How will the climate and nature crises impact people from Black, Asian and Ethnic Minority Communities?

A briefing for charities and funders

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Introduction

People from ethnic minority communities in Britain are, on average, more affected by the environmental crises than White British people. This is mainly because of profound societal inequity. If you're from an ethnic minority group, you are more likely to be in a low-income household and facing the cumulative effect of historical and systemic racism and inequity, including significant health inequalities.

The biggest risks for people from ethnic minority communities, particularly those in low-income households, concern air pollution, climate change, and damage to the natural environment. In addition, if you are from an ethnic minority community growing up in Britain today you will be impacted in two ways – the impact now, plus the impact you will experience for the rest of your life. You can read more about how the impact experienced in childhood is carried forward later in life in our earlier briefing: How will young people be affected by the climate and nature crises?

Decisions over many environmental policies are devolved to the national level (Scotland, Wales, and Northern Ireland) and, within England, to regional Mayors (where they exist) and local authorities. Which policies are devolved and to what level differs across the nations and regions, so where you live will determine which policies affect you. Our upcoming policy and powers briefing will give more information on where decision making powers sit and what you need to know about the main policies.

There have been some attempts to understand the impact of policy change on people from ethnic minority communities. For example, the Greater London Authority assessed the impact of the Ultra-low Emission Zone on the air quality experienced by London's ethnic minority communities. Activism by groups such as Sheffield Environment Network and Black Girls Hiking has brought some attention to the impact of climate change and declining nature on ethnic minority communities, as well as encouraging further activism. Meanwhile, training programmes such as Black South West Network's 'Green Skills for Work and Business' help young people develop skills and expertise to work in the green economy. Nevertheless, people from ethnic minority communities are less likely to be in a position to offer their solutions to environmental crises. For example, people from ethnic minority communities are less likely to work in environmental organisations and less likely to be in decision-making positions on policies.

The evidence of the impact of climate change and declining nature on Britain's ethnic minority communities is limited, mainly because it hasn't been studied enough. Where evidence is available, it often provides comparative information, showing the experience of ethnic minority communities overall in comparison to White communities. In reality, experiences will vary between different ethnic minority communities, so we need more granular data and analysis to understand these nuances.

This briefing is for charities and funders working with people from ethnic minority communities. For brevity we use the phrase 'people from ethnic minority communities' throughout unless the impacts relate to a defined community. Where evidence exists, we have been specific about which communities are affected.

The focus of this briefing is on people from ethnic minority communities in the UK. We don't look at impacts in other parts of the world, which could be far greater, and may impact the friends and families of people in Britain, but are beyond the scope of this paper.

This briefing highlights many potential challenges, which may feel daunting, but charities and funders can mitigate the danger to people from ethnic minority communities and push society to maximise the benefits of a fair transition to a post-carbon and ecologically regenerative society.

Scope of this briefing

The scope of this briefing is UK-wide, with an additional focus on London in the evidence sections of the appendix. We focused on London because it is one of the most ethnically diverse cities in Britain and provides examples of how climate change and declining nature are affecting people locally.

Whilst the scope of the project did not allow for detailed exploration of other cities, there will likely be similar experiences in other major cities such as Manchester, Birmingham, Edinburgh, Glasgow, Belfast, and Cardiff to name but a few. We have included evidence from these places wherever possible within the scope of the research.

Needs and experiences of localities across the UK vary, so you should take a nuanced approach when applying the findings of this paper to your own missions and programmes.

Methodology

This briefing was informed by a rapid literature review of the impact of the climate and nature crises on people from ethnic minority communities, as well as available literature on the impact of related government policies. This includes policy directly related to the environment (such as biodiversity), as well as broader policy which significantly impacts the climate and nature crises (such as housing). We focused on current UK policies and London policies set by the Greater London Authority, but we have also indicated the impacts of some older policies.

As this work was rapid, we did not review the methodology or findings of the research referenced in detail. In addition, some findings, particularly emerging issues, may require further investigation and/or time for the evidence base to evolve further.

The impacts identified as part of this briefing may be positive, negative, or vary on a case-by-case basis. We have judged some impacts to be negative, for example air pollution exacerbating lung conditions; and some opportunities to be positive, for example the health benefits of access to green spaces. Other issues are neither positive or negative and we have tried to simply highlight links identified without judgement. For example, links between pollution and different experiences of neurodiversity - which bring great richness to society as well as specific challenges for some individuals. We have been transparent in our findings and leave those with lived, learned, and practical experience to interpret the findings available with their greater subject expertise and within a wider context.

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Climate change and air pollution

Impacts

Our climate is changing, we can expect more heatwaves, droughts, floods, and storms. The UK is particularly at risk from heatwaves, with predictions that summer temperatures and extreme hot days could rise up to 50% faster than the average rate of global warming. By 2070, UK winters will be between 1°C and 4.5°C warmer and up to 30% wetter, and summers will be between 1 and 6°C warmer and up to 60% drier.

Fossil fuels are the major driver of climate change, and of air pollution. The coroner's conclusion that poor air quality contributed to the death of nine-year-old Ella Kissi-Debrah was a stark reminder of the real life and death impact of air pollution in Britain. It is also an indication that environmental damage is impacting communities differently. The World Health Organization identified the burden of disease attributable to air pollution as on a par with other major global health risks such as unhealthy diet and tobacco smoking, and that air pollution is now the single biggest environmental threat to human health.

Across the UK, 98% of Local Authorities report at least one climate hazard in their area, up from 75% in 2018. The top five most cited risks are: extreme heat, river flooding, urban flooding, heavy rain, and coastal flooding. The top five groups Local Authorities cite as most affected are: Low-income households, older people, people from ethnic minority communities, children and young people, and vulnerable health groups.

The impacts of climate change and air pollution are largely determined by a social group's pre-existing vulnerability and resilience. The impacts are therefore more likely to be felt disproportionately by those who experience socioeconomic inequalities, especially when these relate to pre-existing health and living conditions.

Within and between ethnic communities there are variations in income level, for example many households of Chinese ethnicity have a greater average income per adult than people from White households. However, notwithstanding these income inequalities, low-income groups often include a disproportionate number of people from ethnic minority communities.

People from ethnic minority communities (including Gypsies and Travellers) are more likely to live in poverty than White peers and are also more likely to live in economically deprived, urban areas that are at particular risk of environmental disadvantage. For example, 44 of the most deprived local authority areas in England contain four times more "Black and minority ethnic groups" than other areas. Bangladeshi, Pakistani and Black ethnic groups are the most likely to be living in deprived neighbourhoods, and people in Bangladeshi, Pakistani, Chinese and Black ethnic groups are twice as likely to be living on a low income as White counterparts.

Ethnic minority communities in general are more likely to live in private rented housing than White British people (one-third vs 18%), and in overcrowded households (13.5% vs 2.8%), with 30.2% of households in the Bangladeshi group being overcrowded. This shows a clear ethnic disadvantage in the housing market.

Gypsy and Irish Traveller households are 7.5 times more likely to experience housing deprivation than white households. Traveller sites are often in places others are not expected to live, such as near sewage, refuse, industry, or motorways. According to one site resident "The main problem is we are living in an industrial area. And it's the air quality, the smell, the dust, and the sound…the recycling centre is just behind us – and the sound, the noise is a problem…and we also have a big problem with rats". The needs and experiences of Gypsy and Traveller communities are often excluded from research, including on the social impacts of the climate and nature crises.

Health inequalities paint a parallel picture. Gypsy and Traveller, Bangladeshi, and Pakistani ethnic minority communities have the poorest health outcomes across a range of indicators. Ethnic minority communities experience a wide range of inequity in health outcomes and health care. Some ethnic minority communities are up to 50% more likely than their White peers to report poor health.

Racism is the root cause of ethnic inequalities in health. Professor Michael Marmot's health inequalities review found that air pollution plays a significant role in worsening health inequalities in the UK. 85% of people living in areas with illegal levels of nitrogen oxide were also in the poorest fifth of the population. This group is two-and-a-half times more likely to have chronic obstructive pulmonary disease, twice as likely to develop lung cancer, and over a third more likely to have asthma. People from ethnic minority communities are overrepresented in these groups.

