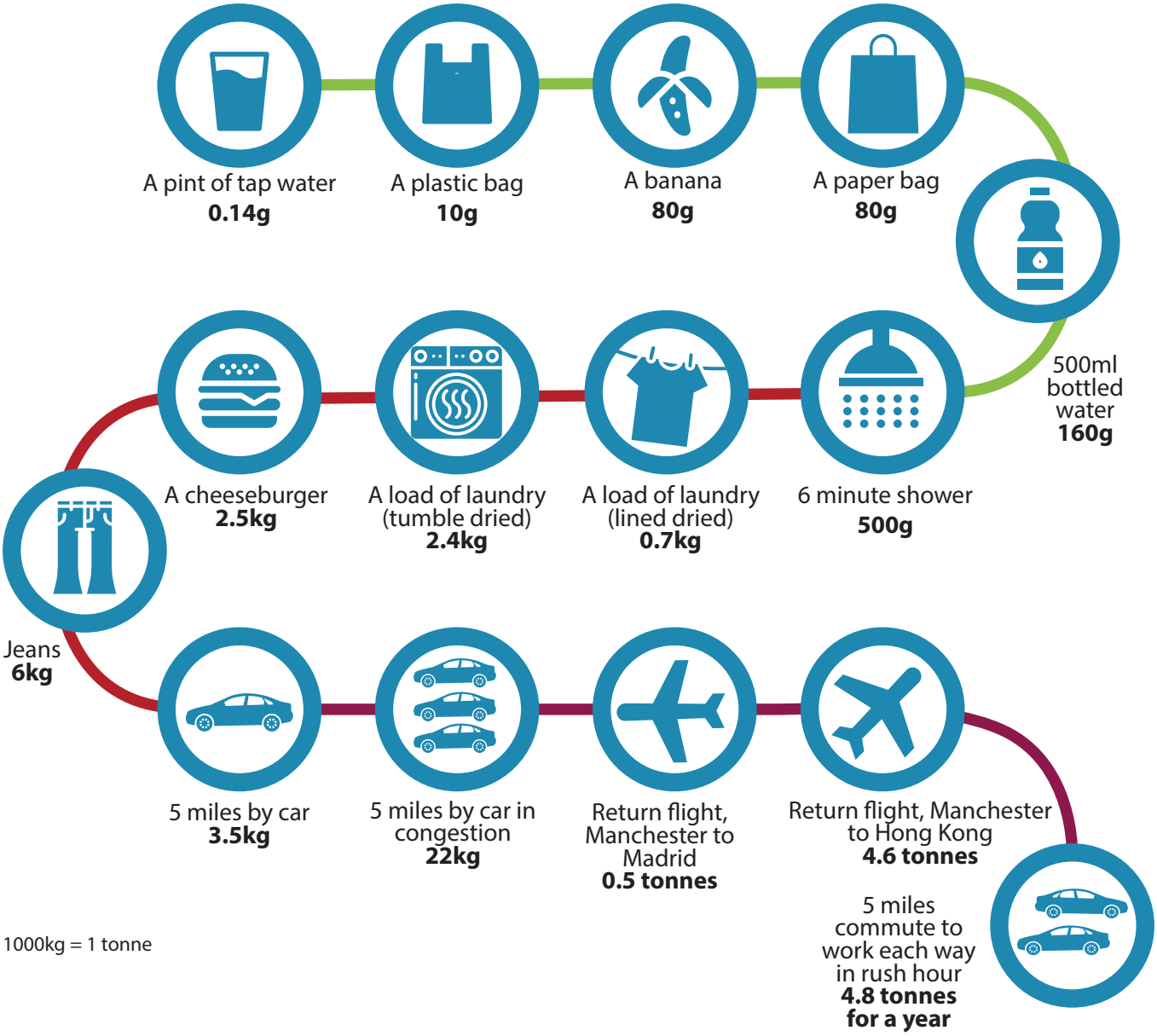
To calculate the carbon footprint of a country, we need to include not only what we produce and create ourselves, but also what we import. Often goods we import will have a bigger carbon footprint than goods we produce, especially if they are imported from countries that rely heavily on fossil fuels for energy.

CO2 emissions associated with UK consumption 1997 to 2016



Knowing our carbon footprint helps us understand the impact our lives are making. The WWF has an excellent website where you can calculate your own carbon footprint[10]. It then shows you how much you are using compared to your share of the world average: if you are using more than 100% then either we need a bigger planet, or you are using more than your share. Increasingly, people are using the idea of a 'ten tonne lifestyle' – how do each of us in the industrialised world use no more than a maximum of ten tonnes of CO_2 per year?

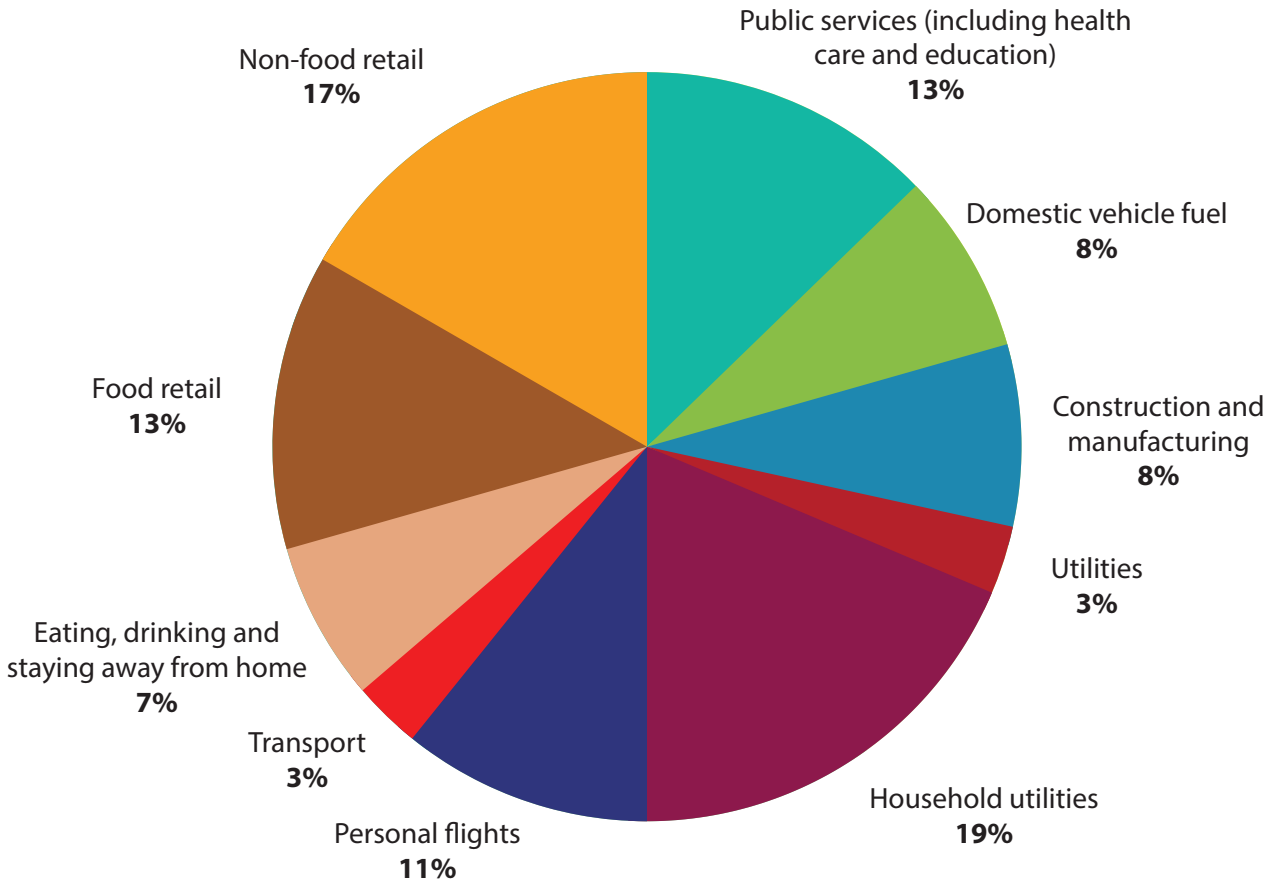
The carbon footprints of some common items[11]



1000kg = 1 tonne

Trafford, as the most affluent borough in Greater Manchester, will have a bigger carbon footprint than others, and so we all need to be acting faster to change our behaviour and to make the necessary organisational and environmental changes that reduce rather than increase our impact on the climate.

