

## Sustainability First Writing Competition 2021

### **“How do we achieve meaningful social changes in the UK to tackle the climate crisis and develop a fairer society? “**

The UK is one of the first countries to legally commit to climate change issues with its landmark legislation of the 2008 Climate Change Act, which targets cutting national greenhouse gas (GHG) emissions by at least 100% of 1990 levels (net zero) by 2050. Significant improvements were seen in the UK - its emissions were reduced by 44% between 1990 and 2018 (Union of Concerned Scientists, 2020). However, the persistence of climate changes continues to impact our society in various ways, and we must continue our efforts to develop a fairer and sustainable society.

This essay will focus on whether UK policies are effectively promoting social changes to tackle the climate crisis and social inequalities, and what more could be done by the government to achieve these changes. In the first half of this essay, focus will be placed on tackling climate crisis through UK's transport sector – the largest GHG emitting sector since 2016 (Department for Business, Energy and Industrial Strategy [BEIS], 2021). The essay will then discuss social fairness through the lens of climate change. Heatwaves will be used as an illustration of how the climate crisis aggravates existing economic inequalities in the UK, and what policies can be used to reduce such inequalities and achieve a fairer society.

The transport sector emissions only fell by 1.8% in 2019, and are only 4.6% lower than in 1990 (BEIS, 2021). Comparing with the emissions in energy supply, the second largest emitting sector, which were 65.5% lower than they were in 1990, the transport sector seems to be lagging behind UK's net zero target. Recently, the UK government published the Transport Decarbonisation Plan on 14th July 2021 with ambitious plans to decarbonise all forms of transport over the next 20 years. A large focus is placed on the country's transition to electric vehicles (EV), with key pledges including phasing out the sale of new petrol and diesel cars and vans in 2030, and phasing out the sale of new petrol and diesel heavy goods vehicles by 2040. Government reports have shown that road transport is the most significant source of emissions in the transport sector, with 55% of domestic GHG emissions from cars and taxis (Department for Transport [DfT], 2021). Therefore, the transition to EV is an important step to net zero emissions and tackling the climate crisis.

Despite the high investments and support from the government, the behavioural and social changes needed for the EV transition is not yet achieved. A research by the energy watchdog Ofgem has found that while nearly one in four of all energy households plans to buy an electric vehicle or plug-in hybrid, 38% of households said they were unlikely to buy an electric vehicle in the next five years. Main reasons include concerns over costs, battery life and having nowhere to charge their electric vehicle close to home.

Fail to create a well-structured network of chargepoints could become a barrier for the consumer behaviour change needed for EV transition. In 2020, there were over 167 Local Authorities with 20 or fewer charging points (DfT, 2020). Although the Transport Decarbonisation Plan introduced more funds for local authorities to accelerate the roll-out of chargepoints, no targets were set with regards to the number of chargepoints by region, and by the type of chargepoints such as off-street and on-street charging. The government should devise a more detailed plan, which incorporates specific targets taking into account opinions from corporate fleet drivers and residents in different regions. The government should also lead the cooperation between local authorities to build a well-connected network of chargepoints across the country. This way, government funds can be spent in

an efficient manner and that drivers will have more confidence in accessing charging infrastructures. This would help the UK's EV transition, hence promoting net zero transport to tackle climate crisis.

Another social change that can be done through UK's transport sector to tackle climate crisis is to encourage more walking and cycling. Government reports have found that journeys below 5 miles represented 58% of all private car journeys in 2019, which provides huge opportunity for switching transport modes into cycling and walking, and potentially reduce 68Mt CO<sub>2</sub>e of current car emissions (DfT, 2021). There can be 2 ways of promoting walking or cycling. One of them is raising citizen awareness of walking and cycling as a clean transport alternative. Speaking from my own experiences, although a lot of awareness has been raised on climate change in recent years, walking and cycling as a way to combat climate crisis is somewhat overlooked in the public compared with other methods such as food choice, use of electric vehicles and renewable energy. More campaigns and events, such as the London Car Free Day, could be done by the government and climate change organisations to raise public awareness to encourage more walking and cycling.

Another way to promote walking and cycling is through higher investments from the government in the renovation of walking and cycling infrastructures. According to the National Travel Survey in 2019, the most selected encouragements to walk more often include 'safer roads' and 'well maintained pavements', while the most common barriers cited for people not cycling include 'road safety concerns' and 'too much traffic' (DfT, 2021). It becomes apparent that safety is one of the public's biggest concerns. The Transport Decarbonisation Plan will invest £2 billion over the next 5 years in walking and cycling infrastructures, including delivering new and safer cycling routes separated from pedestrians and volume motor traffic (DfT, 2021). Although these commitments help lay the foundations for permanent social changes in transport mode, the government should also focus on renovations of existing infrastructures to improve safety. This is because citizens would continue to use existing roads and routes before new infrastructures are completed, let alone not every citizen will switch to new routes when they become available. Therefore, neglecting the safety of existing infrastructures would continue to discourage the public, making it more difficult to produce a shift towards more walking or cycling in the future.