In relation to climate change and air pollution, the most clearly evidenced impacts of on people from ethnic minority communities are:

- **Health issues from heatwaves** – People from ethnic minority communities are more likely to live in poorly adapted housing within urban areas particularly vulnerable to the impacts of high temperatures. In research from the Universities of Birmingham and Nottingham, people

from ethnic minority communities said hotter temperatures are the worst impact of the climate crises on their lives, with three in five already experiencing negative impacts of hotter temperatures.

- **Economic harm from flooding** – People from ethnic minority communities are no more likely than their White peers to live in flood prone areas, however they are more likely to live in rented accommodation without flood related insurance and therefore would experience greater financial loss following flooding. Gypsy and Traveller communities can struggle to get insurance on their homes.

- **Health issues from damp housing** – People from ethnic minority communities are more likely to be living in homes at risk of damp, which can be exacerbated by heavy rainfall even without flooding. Damp and mould are common in Traveller sites despite regulatory standards.

- **Health issues from living in areas of high air pollution** – Research by the Runneymede Trust and Greenpeace found that "Black, Asian and other minority residents" in cities live in "air pollution sacrifice areas" – areas known to be permanently affected by pollution. This is backed by multiple studies that make clear that areas with high air pollution include more people from ethnic minority communities. Key health impacts are as follows:

  - People from ethnic minority communities are more likely to have **asthma**. Evidence that outcomes are poorer for UK-born people from ethnic minority communities than their parents or grandparents born outside the UK suggests that the difference may be closely related to the local environment.

  - Long term exposure to air pollution has been associated with **some cancers**. However, there are uncertainties around levels of cancer in people from ethnic minority groups. There may be a lower incident level, or it may be lower screening levels.

  - Long term exposure to air pollution has been associated with **cardiovascular disease**. Cardiovascular disease is higher among people from Black and South Asian groups, although the reasons are unclear.

  - Long term exposure to air pollution has been associated with **diabetes**. In the UK, type two diabetes is disproportionately prevalent among people from South Asia and outcomes (such as going on to develop cardiovascular disease) are known to be poorer. However, the reasons are unclear.

- African Caribbean people are three to five times more likely than any other group to be diagnosed and admitted to hospital for **schizophrenia**. Air pollution is linked to schizophrenia and other psychotic disorders.

- **Poor birth outcomes** – Women from ethnic minority communities and their babies have poorer birth outcomes. The reasons are complex, relating in large part to socio-economic inequalities and racial discrimination. High exposure to air pollution increases the risk of preterm birth, stillbirth, and low birth weight, with those living near busy roads most vulnerable. Hotter temperatures have also been linked to pre-term birth and lower birthweights. People born preterm are at high risk of an extensive range of lifelong health issues.

Possible additional impacts, for which there is currently less evidence, include:

- **Risks to Traveller communities** – It is believed that Traveller and Gypsy communities, living in caravans, are at risk of harm from floods, heatwaves and air pollution as caravans are not well adapted to climate change and their caravan sites are often placed on land deemed unsuitable for housing, for example due to flood risk, and often in areas of high air pollution. Gypsies, Roma and Travellers are not clearly identified in NHS data – so specific health outcomes for Gypsies, Roma and Travellers have to be drawn from sources other than NHS statistics.

- **Migration** – On a global level, climate migration has already begun. In the UK we can expect to welcome more migrants and see internal migration as people and their families move away from areas becoming unhabitable, for example due to costal erosion, flooding, and maybe also heat. Where people from ethnic minority communities have family overseas in climate vulnerable areas, they may be more likely to experience emotional, financial, or practical challenges in supporting their families in moving away from climate risks.

- **Increased vulnerability due to pre-existing health issues** – Water-borne and vector-borne diseases are likely to increase with warmer temperatures and flooding. People with reduced immunity due to existing health conditions are particularly vulnerable to infection. For example, those living with Sickle cell disease, which is particularly common in people with an African or Caribbean family background.

More detail on all these evidenced and potential impacts can be found in the Appendix.

Impacts of government policy

Governments at different levels in the UK have tried to respond, at least in part, to the impacts of climate change and air pollution. We have summarised the most relevant policies here, and you can find more detail in our upcoming Powers and Policy briefing.

As with the direct impacts of our changing climate and air pollution, the impacts of these policies are closely related to the wealth inequalities that people from ethnic minority communities are more likely to experience**.**

In general, policies that reduce pollution should reduce the negative impacts listed above. Likewise, the absence of these policies would likely exacerbate those impacts. We have therefore focused this section on where there are specific findings on how policies will impact people from ethnic minority communities, or where the impacts of these policies are unequal.

It should be noted that there is very limited evidence of the impact of policies on ethnic minority communities as a whole and even less which is broken down by specific communities. We think this is very likely to undermine the effectiveness of these policies, as they aren't tailored to the needs and experiences of different groups.

However, from the limited evidence that is available, our assessment is that **the policies with the greatest impacts** on people from ethnic minority communities are in the following areas:

- **Renewable energy sources** – Alongside policies to increase offshore wind farms, the main renewable energy policies in the UK to date have given subsidies to people installing solar panels and renewable heat technologies like heat pumps. Surveys showed that although there was relatively high interest in installing solar panels among ethnic minority communities, these tended to be people from higher socio-economic bands. People on higher incomes were also more likely to benefit from subsidies for solar panels and heat pumps, as communities with fewer savings (which includes Black African, Black Caribbean, Pakistani and Bangladeshi communities) would be less likely to be able to afford the upfront costs (even with a subsidy). The costs of the Feed in Tariff, and other subsidy schemes paid for through energy bills, may also affect low-income groups more, as they spend more of their income on energy. We could find no specific solar schemes or funding for caravans at the national level, which may disadvantage Traveller communities.

- **Insulation schemes** – Schemes over the past 20 years to reduce fossil-fuelled heating in homes have successfully insulated homes with cavity walls and lofts. Many of these schemes have targeted low-income groups and surveys show some appear to be reaching more people from ethnic minority communities. However, very few homes with solid walls

have been insulated, and there are limited government plans to do so. People on low-incomes and in urban areas, among which people from ethnic minority backgrounds are overly represented, are more likely to live in these uninsulated homes. People from Black African, Black Caribbean, Pakistani and Bangladeshi communities have, on average, fewer savings than their White peers, so may be less able to pay for more expensive insulation if not fully subsidised. Many schemes that offer advice for keeping your home warm do not account for the needs of Traveller communities. We couldn't find any specific insulation schemes or funding for caravans at the national level.

- **Active travel** – Schemes to help people from ethnic minority communities walk and cycle have numerous health benefits. More cycling and walking could prevent over 1,000 early preventable deaths each year in England. This is not broken down by ethnic group. Although rates of cycling vary, in cities people from ethnic minority communities are most likely to be actively considering cycling. They may therefore be more likely to benefit from continued or further policies to encourage active travel.

- **Electric vehicles** – The government in England and Wales gave £1.3bn in subsidies to help people buy electric vehicles between 2011 and 2021. People from ethnic minority communities, particularly if they are Black, are less likely to own a car than their White peers, and high-income households were far more likely to own electric vehicles, so it is likely that people from ethnic minority communities are less likely to benefit from these subsidies. Although the Scottish government still offers subsidies, particularly for used electric vehicles, the government in England and Wales is no longer offering these subsidies.

- **Low emission zones and emission standards** – Low emission zones either ban or charge polluting cars to enter cities, whilst vehicle emission standards limit the amount of pollution new cars can emit. In London, people from ethnic minority communities are more likely to benefit from lower pollution levels that are a result of the Ultra Low Emission Zone and associated policies. It has also been shown that inequality in exposure to air pollution between different ethnic groups in London fell between 2013 and 2019. People from ethnic minority communities are also less likely to have access to a car, so less likely to be affected by low emission zone charges. People in low-income groups can also access scrappage schemes to replace their vehicles. However, people from Asian communities make up a disproportionate share of taxi drivers so are more directly economically affected by low emission zone charges on those vehicles compared to other ethnic groups.

- **Public transport** – Many regional leaders are calling for greater investment in buses, trams, and trains to increase provision and reduce costs. Yet bus services in England and Scotland

are shrinking significantly. We found surprisingly little evidence of the impacts of policies to increase public transport on people from different ethnic minority groups. In London, Black people are proportionally the highest users of public transport, so would benefit most from policies to increase provision, but could likewise be most affected by fare increases.