What makes up Greater Manchester's carbon emissions?[12]

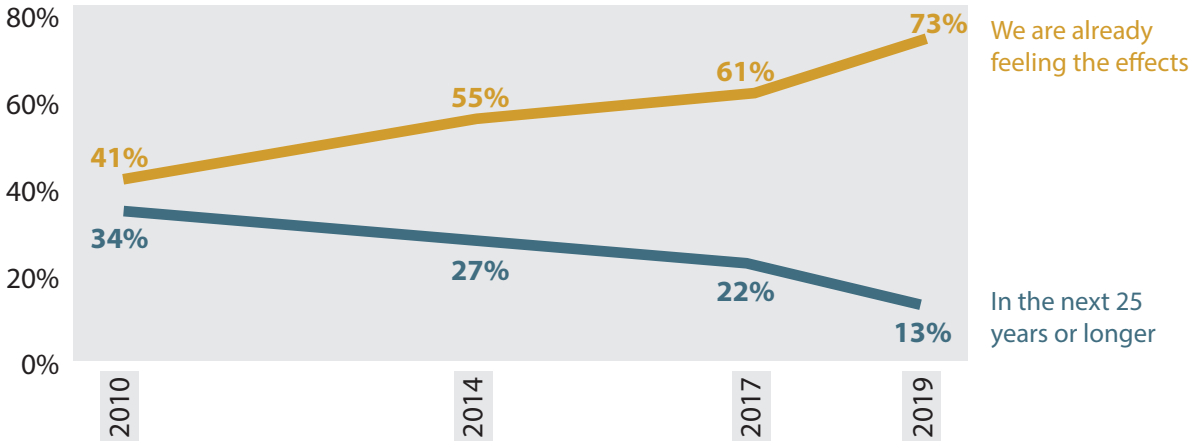


The impact of climate change on mental health[13]

Worry about our changing climate is starting to have an effect on people's mental health. Only 14% of us in the UK say we are not concerned about climate change[14]. Many of us (74%) report already feeling the effects of climate change e.g. the recent flooding in the North West of England. Climate change can feel like an overwhelming problem and psychological responses such as worry, anxiety, stress, hopelessness, anger and grief are common[15]. Our most vulnerable groups and children and young people are likely to be most affected.

Feeling the effects of climate change[16]

When, if at all, do you think Britain will start feeling the effects of the climate change?



We know that big changes to our behaviour as individuals and communities are needed to address the climate change problem, but simply understanding the problem does not always mean we change our behaviour in positive ways. How we feel can be helpful in driving us to act in positive ways, but feelings can also be a barrier to effective action. Media headlines such as 'Global emergency', 'Mass extinction event' and 'The earth's lungs are on fire' grab our attention. However, they can actually make us feel powerless and reduce positive and effective action. If you're feeling this way here's what you can do.

Food

We all need to eat! But the process of feeding the world is now very complicated.

"The scale of the public health challenge is also dawning on us, from poor diets and mental health, to the effects of pollution and antibiotic resistance. What we eat, and how we produce it, is damaging people and the planet."

Our Future in the Land, 2019[17]

The modern food and farming system has contributed significantly to climate breakdown, changing the way in which people produce, buy, consume and dispose of food around the world. The food system has some of the largest contributors of greenhouse gases, but there are also solutions that individuals, organisations and policy-makers can use to reverse climate change.

Food choices

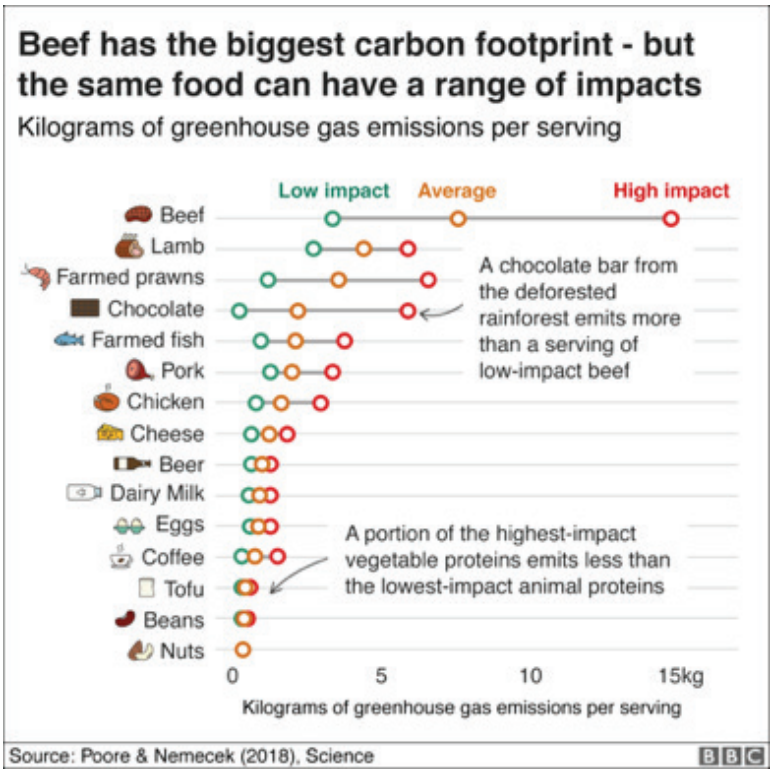
"Healthier and life-enhancing diets mean more and better fresh fruit, vegetables, nuts and wholegrain foods, less and better meat and dairy, with livestock products coming from climate and nature-friendly production and zero food waste."

Our Future in the Land, 2019[18]

In the UK, consumption of food is responsible for 150 million tonnes of CO_2 emissions every year, with the vast majority (42%) coming from primary production of food (farming, grazing and fisheries). A significant proportion of the emissions in this category are generated by the meat and dairy industry – through direct methane emissions from animals and production of crops for animal feed[19].

Different foods have vastly different carbon footprints, so what we choose to eat has a huge impact on overall emissions, with a low-meat diet reducing emissions by one third compared to a high-meat diet and a vegan/plant-based diet around 2.5 times lower than a high-meat diet. A low carbon diet isn't always healthy but in general, a diet that is lower in red meat and highly processed food will have both health and climate benefits.

Kilograms of Greenhouse Gas(GHG) emissions per serving[20]



Beef cattle raised on deforested land is responsible for 12 times more greenhouse gas emissions than cows reared on natural pastures. The average beef from South America results in three times the amount of greenhouse gases as beef produced in Europe – and uses 10 times as much land. [21]

Food waste

It's not only the food we eat that contributes to global warming. Arguably worse is the impact of the food we waste, although the good news is that emissions from waste in the UK have decreased by 70% since 1990 through reduced biological waste going to landfill, investment in methane capture technology and improved management at landfill site. Producing uneaten food wastes resources (such as seeds, water, energy, land, fertiliser and labour) and produces greenhouse gases at every stage[22]. Food is wasted everywhere; retailers over-order to prevent perceived shortages or unhappy customers, both retailers and customers reject food based on what it looks like, and customers overestimate how much food how they actually need and dispose of food that is safe to eat because use by and best before dates are not always understood. Refrigeration, while important in reducing food waste, is a major contributor of greenhouse gases globally. The emissions come from both energy use and leakage of refrigerant gases which are thousands of times more potent than CO_2 in contributing to global warming. Making sure that we don't allow these gases to escape will help reduce this impact.

Food insecurity

We currently produce more than enough food to feed everyone on the planet, but there are still over 800 million people who don't get enough food. In the UK we pay some of the lowest prices in Europe for our food, but household food insecurity (where people do not have enough money to buy enough healthy food) is increasing, with 2.2 million people in the UK severely food insecure[23]. This is the highest reported level in Europe[24].

There are some local food projects across Greater Manchester that aim to support people who struggle with food insecurity – generally these involve paying a small weekly membership fee to receive a variety of food that would otherwise go to waste. This enables people on a low income to buy food at a vastly discounted rate and gives them a wider variety of products to cook healthy, nutritious meals. One such project in Trafford is The Bread and Butter Thing which operates in Partington.

The hidden costs of food to people and the economy[25]

We all pay the cost for unhealthy food, just not at the till. From the food we grow to where we buy and eat it, we need to make healthy and sustainable food the default option.