While the UK makes its transition to a green economy to tackle the climate crisis, the government must also strive to reduce social inequality in order to achieve a fair and sustainable society. Research highlights that climate change could exacerbate social inequality both within and across countries (Differbaugh and Burke, 2019). According to a conceptual framework laid out in a United Nations Working Paper, disadvantaged groups are disproportionately affected by climate change through 3 major channels: higher exposure to climate hazards, greater vulnerability to damages caused by climate hazards, and lower ability to cope with damages caused climate hazards (Islam and Winkel, 2017). The impact of heatwaves provides an example of how this framework is illustrated in the UK.

The UK is facing increasing risks from longer and more frequent heatwaves due to climate change (Paavola, 2017). A research paper projected that the UK's summer temperatures could rise 50% faster than the average increases around the rest of the world (Bairstow, 2021), which could impose significant health and economic risks to society. Low-income groups are disproportionately affected by heatwaves through various ways. For example, low-income households are less likely to be able to afford adaptations to their accommodation, such as installing fans and air conditioners to cool their homes (Benzie et al, 2011). Low-income jobs are also more likely to involve working outdoors or long hours in confined space (TUC, 2009) which increase their exposure to heat. This would increase the risks of dizziness, fainting and heat cramps (TUC, 2012). This demonstrates that low-

income groups have less ability to prepare, respond and recover from the direct effects of heatwaves, which adds more economic burden and aggravates economic inequality.

Furthermore, low-income groups can be affected by the indirect effects of heatwaves, notably food price changes (Islam and Winkel, 2017). Heatwaves will largely disrupt the agricultural sector as hotter temperatures reduce crop yields and worker productivity, hence causing prices to increase due to shorter supply. During the 2018 UK heatwave, overall yields dropped around 20% with onions yield drop by 50% and potatoes by 30%, and caused a 5% food price rise (Farm Diversity Magazine, 2018). As a result, low-income households would suffer more from such price increase than wealthier households, as their expenditure on food takes up a much larger budget share than wealthier households (Ivanic et al, 2012).

The Heatwave Plan is an emergency response run by Public Health England, which sends warnings about heatwave to local communities and organisations and spells out what preparations can be done to mitigate health risks (Public Health England, 2020). However, the plan only allows for adaptations and responses in social and healthcare services during the summer, and neglects the challenges faced by disadvantaged groups and changes that can be done in the wider society. One way that the government can help reduce the economic burden of low income groups facing heatwaves is implementing plans to retrofitting and building new housings. Overheating occurs in 20% of UK homes during a normal summer (Brimicombe, 2020), and that top floor flats experience greater thermal stress than ground floor flats (Paavola, 2017). The government could set standards or amend building codes to new and existing buildings in areas and flats with the most exposure to heat, such as requiring white colouring or using highly reflective materials in walls and roofs to achieve better cooling (Center for Climate and Energy Solutions, 2017). They could also provide subsidies for air conditioner installations or other cooling adaptations to low-income households. Furthermore, laws should be implemented to reduce low-income group's exposure to heat at their workplace, for example enforcing legal maximum working temperatures or maximum working hours for outdoor workers during heatwaves.

In addition, government should establish policies to protect low-income groups from food price volatility as a result of heatwaves. There are challenges on implementing such policies as it is difficult to forecast how heatwaves affect the yields of different crops, and how it will be translated into food price increase. However, the government could anticipate and prepare for food price surges when heatwaves are forecasted, and provide production subsidies or emergency assistance packages such as one-off water supplies for farmers (Daneshkhu, 2018). This will support food production and prevent price volatility during heatwaves. The government should also closely monitor food prices and how it affects the costs of living of low income households. This would help the government to implement policies offering discounts, rebates or subsidies on certain food categories affected by heatwaves to families in low-income groups, hence reduce income inequality.