- **Fuel poverty** – Fuel poverty is estimated to have significantly increased since energy prices rose sharply in 2021. Policies to support people in fuel poverty have included insulation schemes targeted at low-income groups, income support, and caps to energy bills. People from ethnic minority communities are more likely to experience fuel poverty than their White counterparts in England. However, the average fuel poverty gap (the reduction in fuel bills needed to take a household out of fuel poverty) was lower for ethnic minority households than for White households. Although there are policies to increase insulation and reduce the number of cold homes (see above), they are failing to insulate solid-walled homes.

- **Skills and education** – The environment sector has been identified as the second least ethnically diverse sector in the UK, yet there are few policies to increase skills and jobs for people from ethnic minority communities in 'green' sectors (such as renewable energy production, sustainable agriculture, and retrofitting buildings). Students from ethnic minority communities are more likely to desire a job that helps the environment than their White British counterparts. However, without targeted intervention, women and young people from ethnic minority communities are less likely to benefit from green jobs as fewer study STEM subjects.

- **Overall economic benefits** – The policies that would need to be introduced for the UK to meet its net zero goal by 2050 (including those for businesses) are projected to increase real disposable income, particularly for those on the lowest incomes by 2030 and 2050. We could find no evidence of how this may affect people from ethnic minority communities specifically.

More detail on these policy impacts can be found in the Appendix.

Who could gain the most?

The people from ethnic minority communities with **the most to gain** from confronting climate change and air pollution include:

- **People from ethnic minority communities in low-income households** who are more likely to be living in housing poorly adapted to our changing climate, more likely to be disproportionately affected by air pollution and less likely to have access to green spaces

that help to keep homes cooler. Those in urban areas are particularly vulnerable. Although these groups may have benefited from policies to improve insulation in some housing types and from low emission zones, they may not have benefited as much from subsidies for electric vehicles and solar panels. They will therefore benefit from better policies to improve older housing types, renewable energy, public transport, and active travel especially in urban areas.

- **Young people from ethnic minority communities** will benefit from targeted interventions to increase diversity of those studying STEM subjects and entering related careers as it will give them greater access to green jobs.
- **Migrants** are more likely to face financial, housing, and food insecurity. As yet it is unclear how our immigration system, or mechanisms for supporting internally displaced people, will respond.

Our natural environment

Impacts

Alongside a changing climate, we're also damaging the natural world through our use and pollution of land, water, and habitats. Biodiversity loss (the reduction in the number of genes, individual organisms, species, and ecosystems) is rooted in human behaviours that harm species or the ecosystems they live in, including intensive farming; building on green spaces; chemicals in our farms, homes and industries; untreated sewage in rivers and seas; plastic pollution; and general overconsumption of products whose creation demands natural resources such as precious metals, water, or agricultural products. More than 40% of species are in decline in the UK, with the UK now at the bottom of the G7 league table for how much biodiversity it has left.

For the same reasons as noted in the previous sections, all the impacts on people from ethnic minority communities of our declining natural environment can be explained by societal inequity.

The most clearly evidenced impacts on people from ethnic minority communities of our declining nature are:

- **Zoonotic diseases like Covid-19** may be more likely to cause illness, and even death, among people from ethnic minority backgrounds as experienced during the Covid-19 pandemic. Whilst causal effects are uncertain, there is evidence that existing health inequalities, housing and employment also played a key role.
- **Food security and quality** is reducing due to our intensive farming and industrial practices, and people from ethnic minority communities on lower incomes are particularly vulnerable to increases costs of food with high nutritional value and low toxicity exposure (e.g., organic produce).
- **Access to green space** is less amongst people from ethnic minority communities due to a combination of poor quality and quantity of green spaces near to homes, fewer opportunities to visit national parks, and greater likelihood of living in tower blocks. Barriers are practical, financial, cultural, and exacerbated by experiences of racism when accessing the countryside. This means that many people from ethnic minority communities are missing out on a myriad of mental and physical health benefits.

Possible additional impacts, for which there is currently less evidence, include:

- **Health risks due to localised pollution** – Waste management installations, including incinerators and landfill, have long been suspected to be hazardous to health, but causality is hard to demonstrate. People from ethnic minority communities are more likely to be living close to potentially hazardous sites.

Impacts of government policy

As with climate change and air pollution, governments at different levels in the UK have tried to respond, at least in part, to the impacts listed above. We have summarised the most relevant policies below.

We found fewer examples of policies to improve our natural environment compared to those to reduce emissions, and even less evidence of the impacts on people from ethnic minority communities – or indeed the broader population.

The areas where we assessed there **could be the greatest policy impacts** on people from ethnic minority communities are:

- **Access to green space** – Policies to increase the amount and quality of green space, and access to it, are largely determined by national and local planning policies. We found little evaluation of these policies and their impacts on people from ethnic minority communities. However, under recent policies, the total proportion of urban greenspace in England has declined, as has the quality. As people from ethnic minority communities, particularly people who are Black, are more likely to live in urban areas, they are more likely to lose out through this. Policies to create more green spaces in urban neighbourhoods can bring greater benefits to people from disadvantaged groups, including the social inclusion of migrants and asylum seekers.

- **Water and land pollution** – The main policies to reduce pollution of land and water are regulations on water companies, industries, and agriculture to limit the amount of sewage, chemicals, and agricultural products that flow into rivers, seas, and the land. We found little analysis of the impact of these policies on people as part of this review.

- **Food policies** – Policies related to food focus on reducing the environmental harm of farming on the natural environment. We found little evidence of the impact of these policies and the quality of food they produced on people from ethnic minority communities.

Who could gain the most?

The people from ethnic minority communities **with the most to gain** from positive nature action are:

- **People from ethnic minority communities in low-income households and urban areas** who are less likely to have access to nature and more likely to live next to potentially toxic industries.
- **Ethnic minority communities with existing health conditions** who may be more vulnerable to zoonotic diseases (that jump from animals to humans) like Covid-19.

Where we need more evidence and information

As this was a rapid evidence review, there will undoubtedly be evidence we have not included. In some cases, the gaps in evidence and information on the impact of the climate and nature crisis seem clear. In other cases, the challenge is that we simply do not yet know what the longer-term effects will be.

One clear gap in understanding is around environmental mental health risks for people from ethnic minority communities. For example, research from the US suggests that the mental health of people from ethnic minority communities may be worst affected following natural disasters, particularly for African Americans. The reasons for this are unclear, complex, and varied. Proposed reasons include years of internalised racism being triggered, the cumulative effect of trauma from racial dissemination, unequal healthcare, and those in lower-income households having inequitable access to resources and living in less well adapted housing. Whether these findings transfer to the UK context is unclear, but we do know that mental health support in the UK is generally poorer for people from ethnic minority communities.

Evidence of the impact of the climate and nature crises on ethnic minority communities is growing. However, some groups are still largely excluded from consideration. For example, the needs and experiences of Gypsy and Traveller communities are often excluded from research, including on the social impacts of the climate and nature crises.

There are also several policy areas where there is very little evidence of the impact of policies on people from ethnic minority communities, or at least little that we could find. This includes policies focused on public transport programmes, ‘green’ skills and jobs, and the economic costs and benefits of a changing environment. The largest gaps in evidence appear to be on the impact of policies to improve nature, green spaces, and food production on people from ethnic minority communities where we often found little to none.

Overall, there are few UK-level evaluations of the impact of government climate or nature policies on people from ethnic minority communities, or indeed on anyone. Where these exist, mentions of people were often no more than a few sentences. This is a significant gap.

This review did not consider the impacts of environmental change and policies on people outside of the UK. Policies that ‘offshore’ production of goods consumed in the UK (and associated

emissions); encourage technologies that rely on precious metals mined in other countries; rely on other countries to process and dispose of waste; or rely on other countries to grow food that people in the UK consume could all have significant impacts on people in those countries and should be considered alongside the impacts highlighted in this briefing.

In general countries in the global south and low-lying island states will be more affected than the global north. However, the picture is more nuanced, for example, the Germanwatch Institute's Global Climate Risk Index reported in 2020, based on the impacts of extreme weather events and the socio-economic losses they cause, that Japan, the Philippines and Germany were the places most affected by climate change at that time; followed by Madagascar, India, Sri Lanka, Kenya, Rwanda, Canada and Fiji. However, looking at the places most affected by wildfires in 2020, Turkey, Greece, Italy, France, Algeria, Lebanon, Jerusalem, the USA, Siberia, and Australia were hardest hit.

