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**Climate
change and
the
exacerbation
of inequality.**

05

POLICY

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CLIMATE CHANGE AND THE EXACERBATION OF INEQUALITY

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BRIEFING NOTE

This section takes an in-depth look at the relationship between climate change and inequality - arguably two of the most significant challenges facing the world in the 21st century. Through an examination of the way in which climate change exacerbates economic inequalities within nations, as well as inequality on a global scale, this briefing sheds light on the unequal distribution of the risks and consequences of climate change.

OVERVIEW

- Developing nations and economically disadvantaged groups within nations face a disproportionately high risk of being hit by the adverse consequences of climate change.
- Lower-income individuals and poorer global economies suffer as a result of the disproportionately high burden of the costs of climate change - costs that have arisen both historically and in the modern day.
- There are extensive emission inequalities found between nations which has consequences for the nature of the distribution of responsibility for climate change.

INEQUALITIES IN FACING THE RISKS OF CLIMATE CHANGE

Within nations that lie in volatile climate zones, the more economically disadvantaged face greater exposure to the risks of extreme weather events caused by climate change

- Analysis conducted by Carbon Brief examined 350 cases of extreme weather events, concluding that 79% of these were caused or worsened by climate change¹. This demonstrates how many of the floods, droughts and heatwaves that are experienced globally are a direct consequence of the rising global climate.
- Research has found that in Dhaka, Bangladesh slum dwellers are more likely to live in areas prone to extreme weather risks as many slums are located in low-lying spots of urban areas that are at high risk of flooding².
- In many Latin American countries, economically disadvantaged groups are more likely to dwell along hill slopes in urban areas. Residents of such natural landscapes face greater exposure to mudslides than other areas of the country³.

Due to their reliance on weaker infrastructure, developing nations are more susceptible to significant damage and loss when faced with extreme weather events

- According to the OECD Secretary-General, water-related natural disasters cause extensive damage in city areas with a high concentration of people and inadequate infrastructure. The 2011 floods in Thailand, for example, cut fourth-quarter GDP growth by 12%⁴.
- Weak and substandard water supplies are degraded when faced with extreme weather events such as floods. Studies have shown that this has led to an increase in water-associated diseases, such as cholera. The events of this are found to be more stark in areas with existing weak sanitary infrastructure⁵.
- As of 2018, 80% of the world's 1 billion population living in slums can be attributed to three geographic regions: Eastern and South-Eastern Asia (370 million), sub-Saharan Africa (238 million), and Central and Southern Asia (227 million)⁶.
- The extent of the damage suffered by developing nations is demonstrated through the fact that, according to Oxfam, people in low-/lower-middle-income countries are roughly 5 times more likely than those in high-income countries to be displaced by extreme weather events⁷.

¹ Clientearth.org, 2021, [Climate change inequality: the unequal impact of extreme weather](#)

² Braun, Boris and Tibor ABheuer, 2011, Floods in megacity environments: vulnerability and coping strategies of slum dwellers in Dhaka/Bangladesh. *Natural Hazards*, vol. 58, p. 771-787.

³ Islam, S. and Winkel, J., UN.org, 2017, [Climate Change and Social Inequality](#)

⁴ Gurría, A., 2014, [Financing Infrastructure for a Water Secure World - OECD](#)

⁵ Agrawala, S, et. al., 2012. [Poverty and Climate Change - Reducing the Vulnerability of the Poor through Adaptation](#)

⁶ Unstats.un.org. 2019. — [SDG Indicators](#)

⁷ Oxfam America Inc, 2021, [Climate Change and Inequality](#)

As climate change has eroded and weakened local ecosystems, low-income individuals - particularly those within developing nations - who heavily rely on natural resources and industries suffer disproportionately.