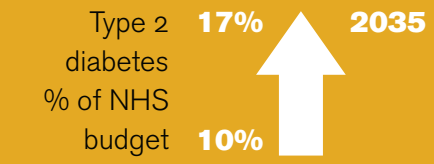
There is currently a huge imbalance in the resources we use to promote the right foods to the public. In 2017 the UK government spent

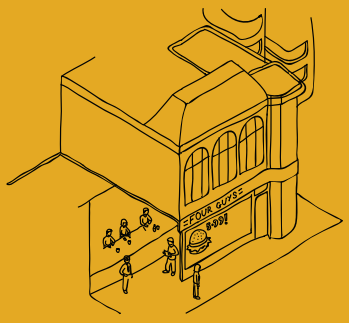
£5m

on its flagship Healthy Eating Campaign.

One third of all food produced is wasted.
Food waste is putting a huge strain on our planet's health while more than 815 million people suffer from undernourishment. Agriculture is the major driver of deforestation globally with around 15 billion trees cut down each year.

Our diets play a huge part in determining our health.
If you're obese you are five times more like to develop Type 2 diabetes which currently accounts for around 10% of the NHS's budget. On current trends this figure is expected to rise to 17% by 2035.





One in four people in the UK are obese with rates quadrupling over the last 25 years. The Office of National Statistics counted up all the chippies, kebab vans and greasy spoons in the UK and found that there's 34% more of them than there were in 2010. People who have lots of takeaway shops near them are almost twice as likely to be obese and Public Health England found that deprived areas have five times more fast food outlets than more affluent areas.

The World Health Organisation estimates that more than 2 billion people suffer from micronutrient deficiency. Globally we are producing 22% less of the fruit and vegetables needed to meet nutritional recommendations. Land degradation together with climate breakdown is predicted to reduce crop yields by an average of 10% by 2050 and up to 50% in some regions, increasing levels of malnutrition and starvation and driving increased conflict and displacement.

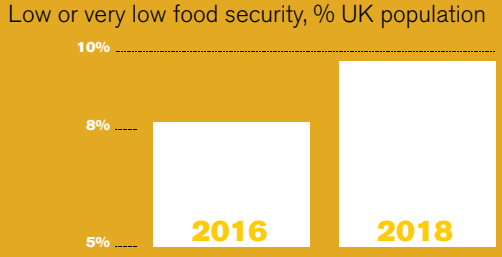
Micronutrient deficiency affects more than

2bn

people worldwide

Despite the number of products on the shelves, globally we are reliant on just 5 breeds of animal and 12 crops for more than 75% of the food we eat.
There are increasingly strong links being made between the importance of diversity in our diets and our health. More than 50% of the worlds plant-based calories come from just three crops – rice, maize and wheat.

Over the last year alone we've seen a 19% percent increase in food bank use, with over 4 million children in the UK living in households that can't afford to meet official nutritional guidelines.



Food packaging

Food packaging (and plastic waste in general) has a major impact on the environment. Around one third of all plastics end up in the ecosystem with only 5% being recycled and the rest ending up in landfill or incinerators (with the resultant production of greenhouse gases). If we continue like this, plastic will outweigh fish in the world's oceans by 2050[26].

When considering packaging, remember that the mantra for waste management is "**refuse, reduce, re-use, repurpose, recycle**". If we move away from ultra-processed food, we will find it easier to reduce the amount of food packaging – and we will be healthier.

What can we do... ?

... as individuals

- Think about what you eat: eat less (and better) meat and dairy, and more fruit, vegetables, nuts and pulses.
- Think about where your food comes from: eat a locally-sourced, seasonal diet or grow your own. Avoid air-freighted food.
- Think about how much you buy: eat what you buy, and use up leftovers. Love Food, Hate Waste has some great recipe ideas to use up your left overs at home https://www.lovefoodhatewaste.com/recipes. Learn about use by/best before dates and do not waste edible food: https://www.food.gov.uk/safety-hygiene/best-before-and-use-by-dates.
- Think about the packaging: buy unpackaged fruit and vegetables; take your own re-usable containers for fish/meat/dried goods (where this is possible).
- Make sure any food waste is composted (via the green bin, or in your own garden) rather than going to landfill/incineration.

... in the workplace

- Promote campaigns to support employees to move towards a healthy diet that is low in meat and processed foods.
- Provide a subsidised or affordable staff canteen that encourages a low meat/plant-based diet, use no or low packaging options, and provide re-usable crockery/cutlery for staff.
- Provide adequate recycling facilities for all products (glass, cans, plastic, paper/cardboard, food).
- Donate surplus food to foodbanks/re-distributors.
- Invest in efficient refrigeration/food storage for employees to minimise food waste and reduce leakages of refrigerant gases.
- Develop food procurement policies that use the principles of local, seasonal produce purchasing and allow flexibility in menus and recipes to make use of produce that is not aesthetically perfect; use less-favoured cuts of meat (nose to tail cookery); make use of seasonal gluts of fresh produce; and include sustainable/recyclable packaging on all food products.

"We must make it easy to do the right things and increasingly difficult (or expensive) to do the wrong things."

Our Future in the Land, p.15[27]

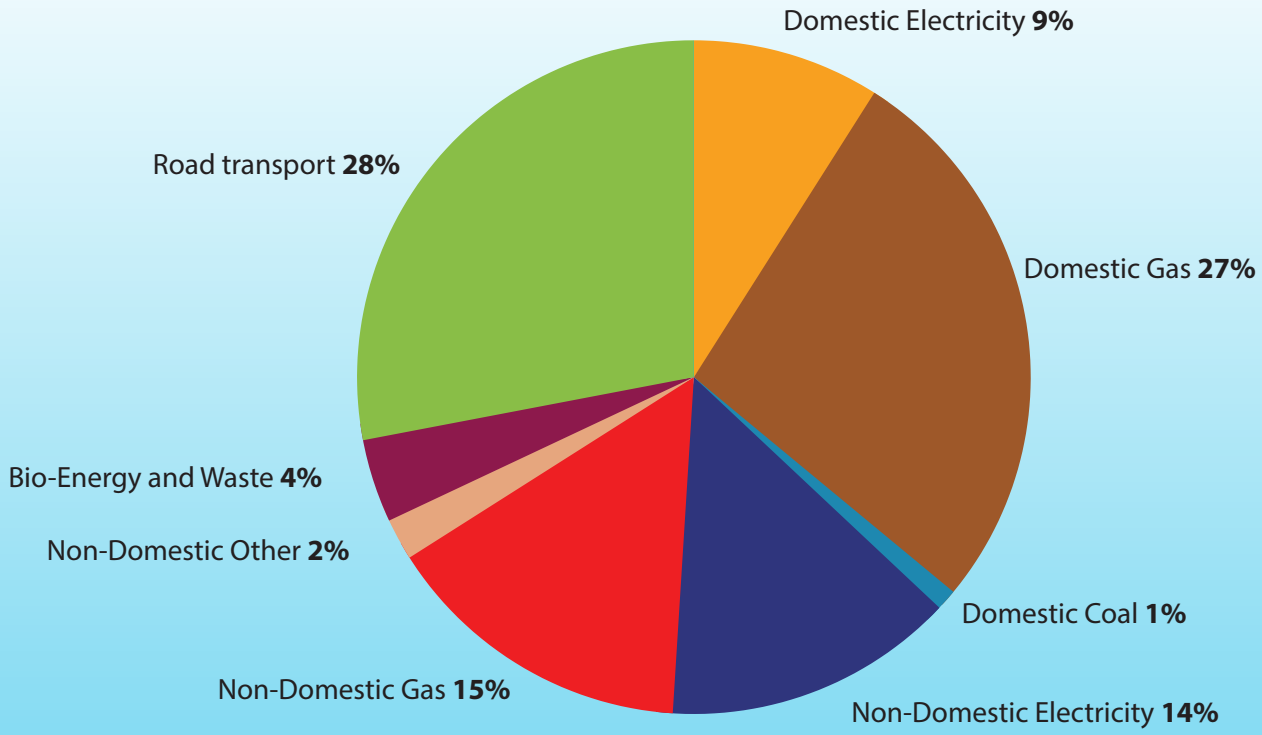
Buildings and Energy

In 2017, buildings contributed 19% to the UK's overall carbon emissions. Of this, most emissions come from heating and cooling, in the form of gas or oil. This contributes 69% of the total carbon emissions of buildings[28].