Conclusions

People from ethnic minority communities will be affected by the climate and nature crises more than others because of systemic inequity and racism.

People from ethnic minority communities living in low-income households and those already experiencing health inequalities are most vulnerable to the impacts of the climate and nature crises.

There appears to be the greatest body of evidence of the negative impact of the environmental crises on people from ethnic minority communities' physical and mental health. However, we also found evidence of the impact of the crises on income, skills, and jobs.

Our evidence review suggests that policies to reduce pollution and mitigate climate change have had mixed impacts on people from minority ethnic communities. Policies to increase solar panels, electric vehicles and renewable heat technologies are least likely to have benefitted people from ethnic minority communities. Yet policies to improve insulation and public transport and that introduce low emission zones are likely to benefit some people from ethnic minority communities, although with notable exceptions.

There are indications that effective policies, although not currently in place in some areas, could bring greater benefits to people from ethnic minority communities, particularly those on low incomes.

Ethnic minority communities are under-represented in mainstream organisations campaigning on climate change, and the environment and conservation professions are amongst the least diverse in the UK. There are however signs that the environment sector is working to redress this inequity and to better include people from ethnic minority communities in identifying potential solutions.

Our evidence review has shown that not all people from ethnic minority communities will be affected equally:

- People from ethnic minority communities in low-income households and urban areas are less likely to have access to nature and more likely to live next to potentially toxic industries. They are also more likely to be living in housing poorly adapted to our changing climate, more

likely to be disproportionately affected by air pollution, and less likely to have access to green spaces that help to keep homes cooler.

- People from ethnic minority communities with existing health conditions may be more vulnerable to zoonotic diseases (that jump from animals to humans) like Covid-19.
- Migrants are more likely to face financial, housing, and food insecurity. As yet it is unclear how our immigration system, or mechanisms for supporting internally displaced people will respond to climate migration.

There are gaps in research, understanding and policy – especially around climate adaptation and restoring nature – that must be addressed to ensure that government policies and the actions of others ensure that all people benefit from them.

Who needs to act now?

Whilst policy makers have a key role to play, people from ethnic minority communities and the organisations supporting them have significant agency. We recommend to organisations supporting ethnic minority groups, including charities and funders, that their response should move beyond greening their operations. The impact of the climate and nature crises will impact their mission and programmes and that is where they can make the greatest impact. As such we encourage charities and funders to discuss the content of this briefing with their programme, strategy, and policy teams as well as senior management and trustees.

What next?

Our next briefing will highlight the policies that people from ethnic minority communities would like to see government introduce, and the actions they would like charities and other organisations to take.

The Everyone's Environment Programme

This briefing was developed as part of the NPC-coordinated *Everyone's Environment* programme, a collaboration of over 40 social and environmental charities and funders to empower people from different social groups to have their needs reflected in environmental decision making and policy. We are publishing similar briefings on other social groups in the UK, for example young people, disabled people, and older people. To get involved in the programme please get in touch, and stay up to date with related publications and events by signing up to NPC's newsletter.

The global recognition of the need to change how we engage with the natural environment makes this one of the greatest opportunities to reimagine and create a society that humanity has ever had. Transitioning to a post-carbon and nature friendly economy offers a new opportunity for funders and charities to address longstanding inequalities. We can build a fairer society where we heal the damage done to our environment and strengthen our communities in the process; where charities and funders empower different social groups to shape society's response to the environmental crises; and where together we find solutions that improve life for all sections of society whilst protecting and restoring our environment.

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Appendix: Detailed findings

This briefing was compiled in early 2023 based on the following research. More research is emerging all the time.

Due to the high-level nature of this review, in the London evidence policy impacts of the table, we have focused on policies and programmes run at the pan-London level, largely by the Mayor of London and Transport for London.

Climate change and air pollution direct impacts

Impact	Evidence: UK-wide	Evidence: London	Level

Risk of harm from high rainfall and floods	**Evidenced**
	• According to the Environment Agency, one in six properties in England are already at risk of flooding, with more than five million people living and working in places at risk of flooding from rivers or the sea. People from ethnic minority communities are, in general, at no greater risk of flooding than the general population in England and Wales. In Northern Ireland the proportion of people living in the most vulnerable neighbourhoods is much greater than elsewhere in the UK, with the most significant disadvantage seen in Belfast. Ethnic diversity is, however, low. The picture is similar in Scotland.
	• Ethnic minority communities are more likely to have lower incomes and more likely to live in rented accommodation, leading to significantly lower levels of flood insurance and
		Evidenced
		• The GLA and Bloomberg's interactive climate risk maps show that whilst not universal, there is a strong correlation between flood risk and diversity of the local population.
		• According to the Mayor's office:
		  • A quarter of London's rail stations and 10 per cent of the rail network could face flooding in the future
		  • 1 in 5 schools – and almost half of hospitals – are either totally or partially at risk of flooding
		  • Over 200,000 properties in our city are at risk of surface water flooding.
		• Eighty-five sites on the London Underground are at high and rising risk of flooding.
			Mix of evidenced and less evidenced.

Impact	Evidence: UK-wide	Evidence: London	Level
	therefore higher financial hardship if flooded. Even if not flooded, rain levels can contribute to damp housing. Mixed White and Black Caribbean (13%), Bangladeshi (10%), Black African (9%) and Pakistani (8%) households were more likely to have damp problems in their homes than White British households (3%). **Less evidenced** • Often the least privileged in our communities are those hardest hit. For example, when New York was flooded in the summer of 2021, almost all of those who died were poorer people living in basement flats. • Gypsy and Traveller communities living in caravans are at risk of harm from floods as their caravan sites are often on land deemed unsuitable for housing due to flood risk. • Gypsy and Traveller communities can struggle to get insurance on their homes. • No comparable data in the UK was identified, however in the US people from ethnic minority communities and low income households have been found to have a broader view of the complexity of environmental issues than their white counterparts, noting the interlinkages with poverty, inequity, and racism. Researchers hypothesise that this is because of the disproportionate representation of ethnic minority communities living in places with more exposure to environmental hazards where it is easier to see that these other issues in society are likely to affect environmental outcomes.	• London is prone to flooding from five sources – tidal, fluvial (from rivers and tributaries), surface (from rainfall), sewer and groundwater flooding. Climate change will bring wetter winters and more frequent heavy downpours throughout the year, as well as rising sea levels and higher tidal surges. 15% of London is in a flood plain, protected by flood defences that includes homes, 49 railway stations, 75 underground stations and 10 hospitals.	