- 3 out of 4 people living in poverty rely on natural resources and agriculture to survive⁸.
- Half of the people in developing countries live in rural communities dependent on agriculture – an industry highly vulnerable to worsening environmental conditions and extreme-weather events⁹.
- Indigenous Peoples occupy or use just 25% of the world’s surface area but safeguard 80% of the world’s current biodiversity. This demonstrates the extent to which Indigenous Peoples rely on natural resources, making them more susceptible to the natural impacts of climate change⁹.
- Over 1.3 billion people, the majority of which live in developing countries, are currently reliant on degrading agricultural land for their livelihood, increasing their vulnerability to natural disasters such as drought and desertification¹⁰.
- As a result of the loss of crops, livestock and fish following climate-related weather events, the poorest households in the five countries of Algeria, Egypt, Morocco, Syria, and Yemen reported income losses double the rate of richer households - 46.4% compared to 20.7%¹¹.

⁸ Mercy Corps, 2020, [The facts: How climate change affects people living in poverty](#)

⁹ US Global Leadership Coalition, 2021, [Climate Change and the Developing World: A Disproportionate Impact](#)

¹⁰ ActionAid, 2021, [Climate Change and Poverty](#)

¹¹ Wodon, Quentin, et al., 2014, Climate Change and Migration: Evidence from the Middle East and North Africa

DISPROPORTIONATE COST OF CLIMATE CHANGE

The economically disadvantaged face unequal economic burdens when dealing with the consequences of weather-related climate risks

- In Ethiopia, research has found that those living in poverty were forced to sell livestock assets during droughts and famines, while more well-off households did not face the same burden³.
- After the Ethiopian famines in 1984-1985, it took a decade for asset-poor households to bring livestock holding levels back to pre-famine levels - a recovery process that high-income families were not faced with³.
- Following the 1988 flood in Bangladesh, public resources were devoted to the construction of the Greater Dhaka Western Embankment. This crisis response was pursued to safeguard the higher-income residents of the capital city from subsequent flooding, despite the fact that the embankment was to worsen the flooding consequences faced by the rural, lower-income population of Bangladesh³.

The economic growth of developing economies has been stunted as a result of rising global temperature leading to a widening in global inequality

- Rising global temperature has impeded the economic growth in warm countries such as India and Nigeria while enriching cooler countries, such as Norway and Sweden¹².
- According to research conducted by Stanford University, the gap between the economic output of the world's richest and poorest countries is 25% larger today than it would have been without rises in global temperatures¹³.
- As a result of global warming, India's economy is 31% smaller than it otherwise would have been¹⁴.
- In sub-Saharan African countries, such as Sudan and Niger, GDP per capita is over 20% lower than it would have been without global warming¹⁴.

¹² Proceedings of the National Academy of Sciences of the United States of America, Noah S.

Diffenbaugh and Marshall Burke, 2019, [Global warming has increased global economic inequality](#)

¹³ Stanford University, Josie Garthwaite, 2019, [Climate change has worsened global economic inequality](#)

¹⁴ Time, Justin Worland, 2019, [Climate Change Has Already Increased Global Inequality. It Will Only Get Worse](#)

The costs of the energy transition necessary to countering climate change disproportionately burden developing countries

- World energy demand is predicted to grow about 50% by 2050¹⁵. This will require a large investment in renewable technologies if climate goals are to be met, which is challenging in countries with poor energy infrastructure and politically volatile environments.
- Energy consumption in non-OECD countries (most of whom are generally developing countries) will increase by 84% by 2035 with respect to 2007 levels¹⁶.
- A rapid increase in energy demand cannot be matched with solely renewable sources, a concern expressed by Botswana's delegate at the UN in 2019 that the government cannot meet its 2030 emission reduction goals of 15%. More specifically, they stated that failure was imminent "without the following support from other, less-economically burdened nations: partnership assistance, capacity-building, technology transfer and financial support"¹⁷.
- Clean energy investment in developing economies has dropped by 8% in 2020 to 150 billion USD, this needs to increase by a factor of at least 7 to reach the to 1 trillion USD necessary for the net-zero emissions goal¹⁸.
- At 2009's COP 25, richer nations committed to providing \$100bn a year to poorer nations to help in reducing their emissions. This demonstrates how the economic burden faced by developing countries has been recognised on a global scale. Despite this, commitments to a climate financing scheme of this magnitude have not since been met. A damning report in 2020 conducted by the UN asserted that the target was out of reach¹⁹.