One of the big success stories is that the amount of carbon produced as a result of energy production has decreased 65% from 1990 levels[29]. 2017 was the first year that renewable sources of energy exceeded high carbon generation, with 52% of the total[30].

But there's still more we need to do. We can reduce the emissions from buildings by reducing heat loss. We live in a cold, wet country and it's important that our homes are kept warm in winter and free of damp, in order to prevent ill health, especially for children and older people. But there are ways of doing this and still reducing our carbon footprint.

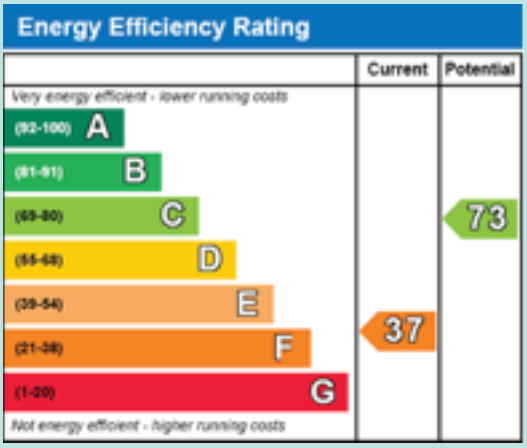
Proportion of GM energy consumption by sector [31]



What can we do…?

… as individuals

- **Insulation:** As most direct carbon emissions come from heating, the most efficient way of reducing carbon emission is through adequate insulation. It will also save money on heating bills and it is estimated that people living in homes built to the Zero Carbon Homes standard could save more than £200 per year[32] while also keeping their homes warm enough in winter to stay healthy. Despite this, rates of loft insulation are at their lowest for 10 years.[33]
- **Low carbon heat:** Insulation is more straightforward, but the use of low carbon heat systems can be an alternative to conventional heating systems. There are a variety of options available, including air heat pumps, ground heat pumps, biomass pumps and hybrid heat pumps.
- **Overall energy efficiency of homes:** The Committee for Climate Change has suggested that an EPC band C should be the minimum standard for all homes by 2035. This is a good standard for individuals to aim for.



- **Switch energy supplier:** Switching energy provider to a 100% renewable energy supplier is a good way to improve carbon emissions, as well as saving money. In Greater Manchester we have the Greater Manchester Big Clean Switch programme **https://bigcleanswitch.org/gm/**
- **Conscientious energy use:** Electricity North West have identified ways to reduce energy use[34], such as:
  - Not leaving electrical goods on standby
  - Draught proofing your home
  - Installing LED lights
  - Turning down thermostat by 1°C
  - Spending one minute less in the shower.
- **Home energy production:** Fitting of solar panels may be a viable option to reduce carbon emissions and reduce energy bills.

… in the workplace

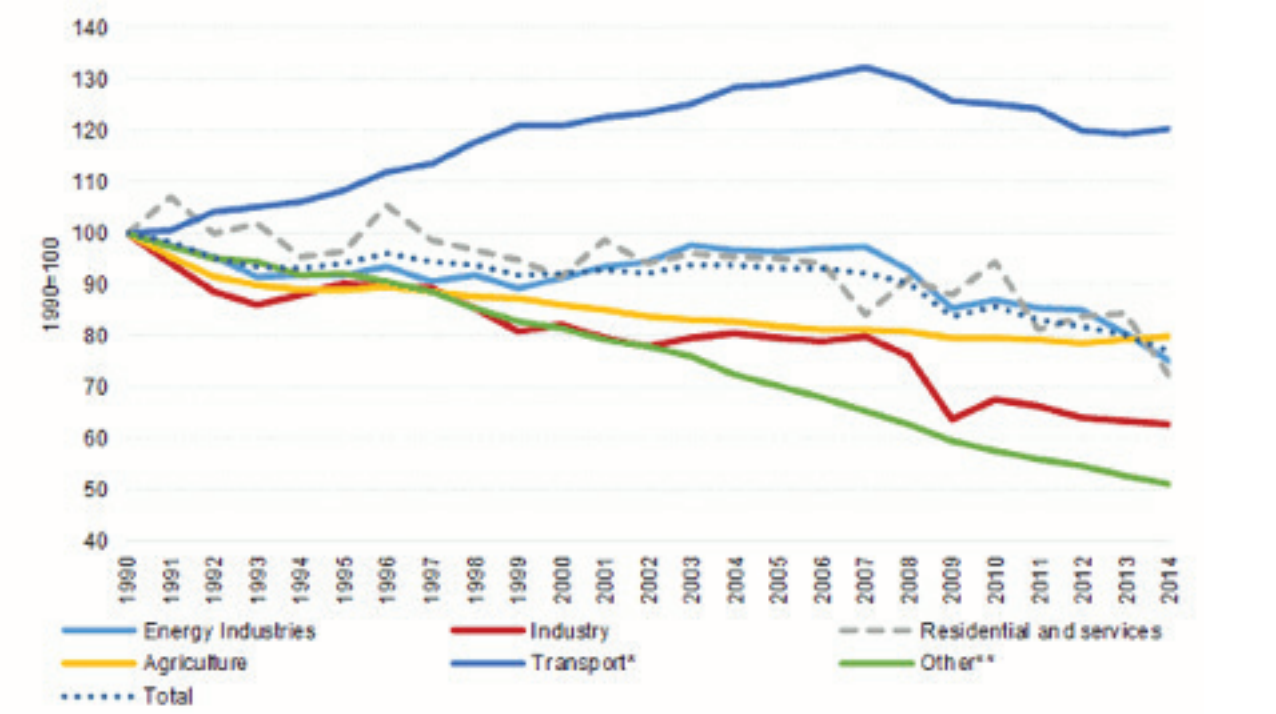
Many of the workplace actions are the same as for individuals: improve insulation; consider low carbon heat sources; increase energy efficiency; switch to a renewable energy supplier; and make energy efficiency a leadership priority

Transport

"A developed country is not a place where the poor have cars. It's where the rich use public transportation

Gustavo Petro, Mayor of Bogota

In 2018, transport overtook energy production as the biggest source of greenhouse gas emissions in the UK, providing 26% of all emissions, and these are not reducing as quickly as other sectors. In 2014, transport-related emissions were still higher than in 1990, even with developments in the fuel efficiency of vehicles.



Car usage and flying are the biggest contributors to emissions, and in the UK, emissions from aviation and light duty vehicles (small vans and pick-up trucks) have increased since 1990. People in the UK are also taking more flights than ever, which not only produces greenhouse gases but causes more damage by releasing them directly into the higher levels of the atmosphere. By contrast, in Sweden people are becoming more aware of the harm caused by excessive air travel, and there has been a recent decrease in the number of people flying[35]. They have even developed a word for it – "flygskam" – which translates as "flight shame"[36]. If you do need to fly, it is better to use direct flights (as most fuel is used during take-off), and fly economy class (as these seats take up less room than business or first class, reducing the carbon footprint per passenger).

Looking more locally, in Greater Manchester road transport accounts for 31% of carbon dioxide emissions, with 60% of this coming from cars and only 4% from buses[37]. One way to reduce these emissions is by walking or cycling short journeys. In Greater Manchester, 30% of trips under 1km are made by car, which would be the equivalent of a 15 minute walk or a 4 minute cycle[38]. A report from the Department for Transport also found that the number of people cycling at least once a week in the UK has significantly decreased between 2015/16 and 2017/18. However, this varies by location, for example in Cambridge, 58% of adults cycle at least once a week[39].