Impact	Evidence: UK-wide	Evidence: London	Level
	• Water-borne and vector-borne diseases are likely to increase with warmer temperatures and flooding. Water-borne diseases such as leptospirosis can increase with flooding, as can diseases such as rotavirus which causes gastroenteritis. People with reduced immunity due to existing health conditions are particularly vulnerable to infection. For example, sickle cell disease is particularly common in people with an African or Caribbean family background.		
Risk of harm from heatwaves	**Evidenced** • Ethnic minority communities are more likely to live in urban areas. • People living in urban areas are at greater risk from adverse health effects of heatwaves, for the simple reason that built up areas can be up to 10°C hotter than the surrounding countryside. • The top five areas with the most "at risk" neighbourhoods were Birmingham, Newham, Tower Hamlets, Hackney and Nottingham. These are among the UK's most ethnically diverse areas. These high-risk neighbourhoods also have lower carbon footprints than average, so the most vulnerable communities are less responsible than average for causing climate change but will bear the brunt of it. • Research from the Universities of Birmingham and Nottingham reported that heat related impacts are the most common form of climate risk exposure reported by ethnic minorities. Their research with ethnic minority communities showed: - Three in five (62%) reported that they had experienced a heatwave in the UK that caused sleep loss and discomfort (more than comparable surveys of the general population).	**Evidenced** • The GLA and Bloomberg's interactive climate risk maps show that whilst not universal, there is a strong correlation between heat risk and diversity of the local population. • According to Friends of the Earth research, three of the top five local authorities most "at risk" from the effects of heatwaves are within London - Newham, Tower Hamlets, and Hackney - and are among the most ethnically diverse areas in the city. Among the worst affected Local Authorities in England are: Newham; Tower Hamlets; Hackney; Southwark; Enfield; Ealing and Haringey. And in the top 30 are: Waltham Forest; Lambeth; Brent; Croydon; Barking and Dagenham; Lewisham; Islington; Greenwich; Hounslow; Wandsworth; Westminster and Camden. • London generates its own microclimate, known as the Urban Heat Island (UHI), which can result in the centre of London being up to 10°C warmer than the rural areas around London even before the impacts of climate change are taken into account. • Water shortage is a serious threat to London. London's rainfall is expected to become more seasonal, with more winter rain (up	Mix of evidenced and less evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	- One in three (29%) had suffered disruption to their work or travel due to a heatwave. - One in five (17%) had experienced significant negative health effects from a heatwave. - Three in five (61%) felt they had personally experienced climate change. When asked to describe their experiences, a large proportion mentioned heatwaves and rising temperatures. • Living in poorly adapted housing makes people particularly vulnerable to extreme hot weather, as does living on the top floor, in a south facing property, or in poor-quality housing. • Planning for Justice assert that structural racism is ingrained into urban policy throughout the globe, which may contribute to disproportionate levels of ethnic minority communities in mal-adapted housing. **Less evidenced** • Gypsy and Traveller communities living in caravans are at risk of harm from heatwaves as their caravan sites are often placed on land deemed unsuitable for housing due to high air pollution and caravans themselves are poorly designed for extreme conditions. (It is clearly evidenced that heatwaves are linked to ground level ozone pollution and small particulate matter pollution. When combined the health risks are greater than either heatwaves or air pollution alone) • Research in the US suggests that heat related mortality rates tend to be higher among ethnic minorities, particularly black people during heatwaves. Whilst this may be explained in part by socio-economic trends, heat related deaths remain	to 26% more by 2080s) and less in summer (up to 29% less by 2080s), making water storage critical to resilience. The UK's independent Climate Change Committee (CCC) highlighted that unless London adapts to rising temperatures then its productivity could slump by 0.4 per cent, facing a near £2 billion hit to the city's economy if climate change causes temperatures to soar by 2 degrees by the end of the century.	

Impact	Evidence: UK-wide	Evidence: London	Level
	significantly higher among black people in the US even when socioeconomic status is taken into account.		
Air pollution	**Evidenced** • Research by the Runneymede Trust and Greenpeace found that Black, Asian, and other minority residents in cities live in "air pollution sacrifice areas" with "non-existent access to green spaces and pollution-heavy infrastructure such as recycling centres, industrial sites, and incinerators. Runnymede cite systemic racism that has led to ethnic minorities being more likely to be concentrated in low paid, precarious jobs and live in poorer areas most impacted by environmental disadvantage. • Air pollution was found to be higher in housing areas with more than 20% ethnic minorities and to be mainly an urban problem **Less evidenced** • Gypsy and Traveller communities living in caravans are at risk of harm from air pollution as their caravan sites are often placed on land deemed unsuitable for housing in areas of high air pollution. • Damp and mould are common challenges and there are no regulatory standards set for Traveller sites. • Two-thirds of the 60 short-term 'transit' Traveller sites in England – and just over half of the country's 242 permanent sites – are within 100m of one or more environmental hazards. • Air pollution within Gypsy and Traveller sites is poorly understood and further work, such as from the University of York, is required to better understand and mitigate risks.	**Evidenced** • In London, and despite ongoing improvements, communities with higher levels of deprivation, or a higher proportion of people from a "non-white" ethnic background, are more likely to be exposed to higher levels of air pollution. For example, African and Caribbean people account for 15.3% of Londoners exposed to high levels of nitrogen dioxide (NO2), but they account for just 13.3% of the population. Southwark, Lambeth, and Hackney are among the boroughs with an overlap of both a higher proportion of black residents and higher pollution levels. • 31-25% of areas with the highest proportion of black and mixed/multiple ethnicities are in areas with higher levels of air pollution, reducing to 15-18 per cent for Asian ethnic groups and just 4-5 per cent for white ethnic groups. • One in three of London's schools is close to a road with illegal levels of NO2 pollution. • Generally, areas with higher recorded levels of pollution tend to be situated more centrally within London, with cleaner air quality found towards the outer suburbs. • London areas which have the highest numbers of people from ethnic minority communities are more likely to have the highest concentrations of NO2. On average its between 16 and 35 per cent higher in areas where ethnic minority communities were most likely to live compared to areas where white peers were most likely to live.	Mix of evidenced and less evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
Asthma	**Evidenced** • People from ethnic minority communities in England and Wales are more likely to be affected by asthma than their white counterparts and more likely to be admitted to hospital for treatment. • UK-born South Asians and Afro-Caribbeans are affected by asthma equally to their white counterparts, however they are significantly (3× and 2× respectively) more likely to be admitted to hospital for asthma related problems. They are also more likely to be affected by asthma than non-UK born parents and grandparents, indicating local environment is a key risk factor. • Studies have suggested that socio-economic disadvantage plays an important role in explaining variations in experience of asthma. It is possible that there are other differences – such as whether some groups are more likely than others to consult their GP about their breathing problems, or whether some groups receive poorer primary care than others.	**Evidenced** • Air pollution contributes to around 1,700 asthma patients a year being admitted to hospital and ethnic minority children make up highest number of hospital admissions.	Evidenced
Cancer	**Less evidenced** • Long term exposure to air pollution has been associated with some cancers. There are uncertainties around ethnic minority cancer levels, there may be a lower incident level or it may be lower screening levels.	No London specific evidence identified	Less evidenced
Heart health	**Less evidenced** • Long term exposure to air pollution has been associated with cardiovascular disease. Cardiovascular disease is higher among Black and South Asian ethnic minority groups. However, the reasons are unclear.	No London specific evidence identified	Less evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
Diabetes	**Less evidenced** • Long term exposure to air pollution has been associated with diabetes. In the UK, type 2 diabetes is disproportionately prevalent among people defined as 'South Asians'. Outcomes (such as going on to develop cardiovascular disease) are known to be poorer for this group. However the lack of ethnic diversity in clinical trials limits understanding of causes and support needs.	No London specific evidence identified	Less evidenced
Mental health	**Less evidenced** • Research from the US suggests that ethnic minorities' mental health may be worst affected following natural disasters, and that Black communities are worse affected by depression or PTSD following hurricanes. The reasons for this are unclear, complex, and varied. Proposed reasons include years of internalised racism being triggered, the cumulative effect of trauma from racial dissemination, unequal healthcare support and those in lower-income households having inequitable access to resources. A further factor may be those in lower-income households living in less well adapted and resilient housing. • Support for mental health is poorer for people from ethnic minority groups. • African Caribbean people are three to five times more likely than any other group to be diagnosed and admitted to hospital for schizophrenia, in spite of lower rates of diagnosis for other common mental disorders. Air pollution is linked to schizophrenia and other psychotic disorders, and even small increases in air pollution are linked to rises in more common mental illnesses such as depression. Low-income households,	No London specific evidence identified	Less evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	often disproportionately composed of ethnic minority communities and disabled people, are more likely to experience low air quality indoors and outdoors. Days with high air pollution are linked to increased risks of needing community-based or hospital-based treatment, with children particularly vulnerable as their bodies and brains are still developing. Exposure to air pollution in childhood is linked to poor mental health by the age of 18 and exposure to air pollution in adolescence is a risk factor for depression.		
Poor birth outcomes	**Evidence** • Women from ethnic minority communities and their babies have poorer birth outcomes. The reasons are complex relating in large part to socio-economic inequalities and racial discrimination. • High exposure to air pollution increases the risk of Preterm birth, Stillbirth and Low Birth Weight with those near busy roads most vulnerable. People born preterm are at high risk of an extensive range of lifelong health issues. • Increased temperatures and heatwaves are linked to: foetal strain, early labour and lower birth weights, particularly for lower socio-economic groups.	No London specific evidence identified	Evidenced
Migration	**Evidence** • It is believed that globally 1 person per second is being displaced by climate change. What climate migration might look like in the coming decades and how the UK will respond is unknown. • Whilst diversity brings great richness to communities, many, including the United Nations, are concerned that the forced	No London specific evidence identified	Emergent

Impact	Evidence: UK-wide	Evidence: London	Level
	movement of larger numbers of people around the world will increase the potential for conflict and insecurity.		