In conclusion, this essay has identified some challenges that the UK's transport sector faces when tackling the climate crisis, and what policies can be implemented to promote social changes to achieve a green economy. Firstly, the government should set out a detailed and comprehensive plan for the roll-out of chargepoints to develop a well-structured EV charging network and increase drivers confidence, which helps promote decarbonised transport in the UK. Secondly, the government should promote higher rates of walking and cycling through raising public awareness and improving the safety of walking and cycling infrastructures. This essay has further explored how the government can help develop a fairer society, focusing on reducing economic inequalities from the impacts of heatwaves. The government should implement laws and adaptation plans to housings

at risk of overheating and protect occupations from extreme heat exposure, as well as supporting farmers and low-income households to prevent food price volatility during heatwaves.

Whilst this essay focused on tackling the climate crisis through the transport sector, it should be recognized that efforts to combat climate change and develop a sustainable society should be made across communities. In addition, although measures discussed in this essay aim to prevent disadvantaged groups from suffering disproportionately from the climate crisis, the existing income inequalities in our society represents the compelling need for further systematic reformation in pre-distribution policies, such as the education system, to achieve a more equal distribution of economic power in our society.

(1998 words)

## References

- Bairstow, J. 2021. *UK summer heatwaves projected to soar 50% higher than global average*. Energy Live News. Available at: <https://www.energylivenews.com/2021/01/06/uk-summer-heatwaves-projects-to-soar-50-higher-than-global-average/>
- Benzie, M., Harvey, A., Burningham, K., Hodgson, N. & Siddiqi, A. 2011. *Vulnerability to heatwaves and drought Case studies of adaptation to climate change in south-west England*. Joseph Rowntree Foundation; York
- Brimicombe, C. 2020. *Heatwaves are an invisible killer – and the UK is woefully unprepared*. The Conversation. Available at: <https://theconversation.com/heatwaves-are-an-invisible-killer-and-the-uk-is-woefully-unprepared-144703>
- Center for Climate and Energy Solutions. 2017. *Resilience strategies for extreme heat*. Available at: <https://www.c2es.org/site/assets/uploads/2017/11/resilience-strategies-for-extreme-heat.pdf>
- Daneshkhu, S. 2018. UK farmers call for emergency support amid heatwave. The Financial Times. Available at: <https://www.ft.com/content/78ee5c76-956e-11e8-b67b-b8205561c3fe>
- Department for Business, Energy and Industrial Strategy. 2021. *2019 UK Greenhouse Gas Emissions, Final Figures*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/957887/2019\\_Final\\_greenhouse\\_gas\\_emissions\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/957887/2019_Final_greenhouse_gas_emissions_statistical_release.pdf)
- Department for Transport. 2020. *Electric vehicle charging devices by Local Authority*.
- Department for Transport. 2021. *Decarbonising Transport: A Better, Greener Britain*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1007194/decarbonising-transport-a-better-greener-britain.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007194/decarbonising-transport-a-better-greener-britain.pdf)
- Department for Transport. 2021. *Walking and Cycling Statistics, England: 2019*. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/906698/walking-and-cycling-statistics-england-2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/906698/walking-and-cycling-statistics-england-2019.pdf)
- Diffenbaugh, N. S. and Burke, N. 2019. *Global warming has increased global economic inequality*. Available at: <https://doi.org/10.1073/pnas.1816020116>
- Farm Diversity Magazine. 2018. *The impact of the 2018 UK heatwave on crops and livestock*. Available at: <https://www.farmdiversity.co.uk/crops/summer-heatwave-impact>
- Islam, S. N. and Winkel, J. 2017. *Climate Change and Social Inequality*. Department of Economic & Social Affairs. United Nations. Available at: [https://www.un.org/esa/desa/papers/2017/wp152\\_2017.pdf](https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf)
- Ivanic, M., Will M., Hassan Z. 2012. *Estimating the Short-Run Poverty Impacts of the 2010-2011 Surge in Food Prices*. World Development, vol. 40, no. 11, p.2302-2317
- Paavola, J. 2017. *Health impacts of climate change and health and social inequalities in the UK*. Available at: <https://doi.org/10.1186/s12940-017-0328-z>

Public Health England. 2020. *Heatwave plan for England*. Available at:  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/888668/Heatwave\\_plan\\_for\\_England\\_2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888668/Heatwave_plan_for_England_2020.pdf)

TUC. 2009. *Changing Work in a Changing Climate: Adaptation to Climate Change in the UK, New Research on Implications for Employment*. London: Trades Union Congress. Available at:  
<https://www.tuc.org.uk/sites/default/files/extras/adaptation.pdf>

TUC. 2012. *Health and safety Time for Change: reclaiming health and safety at work*. Available at:  
<https://www.tuc.org.uk/sites/default/files/Temperature.pdf>

Union of Concerned Scientists. 2020. *Each Country's Share of CO2 Emissions*. Available at:  
<https://www.ucsusa.org/resources/each-countrys-share-co2-emissions>