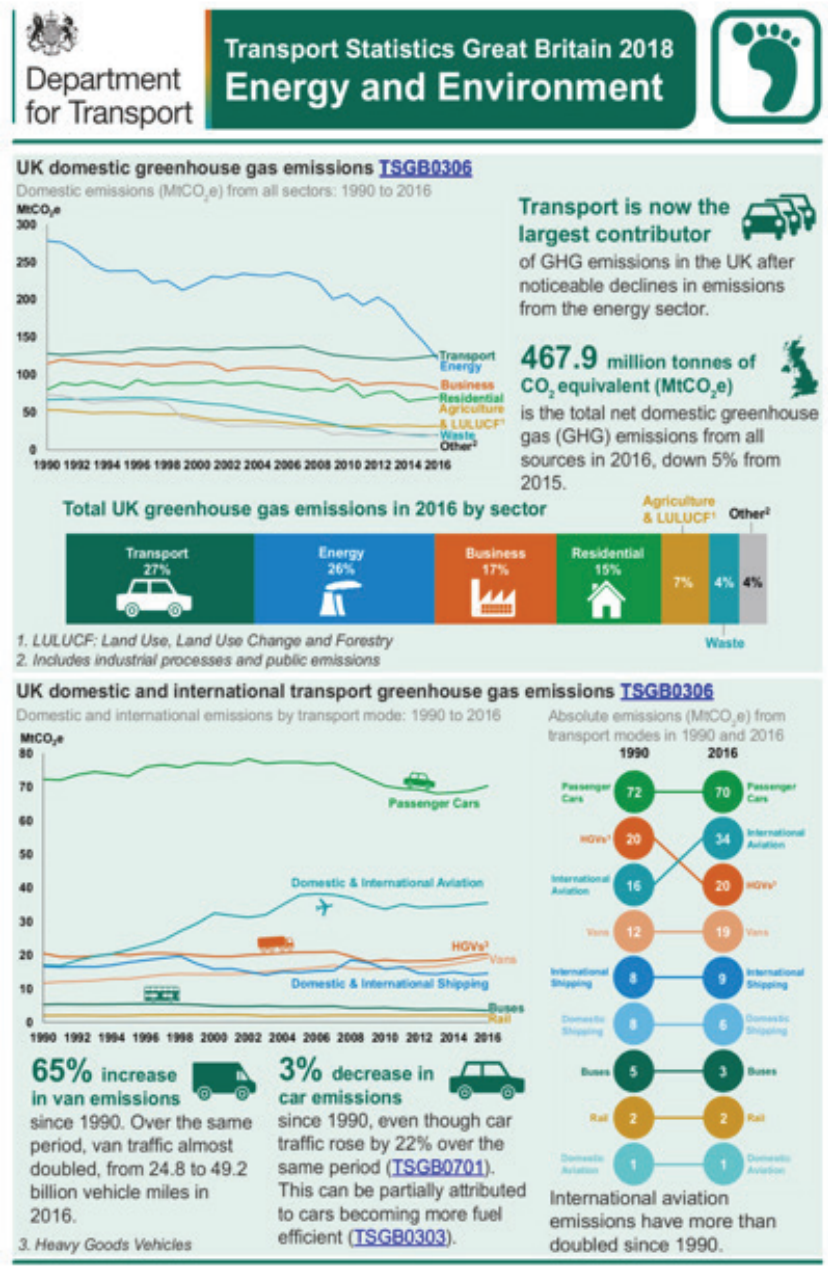
78% of residents support building more protected cycle lanes on roads, even when this could mean less space for other vehicles.

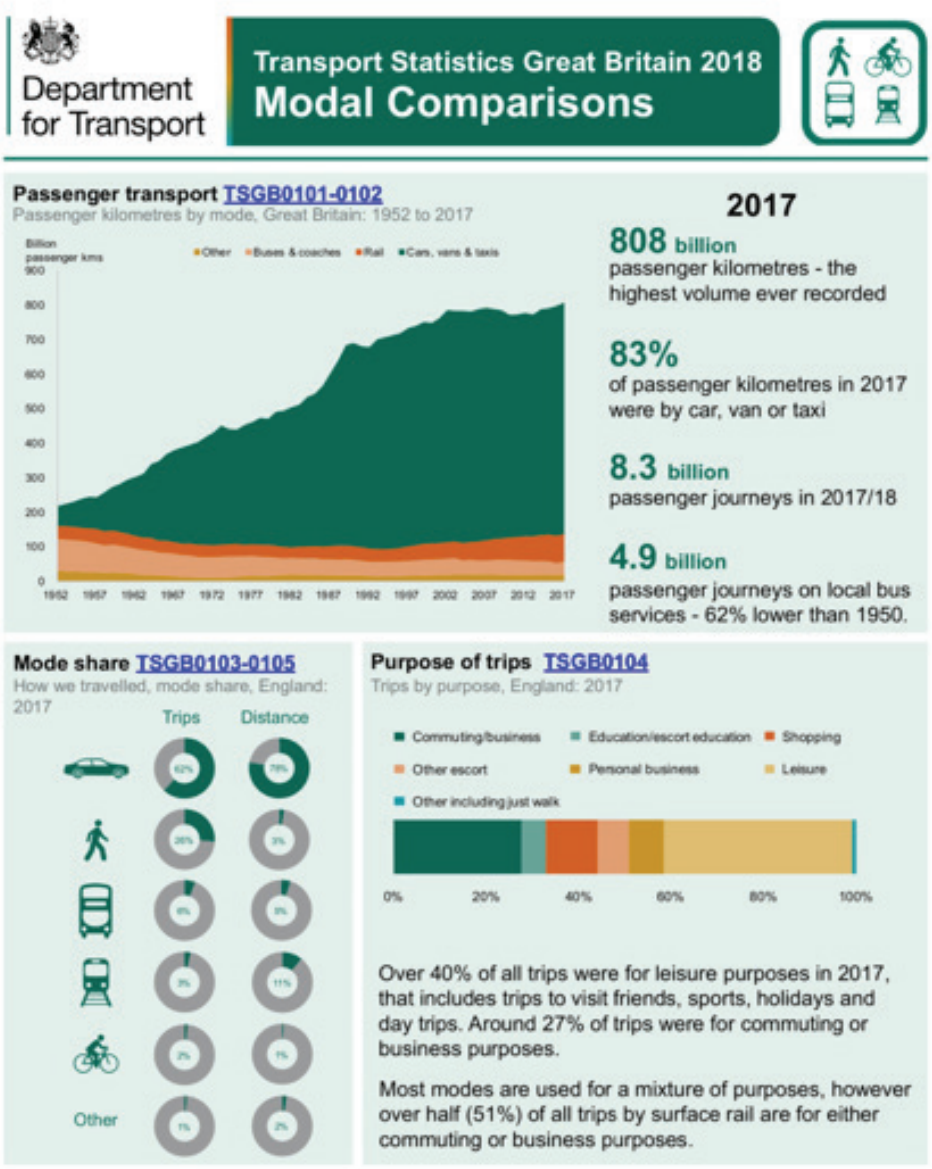
Sustrans Bike Life Report 2017[40]

As well as contributing to climate change, burning fossil fuels such as petrol or diesel leads to air pollution, which further damages our health. However, choosing to walk or cycle (commonly referred to as 'active travel') is great for our health and wellbeing, as well as having benefits for our community and the environment. Walking and cycling have been linked to improvements in the local economy from reducing congestion and improving high street sales, to creating jobs in the sport and leisure sector, to reducing staff sickness by having a happier, healthier workforce[41]. It also has effects on health, reducing the risk of developing diseases such as heart disease, dementia, depression, and some types of cancer. Furthermore, surveys show that cyclists are consistently the happiest commuters[42].

Even if you can't walk or cycle the whole way, by using public transport instead of driving we can increase our overall physical activity levels, as this will often involve walking or cycling to a bus, tram or train stop[43]. There have never been more reasons to leave the car at home!

This is an area where we already have plans for change in Greater Manchester, with a summary of actions for transport and travel[44,45]:





What can we do…?

… as individuals

- **Use Public transport:** The Metrolink tram system is zero-emission at the point of use. Buses have lower emissions than cars, and a good bus service means those without access to private cars can still travel easily. This reduces social isolation and enables people to find and keep jobs.
- **Active travel:** You don't need to wear lycra to cycle! And it doesn't rain as much in Trafford as you think. In Copenhagen, the weather is similar to here, yet 35% of all journeys are made by bicycle[46] and people wear their normal clothes for cycling as we do for walking. Cycling has positive effects on the local economy, improves health and wellbeing, costs less, and reduces emissions – a mile by bike uses about 100g of CO_2 compared to 700g by car. And it's fun!
- **Think about your driving:** Keep within speed limits and avoid sharp braking and accelerating (this reduces air pollution too). Keep your tyres at the right pressure and if you have a choice, don't drive: for your health and that of the planet.