Impacts of policy on climate change and air pollution

Policy area	Evidence: UK-wide	Evidence: London	Level
Renewables and solar	**Main policies**: Policies to increase renewables include the Renewable Heat Incentive and the Boiler Upgrade Scheme (for example, for heat pumps), and the Feed-in-Tariff and Smart Export Guarantee (for solar). These have successfully increased the amount of renewables, with for example over 800,000 domestic solar installations made under the Feed-in-Tariff. However, policies to increase renewable heat technologies have so far been less successful. **Impacts (direct):** • BEIS behavioural research around solar panels showed that although those considering solar panels were 'ethnically diverse' with around 18% of people from an ethnic minority – 10% of whom were Asian British, they were, however, of a higher social grade (40% AB) showing this may be concentrated in certain ethnic minority groups. • Upfront costs remain a barrier for people getting Renewable Heat Incentive grants and those communities with fewer savings (which includes Black, African and Caribbean communities) were less likely to benefit.	**Main policies:** Local energy accelerator to install heat networks supplied by renewables sources, Solar Together London, London Community Energy Fund to support community groups to develop solar and other energy projects. **Impacts:** We could not find evidence of the impact of these programmes but as they are focused on installing renewables on social housing and owner-occupier housing, we anticipate they could benefit a range of ethnic and socio-economic groups.	Some evidence

Policy area	Evidence: UK-wide	Evidence: London	Level
	Impacts (lower-income groups): • The rising price of fossil fuel generation means more renewable energy generation should benefit all people, but particularly those on lower incomes who are more likely to be from ethnic minority communities and for whom the effective rate of inflation is highest. • Early figures from the Feed-in-Tariff scheme for solar panels indicated that although there were installations in social housing, people in higher socio-economic groups who could afford the upfront cost of solar panels would be most likely to benefit. • As the Feed in Tariff, and other subsidy schemes paid for through energy bills, are based on levies on energy bills, they can be considered a considered a regressive tax as lower income groups spend a larger share of their income on energy than higher income groups. • The renewable heat incentive evaluation showed that higher income, off gas grid domestic customers were more likely to benefit from the policy.		
Insulation	**Main policies:** Insulation schemes to date have focused on insulating lofts and cavity walls, with 70% of walls and 66% of lofts insulated. However, out of the over 8 million homes in Great Britain that have leaky solid walls, only around 9% have been insulated. Policies for Zero Carbon Homes which would have increased insulation (and installed solar panels and heat pumps) in new-build homes was scrapped in 2015 in England and the Future Homes Standard won't be reinstated until 2025. Although new social housing in Wales is zero carbon, private housing won't meet the standard until 2025. In Scotland it will be zero carbon from 2024.	**Main policies:** Retrofit accelerators for homes and workplaces to support housing providers, local authorities and public buildings install insulation measures, in particular more expensive measures. Zero carbon homes standard for all new homes. **Impacts:** • Young people from ethnic minority communities are more likely to be privately renting and more likely to be renting in cities—where homes are more likely to have solid walls. 40% of homes (64% in London) have poor quality walls which cost residents an extra £350 over winter in 2023.	Well evidenced

Policy area	Evidence: UK-wide	Evidence: London	Level
	Impacts (direct): • A high proportion of people who applied for the Green Homes Grant (for insulation and renewables) were on low-incomes and more likely to be in fuel poverty. Ethnic minority communities were overrepresented in this sample compared to the UK average, so we can assume that it had some impact in reaching them, however there is little data on which ethnic communities were reached. • Black, African, Caribbean, Pakistani and Bangladeshi communities on average have fewer savings than their white peers, so may be less able to pay for more expensive insulation measures that aren't fully subsidised. • Many schemes that offer advice for warmth in housing and buildings do not account for the needs of the Traveller community. For example, support schemes may not apply to caravans despite travellers being at greater risk of fuel poverty than the general population. **Impacts (lower-income groups):** • 'Leaky' homes, which lose heat easily, are concentrated in poorer neighbourhoods, and use an average of 58% more energy than homes that meet the government's standards. • Insulation schemes have been targeted on low income groups, with nearly 375,000 insulation measures installed in homes from 2018 to 2022 under the Energy Company Obligation.	They are therefore likely to benefit from these programmes focused on solid wall insulation in particular.	
Active travel	**Main policies:** Policies to increase active travel include more and segregated cycle paths, subsidies for bikes, better signs for walking, and spatial plans for new homes and communities that make walking and cycling easier.	**Main policies:** Cycle lanes, safer junctions, improving cycling parking, grants for community cycling programmes, schools active travel programmes and bike rental schemes.	Some evidence

Policy area	Evidence: UK-wide	Evidence: London	Level
	Impacts: • Cycling and walking have numerous health benefits including reducing the risk of cardiovascular disease, type 2 diabetes, cancer, and depression and could lead to a reduction in early preventable deaths of over 1,000 per year in England. However, this is not broken down by ethnic group. • People from ethnic minority communities in cities in the UK are less likely to cycle than their white counterparts, but are more likely to want to start. They therefore may have benefitted least from policies so far but could benefit from well targeted future policies.	**Impacts:** • People from ethnic minority communities are about as likely to cycle as their white counterparts in London and people from Black and Asian backgrounds were most likely to be actively considering cycling. These schemes are therefore likely to benefit them more than their white counterparts.	
Electric vehicles	**Main policies:** Up until 2022, the UK government offered a grant to buy electric cars worth around £1.3billion, creating demand for an estimated 90,000 electric vehicles between 2011 and November 2021. **Impacts (direct):** • People from an ethnic minority background, particularly if they are Black, are less likely to own a car than their white peers so less likely to benefit from policies that support electric vehicles. **Impacts (lower-income groups):** • A 2021 survey conducted by Statista found that people with higher incomes are more likely to own an electric vehicle than people on the lowest incomes. A government-commissioned evaluation of electric vehicle subsidies suggested that high income households were far more likely to own electric vehicles. If these people also claimed government subsidies, that could indicate people from higher incomes are more likely to receive these subsidies.	**Main policies:** London has installed a network of rapid chargers for electric taxis and other vehicles, and street charging points. All newly registered black cabs have had to be zero emission capable from 2018 and all private hire vehicles electric from 2023. **Impacts:** We found no specific evidence of impacts of these policies, but they contribute to air quality improvements and impacts under the 'low emission zone' section.	Some evidence

Policy area	Evidence: UK-wide	Evidence: London	Level
	• The lack of existing schemes for purchasing of second-hand electric cars, and low levels of public charging points in many areas means they are less affordable for lower income groups.		
Low emissions zones and emission standards	**Main policies:** Several cities in England have introduced low emission zones that either ban or charge polluting cars to enter cities, including London, Birmingham, and Bristol. Scottish cities including Glasgow, Aberdeen and Dundee will enforce them soon. In addition, the UK has had carbon dioxide emission standards for new cars since 2009 and air pollutant standards for new cars since 1992 which gradually lower the amount of pollution new cars can emit. **Impacts (direct:)** • Black and Asian populations are less likely to own a vehicle than the overall average so would be less impacted by low emission zone charges. • 42% of taxi drivers are Asian or Asian British, so their incomes are more likely to be affected by low emission zone charges.	**Main policies:** Ultra Low Emission Zone for cars, vans and lorries. Introduction of electric buses with all buses zero emission by 2034. Zero emission capable black cabs. **Impacts:** • Policies such as London's Ultra Low Emission Zone (ULEZ) have helped to bring down overall levels of nitrogen dioxide. • Inequality in exposure to air pollution between different ethnic groups in London has been decreasing from 2013 to 2019. The gap in exposure between white and ethnic minority communities fell between 15 – 37 per cent. • Children and young people of ethnic minority backgrounds in London are more likely to benefit from vehicle emissions standards, as they live in areas where concentrated car use is causing pollution related problems. • People from ethnic minority groups in London are less likely to own or regularly use a car and so are least likely to be affected by low emission zone charging. • People from Asian groups are most likely to drive private hire taxis in London (38%) so likely to be most affected by emission charges.	Well evidenced

Policy area	Evidence: UK-wide	Evidence: London	Level
		• People on low incomes can access the £110m ULEZ scrappage million scheme in London.	
Public transport	**Main policies:** Policies to increase public transport include expanding bus, tram and train services or increasing the frequency of them. These services and policies vary considerable between regions. In both Scotland and England (outside of London), passenger journeys on local buses have fallen since the late 2000s and have not yet recovered after a significant fall during the Covid-19 pandemic. **Impacts (direct):** • Although people from ethnic minority communities are more at risk of experiencing transport poverty, little was found on the ways in which social class-related transport disadvantage interacts with other disadvantages around ethnicity.	**Main policies:** London has extensive public transport including buses, tube and trams. It also aims to switch the Tube to 100 per cent renewable energy sources. **Impacts:** • In London, black populations are proportionality highest users of public transport so would benefit most from policies to increase provision, but could be most affected by fare increases.	Limited evidence
Fuel poverty	**Main policies:** The definition of fuel poverty varies but it refers to households that must spend a high proportion of their income to keep their home at a reasonable temperature. Policies to support those in fuel poverty have included insulation schemes, income support, encouragement to switch energy suppliers and reductions in energy bills. Of these policies, those aimed at increasing insulation levels are most closely related to reducing carbon emissions. It is estimated there has been a significant increase in the number of people experiencing fuel poverty in the UK since energy prices started to increase in 2021. **Impacts (direct):** • People from ethnic minority communities are more likely to experience fuel poverty than their white counterparts, with 20% of ethnic minority	**Main policies:** Warmer Homes Advice Service providing free energy efficiency advice and previously provided boiler upgrades through the Warmer Homes scheme. **Impacts:** 13% of London's households lived in fuel poverty in 2022, around the same as the England average, although it has the lowest average fuel poverty gap of any region. We could not find up to date figures on rates of fuel poverty in people from ethnic minority communities in London, or the impact of fuel poverty programmes in London.	Some evidence

Policy area	Evidence: UK-wide	Evidence: London	Level
	households experiencing fuel poverty compared to 12% of white households in England in 2022. This is largely caused by poor heating systems, insulation, and quality of housing for those groups. Similarly, migrants, refugees and asylum seekers are also more likely than average to live in poor quality housing. • However, the average fuel poverty gap (the reduction in fuel bills needed to take a household out of fuel poverty) in England in 2022 was lower for ethnic minority households than for white households. • Please see section on 'insulation' for impacts of insulation policies on ethnic minority communities. **Impacts (low incomes):** • Please see section on 'insulation' for impacts of insulation policies on low-income groups		
Skills	**Main policies:** Scotland has a number of policies to increase green skills and jobs (such as renewable energy production, sustainable agriculture and retrofitting buildings) and Wales has also published a plan to increase green jobs and skills. But in England there are few policies, mainly focused on apprenticeships. All nations have policies to teach about climate change in schools. **Impacts (direct)** • The environment sector was identified as the second least ethnically diverse sector (after farming) in the UK. • Women and young people from ethnic minorities are less likely to go into green jobs as they are less likely to study STEM subjects. Policies to	**Main policies**: Green New Deal for London, the Mayor's Academies Programme, and Solar Skills for London. **Impacts (direct):** The impact of these policies are unclear as they are relatively new but include a focus on supporting certain social groups into green jobs.	Limited evidence

Policy area	Evidence: UK-wide	Evidence: London	Level
	tackle this include the Green Apprenticeships Advisory Panel and schemes like the government's £2 billion Kickstart for young people furthest from the labour market. These schemes are small and need more investment to have widespread take-up. • Students from ethnic minority groups are more likely to desire a job that helps the environment – 59% of Black, Asian or minority ethnic survey respondents compared with 42% of White British respondents. However, there is a lack of understanding among young people from ethnic minority groups about what 'green jobs' are and what skills are required to access them.		
Overall economic costs	**Main policies and impact:** The overall package of policies that would need to be introduced for the UK to meet its net zero goal by 2050 (including those for businesses) are projected to increase real disposable income, particularly for those on the lowest incomes by 2030 and 2050. We could find no evidence of how this will affect different ethnic minority communities.	**Impacts:** Nothing London specific	Limited evidence

Natural environment impacts

Impact	Evidence: UK-wide	Evidence: London	Level
Zoonotic diseases	**Evidenced** • Pandemics caused by zoonotic diseases such as Covid-19 can cause widespread societal and financial disruption, affecting development opportunities. Climate change increases the chances of another pandemic like Covid-19.	**Evidenced** • London had the highest rates from Covid-19. Death rates in London were more than 3-times higher than in the region with the lowest rates, the South West. This level of inequity was much greater than the inequalities in all-cause mortality rates in previous years.	Evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	• During the Covid-19 pandemic, people from Black ethnic groups were most likely to be diagnosed and death rates were highest among people of Black and Asian ethnic groups. • Research shows that after accounting for the effect of sex, age, deprivation and region, ethnic minorities were more likely to die from Covid-19. Risk of dying from Covid-19 compared to those of White British ethnicity were ~50% higher for people of Bangladeshi ethnicity and 10-50% higher for people of Chinese, Indian, Pakistani, Other Asian, Black Caribbean and Other Black ethnicity. These analyses did not account for the effect of occupation, comorbidities, or obesity. • One of the common comorbidities with Covid-19 was diabetes, which was mentioned on 21% of covid related death certificates where COVID-19 was also mentioned. 43% more Asians and 45% more Black ethnic groups than White ethnic groups saw diabetes increase their risk of death from Covid-19. Other common comorbidities included hypertensive diseases, chronic kidney disease, chronic obstructive pulmonary disease, and dementia. • Covid exacerbated existing health inequalities. • According to the Runneymede Trust, the Covid-19 pandemic highlighted longstanding ethnic inequalities in the UK, with ethnic minority communities often hardest hit and the inequalities being driven by social and economic inequalities, many of which are the result of racial discrimination. • For more information see NPC and the Environmental Funders Network's *Health People, Healthy Planet* report.		

Impact	Evidence: UK-wide	Evidence: London	Level
Food security and nutritional quality	**Less evidenced** • We are all exposed to toxic chemicals through the food we eat, and the impacts are as yet insufficiently understood. Exposure begins in the womb, with highly hazardous pesticides having been found in the urine of pregnant women. • Nutrients in our food are being reduced by rising CO2 levels, poor soil health and intensive farming practices. • Nutrient deficiencies impact general health, increase vulnerability to infectious diseases and higher the likelihood of poor health. • Research in the US suggests that people from low-income households increasingly find high quality and climate friendly diets financially unobtainable. • 39% of UK food bank referrals in 2019-20 were a result of low income. People from African and Caribbean ethnic groups were worst affected. • Food security and the cost of family food bills are increasingly affected by the environmental crises. • People from ethnic minority communities experience greater food insecurity before the impacts of the environmental crises are taken into account.	No London specific evidence identified	Less evidenced
Access to green space	**Evidenced** • People from ethnic minority communities are more than twice as likely as white peers to live in areas in England that are most deprived of green space. • Almost 40% of people of ethnic minority communities live in England's most green space-deprived neighbourhoods, compared to 14% of white people.	**Evidenced** • 80% of the top ten English local authority areas that are green space-deprived neighbourhoods are in London and have high levels of ethnic diversity: 1. Lambeth 2. Birmingham 3. Tower Hamlets 4. Haringey	Evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	• People in less privileged communities, of which people from ethnic minority communities are often disproportionately represented, can also particularly benefit from access to green spaces, as it is associated with reductions in health inequalities. For example, access to green space can reduce inequalities in mental well-being between well-off and socially deprived groups by 40% and reduce early deaths in deprived areas. • Ethnic minority communities are more likely to live in tower blocks • One in eight British households has no garden, and those of Black ethnicity in England are nearly four times as likely as White people to have no garden in their home. When comparing people of similar age, social grade and living situation, those of Black ethnicity are 2.4 times less likely than those of White ethnicity to have a private garden. • Black people in England and Wales are almost three times as likely as their white counterparts to live in social housing, while people of mixed-race backgrounds are 1.6 times more likely. • In a changing climate, green spaces are especially important. They provide cool spaces during heatwaves, support water run-off systems to reduce flooding and reduce air pollution. These benefits are most keenly felt in urban areas. Urban parks are, on average, 1°C cooler than the rest of the city, during both the day and the night, and the cooling effect spreads up to 1km from the park boundary. • The Green Space Index shows that 2.8 million people live more than a ten-minute walk of green space and 40% of the worst performing areas fall into the highest priority 'Levelling-up' areas.	5. Newham 6. Islington 7. Manchester 8. Wandsworth 9. Southwark 10. Camden • The Green Space Index shows that, unsurprisingly, London has the smallest amount of green space per person in the country. However, it's compact urban structure means many live within ten minutes' walk of a green space. Around 10,600 people in London do not live within a ten minutes' walk of green space. Many of the most underserved areas are highly diverse local authorities such as Newham.	