- **Before you complain about parking charges**, think about what they are trying to achieve. Charges should be high enough to encourage people to use other forms of transport. People often complain about speed limits too, but slowing city traffic makes roads safer for everyone, and encourages walking and cycling. The main reason people give for not cycling is fear of traffic[47]: don't be the person that puts someone off cycling.
- **Reducing vehicle emissions:** Turning engines off, switching to electric/hybrid cars, or to more fuel efficient models, driving at the speed limit and avoiding rush hour all reduce emissions. Consider car sharing – find a friend or colleague to share journeys – you'll save money too.
- **Fly less:** Take fewer flights each year and think about alternatives, especially for short haul flights. If you have to fly, go direct and fly economy.

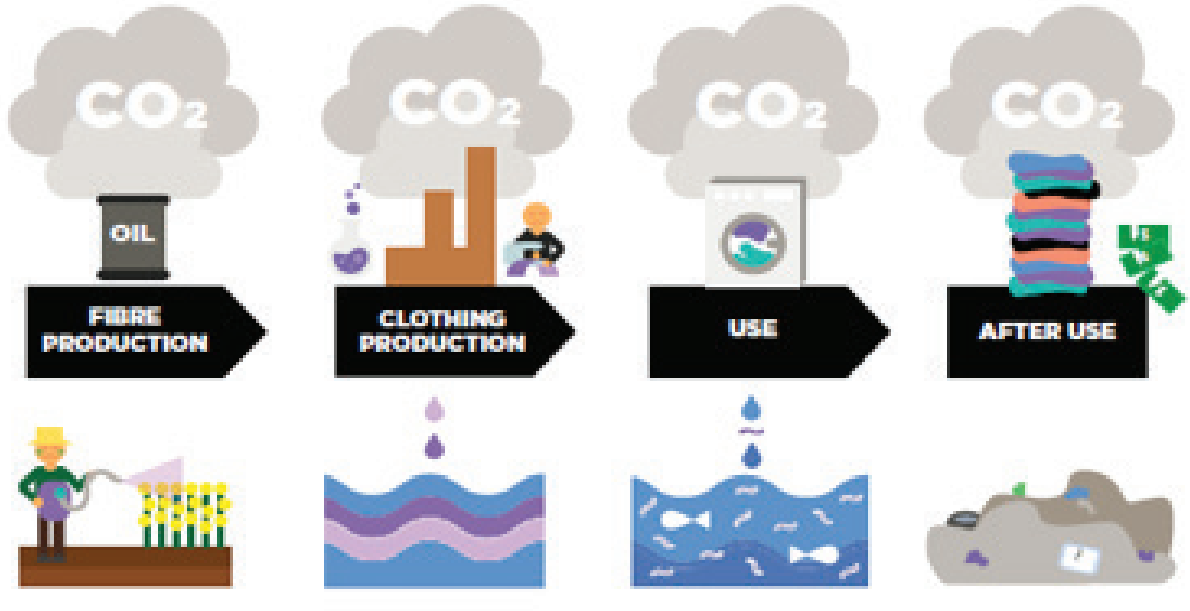
… in the workplace

- **Reducing car travel:** Support staff via promoting home working, video conferencing, attending meetings via public transport, encouraging and co-ordinating car sharing, cycling, walking.
- **Enabling active travel:** Workplaces should provide secure places to keep bikes and also places to dry clothes.
- **Reducing emissions:** Ensure vehicles are fuel efficient and up to date, provide electric vehicle charging points, offer eco-driving training to staff, encourage non-road freight services.

Fashion

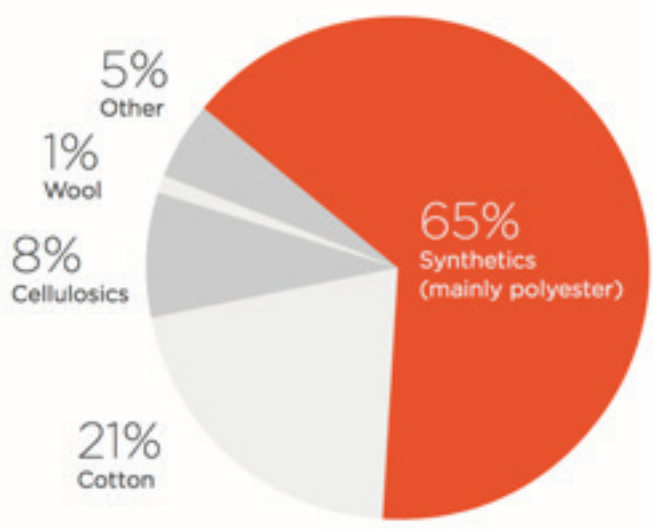
An estimated 20 new garments are created per person per year[48], and there has been a 60% increase in buying of clothes since 2000[49] . In the UK, there is more clothing bought per person than in any other country in Europe, with garments generally worn less often before being thrown away. The quality of the clothes produced has also dropped, and many clothes can no longer be reused or recycled because the quality is too poor[50].

CO_2 is released from every stage of the clothing process, from fibre production to disposal in landfill. In addition to the costs in terms of carbon dioxide, each stage also harms the environment in other ways.



Globally, it is estimated that the fashion industry accounts for 10% of global greenhouse gas emissions. Textile production is one of the most polluting industries, producing around 1.2 billion tonnes of CO_2 per year[51]. This is more than international flights and shipping combined. Much of the production of clothing takes place in India or China, and relies on coal to provide electricity. Conditions for workers in this industry are also notoriously poor.

There are also issues with the materials used in the production of new clothing. Polyester, which accounted for around 65% of the material used in the fashion industry in 2016, is produced using crude oil[52]. In 2014 polyester production involved 655 million tonnes of CO_2, which accounted for 40% of the total industry emissions[53].



Whilst cotton, the second most common material used in clothing, has a much lower carbon footprint than polyester, the amount of water and pesticides used in its production is high. The cotton industry contributes 1% to global greenhouse gas emissions[54].

And while much of fashion's carbon footprint is due to its production, because most items aren't reused, an estimated 60% of all clothing produced ends up in landfill[55]. In the UK we discard around a million tonnes of textiles every year[56].

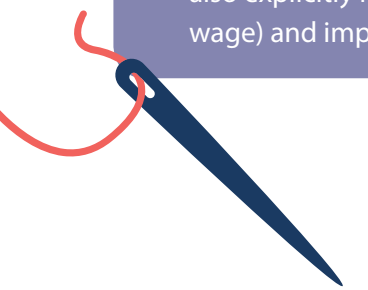
What can we do…?

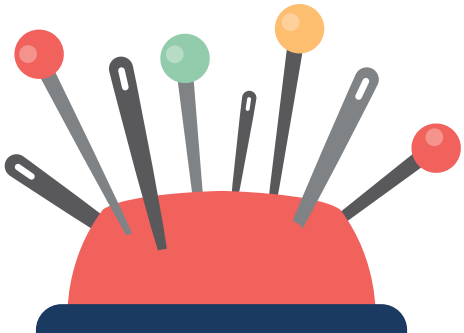
… as individuals

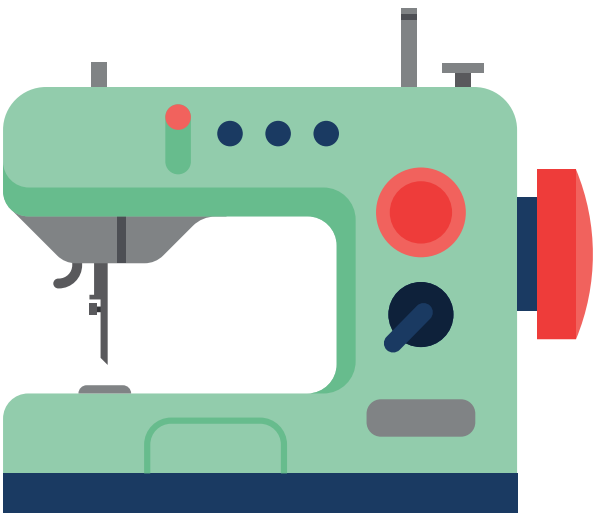
- **Repair/mend clothing instead of throwing it away:** Increasing a garment's lifetime is one of the most effective means of reducing its environmental footprint. If a garment is worn for just 9 months longer then carbon, water and waste footprints can be reduced by 20-30% each.
- **Buy second hand clothes:** This is a straightforward way to reduce carbon emissions associated with clothing production. It also prevents clothing going to landfill, and increases the usable lifetime of a garment. Swap clothes with family and friends.
- **If buying polyester products, buy materials made from recycled polyester or use companies that use recycled polyester:** Recycled polyester uses around 59% less energy than virgin polyester, and could reduce carbon emissions by 32%. It also reduces the need to extract oil to be used in the polyester production process.

…. in the workplace

- **When procuring uniforms, using second hand materials or recycled materials:** Reducing the use of virgin cotton and polyester are both ways of reducing a workplace's carbon footprint.
- **Have an explicit textile recycling policy:** Due to the high carbon footprint of textile waste, any opportunity should be taken to recycle textiles. This could be done in conjunction with the Local Authority or charities.
- **Ensure that a culture of "fast fashion" is not encouraged:** There is often a pressure in workplaces to wear new clothes frequently. Workplaces could develop innovative ways to reduce this, such as clothing swap events or an encouragement to rewear items.
- **Learn about sustainable clothing practices:** WRAP (the Waste and Resources Action Plan) have produced numerous resources under the "clothing knowledge hub" to help organisations improve their knowledge of sustainable practices with regards to clothing and textiles. This can be accessed here: **https://ckh.wrap.org.uk/site/index**.
- **Include recycling and reusing in procurement policies relating to textiles:** Organisations should only procure textiles from companies that have an explicit sustainability policy. Sustainability should also explicitly mention a commitment to paying the minimum wage (or even better the real living wage) and improving working conditions.



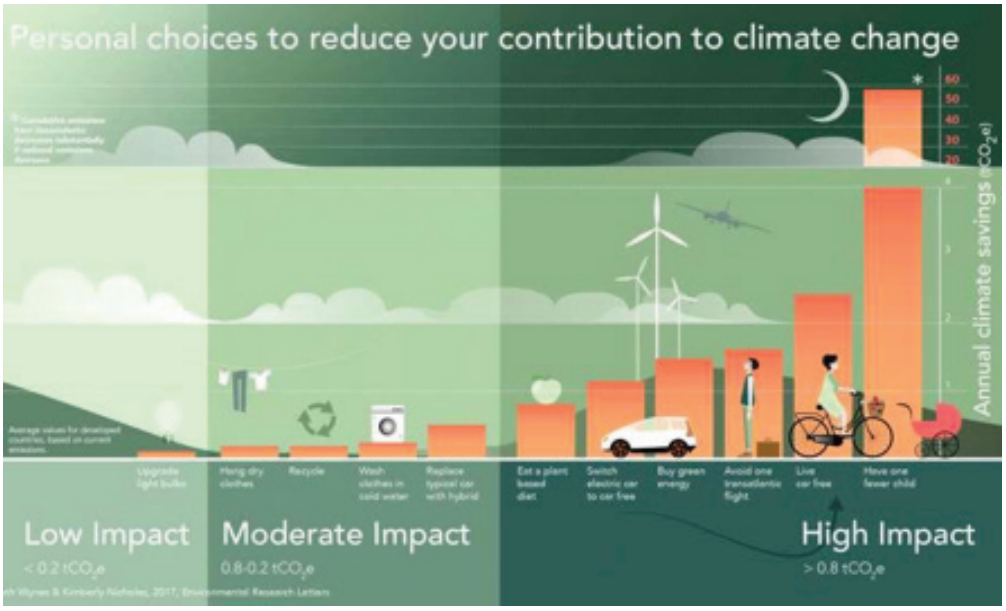




Recommendations

From all the above, here are our recommendations for some high impact changes that we can make to reduce the risks from climate change.

- Understand your carbon footprint and think about the actions that you can take to reduce this while improving your life, health and bank balance. Use the WWF carbon calculator or similar for this, also Mike Berners Lee's book *How Bad Are Bananas* helps with understanding the impact of everyday items.

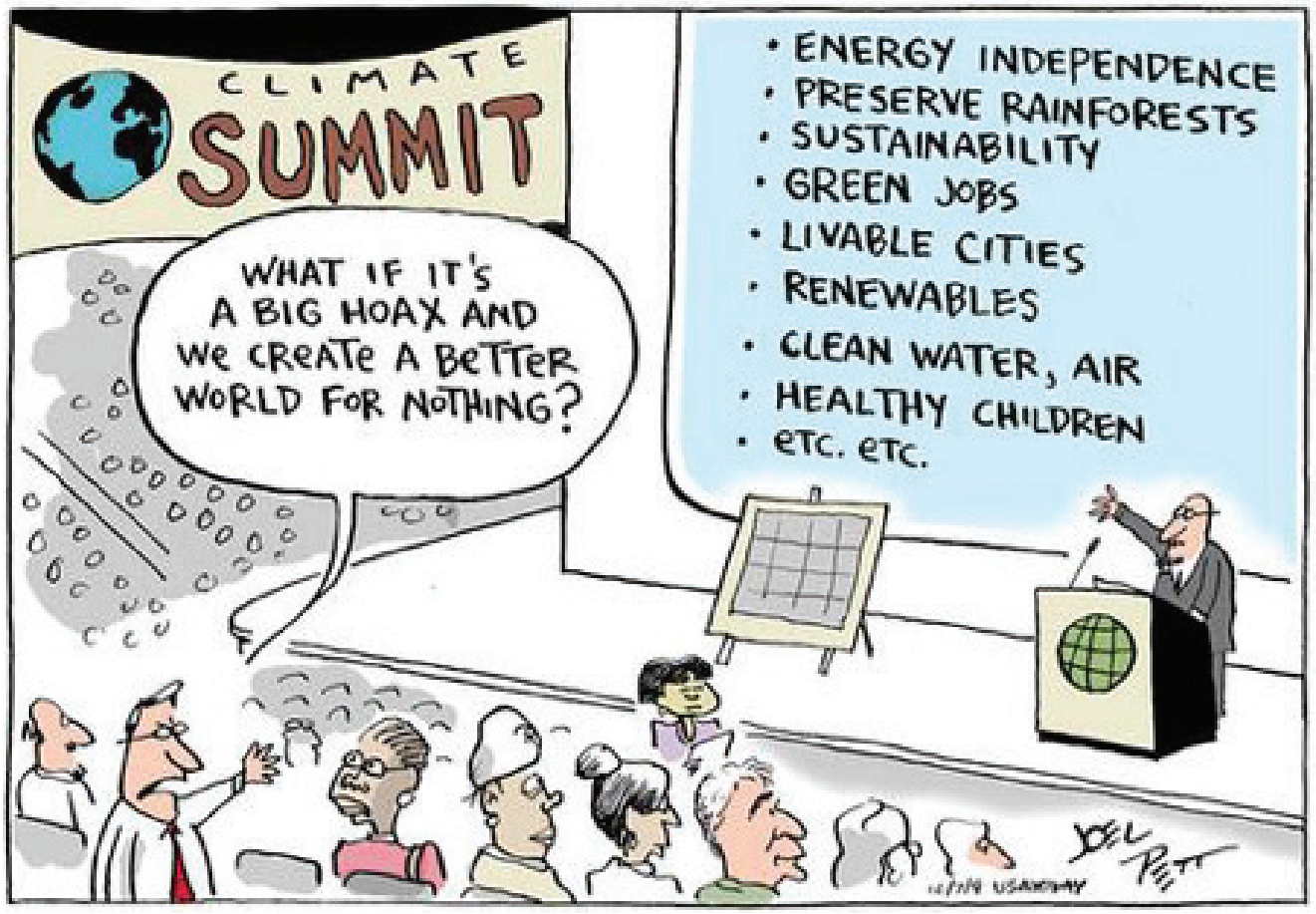


- Refuse, reduce, re-use, repurpose and recycle – in that order.
- Create a demand for national and local policies that help reduce climate change – so policies on good housing design and standards, good public transport, energy efficiency, improving the food system, responsible fashion. Supporting these polices will help politicians take action.
- Active travel (walking, cycling and using public transport) increases physical activity which has a huge impact on health, reducing falls, CVD and some cancers, It also improves air quality, again improving health outcomes.
- Don't drive if you can avoid it. Try walking for journeys of less than one mile, and cycling or using public transport for journeys of 3-5 miles. Cycling is generally quicker than driving for urban journeys up to 5 miles, especially in the rush hour, and it saves money too.
- Fly less, and if you have to fly, use the most direct routes. Always fly economy – travelling first class triples your carbon footprint.
- Food choices. Shopping and growing local improves social cohesion, food quality, and reduces food waste. Eating less processed food reduces CVD and cancer risk.
- Improve energy efficiency. Ensure all houses are energy efficient to EPC C standard, and any new buildings should display DEC certificates and be insulated.
- Insulate your home. Better insulated homes are warmer, which reduces childhood asthma and hospitalisations of older people. It also saves money so reduces fuel poverty.
- Undertake the Greater Manchester big clean switch programme **https://bigcleanswitch.org/gm**.
- Buy fewer, higher quality clothes or buy second hand. Consider the production costs, including worker conditions as well as the materials used.