Impact	Evidence: UK-wide	Evidence: London	Level
	• Green space in deprived urban areas often remain unused due to their poor quality. In terms of quality, a sense of safety and access to facilities such as toilets and cafes are key. • People from ethnic minority communities tend to have access to less local green space and the space they do have is of a poorer quality. Areas that have almost no ethnic minority communities have six times as many parks as areas where more than 40% of the population from ethnic minority backgrounds. If all types of public green space, not just parks, are looked at, the difference is 11 times. • Maxwell Ayamba, Managing Director of the Sheffield Environmental Movement, highlighted to NPC how just 26% of minoritised people spend time in the countryside compared to 44% of their white counterparts. • ~10% of the UK population come from an ethnic minority group, however they represent only 1% of visits to National Parks. • Proposed reasons for limited ethnic minority group access to nature include: a lack of role models; lack of awareness of opportunities; insufficient action at local level by national nature organisations; experiences of racism when accessing green spaces; and a sense that there is a 'club' to which ethnic minority communities do not belong. • There are indications that racism happens more often in the countryside than in towns and cities. • Low-income households and people from ethnic minority communities are the least likely to access green spaces, for example: − 18% of children living in the most deprived areas never visit the natural environment at all; and 20% fewer		

Impact	Evidence: UK-wide	Evidence: London	Level
	"Visibly Minority Ethnic (VME) "children go out into green spaces weekly compared to white, middle-class children. – The groups which visit the countryside least are those aged 65 and over, members of the ethnic minority communities, and residents living in the most deprived areas of England. • Access to green space can reduce inequalities in mental well-being between well-off and socially deprived groups by 40% and reduce early deaths in deprived areas. • Frequency of visits to green spaces and views of green space from the home are significant predictors of general health. • Green spaces are also linked to increased social capital, reduced crime rates, reduced violence, and increased community cohesion through fostering interaction between different ethnic groups.		
Toxics	**Evidenced** Nothing specific to people from ethnic minority communities was identified, however issues affecting all communities include: • Exposure to toxic chemicals is linked to cancers and kidney disease, depression and psychiatric disorders, fertility, hormone-related cancers, impaired brain development, obesity, and diabetes and breast cancer. • Common cleaning chemicals are linked to Parkinson's. • UK farming causes over a quarter of cities' particle pollution. • We are exposed to many different endocrine disrupting chemicals (EDCs) via our food, water, air, and many common	No London specific evidence identified	Evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	household products such as solvents, non-stick pans, and some plastics.		
Waste	**Less evidenced** • Waste incinerators are three times more likely to be built in the UK's most deprived neighbourhoods. These have been built so that waste no longer goes to landfill and pollutes land and sea. Mostly incinerators are in major cities and industrial towns. More than two thirds of the potential incinerators in England are planned for the northern half of the country. London has seven incinerators – the highest number in one city. Liverpool has the highest concentration in the country with four incinerators in a ten mile radius on the banks of the River Mersey. There are six incinerators in Scotland and two in Wales but both nations could see these numbers rise significantly. In Wales, there are six proposed incinerators – in and around Swansea and Cardiff – and seven proposed in Scotland. People living near incinerators complain of noise, litter, increased traffic, smells, and air pollution – although the available evidence on air pollution from incinerators suggests the problem is much less significant than around other industrial sites. There is one industrial incinerator in Northern Ireland, also in a deprived area. • The World Health Organization reports that white and wealthier areas have more green spaces and black communities have little protection from industrial facilities around their homes. • Waste reduction and embedding a circular economy would provide healthier lifestyles and longer lasting, fixable products affordable to all, including those on lower incomes. • The Splott biomass plant in Cardiff is next to a Gypsy Roma Traveller site and an area that was already suffering from low air	**Less evidenced** • The incinerator in Edmonton, north London, is sited in one of the poorest neighbourhoods in the country where 65% of the population are people from ethnic minority groups. The incinerator is the largest in the UK and deals with waste from seven North London boroughs. Campaigners opposed to its construction, including Enfield Black Lives Matter and Extinction Rebellion, who argued that the incinerator will release pollutants which will disproportionately impact people of colour. Delia Mattis, a campaigner from Enfield Black Lives Matter, said: *"We need to be calling this what it is: racism. These industries know that when they place an incinerator in an area like Edmonton, one of the most deprived constituencies in the country, people won't get involved in campaigns against it because they are already tired from fighting against racial oppression and injustice all their lives."* However, the incinerator will also produce electricity and the waste heat will heat thousands of homes, so will replace (at least some) fossil fuel generation.	Less evidenced

Impact	Evidence: UK-wide	Evidence: London	Level
	quality. Campaigners against the plant argue that the site would be hugely impacted by the development of the plant, with evidence that the Gypsy Roma Traveller community would be disproportionately impacted as a number of residents have pre-existing health conditions. The area is being considered for three more incinerators near homes and schools.		

Impacts of policies on the natural environment

Policy area	Evidence: UK-wide	Evidence: London	Level
Green spaces	**Main policies:** Policies to increase the amount, quality, and access to green spaces for people include designing green spaces into new housing developments, adding new green spaces into existing areas where people live, increasing the biodiversity of existing green spaces and schemes to encourage more people to go to green spaces and the countryside. These are largely governed by national and local planning policies. The proportion of urban green spaces are declining in England, from 63% to 55% between 2001 and 2018, and the quality of Sites of Special Scientific Interest is poor. **Impacts (direct):** • Urban green areas, including London and Sheffield have been found to support the social inclusion of disadvantaged groups, functioning as spaces where migrants and asylum seekers can connect with other people.	**Main policies:** Funding for tree planting, new woodlands, improving habitats in parks and green spaces and installing more sustainable urban drainage. There are also policies requiring new developments to have green spaces, trees, and better biodiversity. **Impacts:** Although we could not find evidence of the impact of policies on people from ethnic minority communities, tree planting funds have recently been focused in deprived areas of London with high levels of ethnic minority populations so are likely to benefit these groups.	Limited evidence

	Impacts (low-income): • Policies to create more green spaces in urban neighbourhoods bring disproportionate benefits to those from disadvantaged groups, and economic related inequalities in health are lower in areas with access to greenspace. • Evidence shows that local authorities working with local communities to develop plans for green space will help stimulate physical activity in communities.		
Water and land pollution	**Main policies:** The main policies to reduce pollution of land and water are regulations on water companies, industries, and agriculture to limit the amount of sewage, chemical and agricultural products that enter rivers, seas, and the land. Since the 1990s these have led to a reduction in water pollution in England. However, there were over 14,000 discharges of sewage into Scottish rivers in 2022 and 300,000 discharges of sewage into rivers and seas per year in England. Agriculture continues to be a major source of the pollution. Rivers and waterways in Scotland, Wales and Northern Ireland's are less polluted than those in England. **Impacts:** We found little analysis of the impact of these policies on people.	**Main policies:** Mapping of road run-off which pollutes rivers and education on waste-water misconnections. **Impacts:** • Only one of London's 41 river water bodies is classed as 'good' – three are 'bad', five are 'poor' and the rest are 'moderate'. • We did not find specific evidence of impacts on people from ethnic minority communities.	Very limited evidence
Food and farming	**Main policies:** The main policies related to food focus on reducing the environmental harm of farming on the natural environment. Up until the UK left the European Union, this was governed across the UK by the Common Agricultural Policy but is now governed by the Environmental Land Management Schemes.	**Main policies:** Programmes to encourage people to reduce food waste and buy and grow locally produced food. **Main impacts:** We found no evidence of the impact of these policies on ethnic minority communities in London.	Very limited evidence

	Impacts: • We could find little evidence of the impact of these policies and the quality of food they produced on people from ethnic minority communities.		