Conclusions

In conclusion, there is a huge amount that we can do as individuals, families and communities to reduce the impact we are having on the environment. But we can't do everything on our own. Many of the actions that need to be taken to reduce the carbon impact of our way of life are ones that need national policy changes. We recommend the reports of the Intergovernmental Committee on Climate Change (ICCC) for the high impact policy changes that could be made. But unless we as individuals create a demand for change, our politicians are unlikely to take the bold steps that are needed to combat climate change.

Being more aware of the climate impact of different activities can help us make better choices, but also to campaign for and support policies that make these choices easier. Finally, don't despair! We have solved many other problems in the past and we will solve this too – but we need to work together to do this, and to create an urgent demand for change.



References

1. Trafford Council Meeting 28th November 2018 minutes **https://democratic.trafford.gov.uk/documents/g2681/Agenda%20frontsheet%2028th-Nov-2018%2019.00%20Council.pdf?T=0**

2. GMHSCP – NHS in Greater Manchester Declares a Climate Change Emergency 29th August 2019 **http://www.gmhsc.org.uk/nhs-in-greater-manchester-declares-a-climate-emergency/**

3. Greater Manchester Combined Authority – Mayor sets out Bold ambition for Greater Manchester to be carbon-neutral by 2038 25th March 2019 **https://www.greatermanchester-ca.gov.uk/news/mayor-sets-out-bold-ambition-for-greater-manchester-to-be-carbon-neutral-by-2038/**

4. Kids Crossing: Living in the Greenhouse! **https://eo.ucar.edu/kids/green/cycles6.htm**

5. United Nations: Shaping Our Future Together **www.un.org**

6. Competitive India; IPCC Special Report on Climate Change: Key Points 9th October 2018 **https://competitiveindia.com/currentaffairs/2018/10/09/ipcc-special-report-on-climate-change-key-points/**

7. **www.slideshare.net** – Carbon Footprint made by Srv Singhania

8. Berners-Lee, Mike. How Bad Are Bananas? The Carbon Footprint of Everything. London: Profile, 2010.

9. DEFRA – UK's Carbon Footprint 1997 – 2016: Figure 4 – CO_2 emissions associated with UK consumption 1997 to 2016 (April 2019) **https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794557/Consumption_emissions_April19.pdf**

10. WWF Footprint Calculator **https://footprint.wwf.org.uk/#/**

11. Berners-Lee, Mike. How Bad Are Bananas? The Carbon Footprint of Everything. London: Profile, 2010.

12. Great Places Communications Team

13. GMCA (adapted from original source data)

14. Clayton, S., Manning, C. M., & Hodge C. (2014). Beyond storms & droughts: The psychological impacts of climate change. Washington, DC: American Psychological Association and ecoAmerica.

15. Hayes, K., Blashki, G., Wiseman, J., Burke, S., Reifels, L. (2018). Climate change and mental health: risks, impacts and priority actions. Int J Ment Health Syst (2018) 12:28 **https://doi.org/10.1186/s13033-018-0210-6**

16. Ipsos; **https://www.ipsos.com/en**

17. Our Future in the Land, Food, Farming & Countryside Commission **https://www.thersa.org/globalassets/reports/rsa-ffcc-our-future-in-the-land.pdf**

18. FoodPrint: Summary Report **http://enworks.com/resources/ESTA%20Foodprint%20Summary%20Report%20Final.pdf**

19. BBC: Climate change food calculator: What's your diet's carbon footprint? 9th August 2019 **https://www.bbc.co.uk/news/science-environment-46459714**

20. Drawdown – the most comprehensive plan ever proposed to reverse global warming (Edited: Paul Hawken, 2017)

21. House of Commons Environmental Audit Committee January 2019

22. The New Plastics Economy: Rethinking the Future of Plastics; World Economic Forum; January 2016
http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf

23. Committee on Climate Change 2018
https://www.theccc.org.uk/wp-content/uploads/2018/06/CCC-2018-Progress-Report-to-Parliament.pdf

24. UKGBC; Climate Change **https://www.ukgbc.org/climate-change/**

25. GMCA – Greater Manchester Spatial Energy Plan: Evidence Base Study section 1.2 Current Energy System (p.5) **https://www.greatermanchester-ca.gov.uk/media/1363/spatial_energy_plan_exec_summary.pdf**

26. **https://eciu.net/news-and-events/press-releases/2019/leaky-new-build-houses-put-200-on-energy-bills** - accessed 27.8.19

27. North West Electricity Energy Advice **https://www.enwl.co.uk/zero-carbon/leading-the-north-west-to-zero-carbon/energy-saving-advice/**

28. European Commission; Travel Emissions **https://ec.europa.eu/clima/policies/transport_en**

29. Bloomberg; As Flying Shame Grips Sweden SAS Ups Stakes in Climate Battle **https://www.bloomberg.com/news/articles/2019-04-14/as-flying-shame-grips-sweden-sas-ups-stakes-in-climate-battle**

30. Independent; Flygsham: What is the flight shaming environmental movement that's sweeping Europe?
https://www.independent.co.uk/travel/news-and-advice/flygskam-anti-flying-flight-shaming-sweden-greta-thornberg-environment-air-travel-train-brag-a8945196.html

31. Transport for Greater Manchester; Greater Manchester Low Emissions Strategy
https://www.greatermanchester-ca.gov.uk/media/1276/low-emission-strategy-dec-2016.pdf

32. GMCA Housing, Planning And Environment Overview And Scrutiny Committee 10th January 2019
https://www.gmcameetings.co.uk/download/meetings/id/4169/6c_housing_planning_and_environment_o_and_s_minutes_-_10_january_2019

33. Department for Transport; Wallking and Cycling Statistics, England 2018
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/821842/walking-and-cycling-statistics-2018-accessible.pdf

34. Bike Life Report, Sustrans, 2017

35. Sustrans; Active Travel Economic Performance
https://www.sustrans.org.uk/media/4478/active_travel_economic_performance_what_works_slidepack.pdf

36. Science Direct; Why are cyclists the happiest commuters?
https://www.sciencedirect.com/science/article/pii/S2214140518305255

37. Department for Transport; Transport Statistics, Great Britain 2018
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/787488/tsgb-2018-report-summaries.pdf

38. European Cycling Federation; The Benefits of Cycling **https://ecf.com/resources/cycling-facts-and-figures**

39. Share the Road Cycling Coalition; Why do People Choose Not to Cycle?
https://www.sharetheroad.ca/why-do-people-choose-not-to-cycle--s16209

40. The price of fast fashion. (2018). Nature Climate Change, 8(1), pp.1-1.

41. House of Commons Environmental Audit Committee Fixing Fashion: clothing consumption and sustainability **https://publications.parliament.uk/pa/cm201719/cmselect/cmenvaud/1952/1952.pdf**

42. The Telegraph; Fast fashion means charity shops are getting too many clothes, head of select committee says **https://www.telegraph.co.uk/news/2018/11/27/fast-fashion-means-charity-shops-getting-many-clothes-forced/**

43. Ellen McArthur foundation: A new textiles economy: Redesigning fashion's future 2017 **https://www.ellenmacarthurfoundation.org/publications/a-new-textiles-economy-redesigning-fashions-future**

44. United Nations Climate Change **https://unfccc.int/news/un-helps-fashion-industry-shift-to-low-carbon**

45. Common Objective; Can Fashion Stop Climate Change? Accessed 10th Sept 2019 **https://www.commonobjective.co/article/can-fashion-stop-climate-change**

47. Institute of Physics (2017) Personal choices to reduce your contribution to climate change.

48. Why Not Recycle @YNotRecycle **www.twitter.com/YNotRecycle**

www.trafford.gov.uk