¹⁵ IEA, Paris, 2019, [Global electricity demand by region in the Stated Policies Scenario, 2000-2040 – Charts – Data & Statistics](#)

¹⁶ Journal of Economic Perspectives, Catherine Wolfram, Ori Shelef and Paul Gertler, 2012, [How Will Energy Demand Develop in the Developing World?](#)

¹⁷ UN General Assembly, 74th Session, 2019, [Unprecedented Impacts of Climate Change Disproportionately Burdening Developing Countries, Delegate Stresses, as Second Committee Concludes General Debate](#)

¹⁸ IEA, Paris, 2021, [Financing clean energy transitions in emerging and developing economies](#)

¹⁹ Nature, Jocelyn Timperly, 2021, [The Broken \\$100-billion Promise of Climate Finance — and How to Fix it](#)

EMISSION INEQUALITIES AND THE DISTRIBUTION OF RESPONSIBILITY FOR CLIMATE CHANGE

Wealthier nations have historically contributed to cumulative emissions at a much higher degree than poorer nations

- Including estimates going back to 1850, the United States, China, and Russia are responsible for 20%, 11%, and 7% of historical emissions. Meanwhile, Germany and the UK account for 7% - not including overseas emissions from the colonial era²⁰.
- The United States, the European Union, and China are responsible for 50% of the total average temperature increase up until 2012 (1 degree Celsius) from cumulative GHG emissions²¹.
- The United States per capita emissions is approximately 4 times that of the world average, at about 20 tonnes of CO₂ annually²².
- North America and Europe are responsible for around half of all emissions since the Industrial Revolution. China and Sub-Saharan Africa contributed to about 11% and 4% of the historical total respectively²³.

Wealthier and more privileged individuals consume more than poorer individuals and consequently have a larger carbon footprint

- There is a positive correlation between income per capita and CO₂ emissions²⁴.
- The wealthiest 10% of the world population contributed to 52% of total carbon emissions between 1990-2015²⁵.
- The wealthiest 10% of the global population emits nearly 48% of global emissions in 2019, the top 1% emits 17% of the total, whereas the poorest half of the global population emits 12% of global emissions²⁶.
- Since 1990, emissions from the top 1% of people have risen faster than any other group because of the higher-than-average rise in the income and wealth of this group and because of the carbon impact of their investments²⁴.

²⁰ Carbon Brief, Simon Evans, 2021, [Analysis: Which countries are historically responsible for climate change?](#)

²¹ Climate Analytics, Marcia Rochia, Mario Krapp, Johannes Guetschow, Louise Jeffery, Bill Hare, Michiel Schaeffer, 2015, [Historical Responsibility for Climate Change - from countries emissions to contribution to temperature increase](#)

²² UNEP DTU Partnership, 2020, [Emissions Gap Report 2020](#)

²³ UNDP Human Development Reports, Lucas Chancel, [How large are inequalities in global carbon emissions – and what to do about it?](#)

²⁴ Energy, Ecology and Environment, Klaus Hubacek, Giovanni Baiocchi, Kuishuang Feng, Raúl Muñoz Castillo, Laixiang Sun and Jinjun Xue, 2017, [Global Carbon Inequality](#)

²⁵ Oxfam Media Briefing, Tim Gore, Mira Alestig and Anna Ratcliff, 2020, [Confronting Carbon Inequality](#)

²⁶ World Inequality Database, Lucas Chancel, 2021, [Climate Change & The Global Inequality of Carbon Emissions](#)

- Individuals in the richest 10% of the global population emit an average of 60 times more than one in the poorest 10%²⁶.
- Research by Oxfam has found that the richest 1% of the population emits twice as much as the poorest half ²⁶.

As a result of their production practices, a vast share of cumulative emissions can be attributed to state and corporate entities

- More than half of global industrial emissions can be attributed to 25 corporate and governmental bodies²⁷.
- 100 companies are responsible for 71% of global emissions, with almost all of them based in the fossil fuel sector²⁸.
- BP coined the term “carbon footprint” in 2004 to emphasise individual responsibility for emissions, a tactic that conglomerates have used to shift the burden of responsibility away from their industrial frameworks²⁸.

²⁷ The Carbon Majors Database and Climate Accountability Institute, Paul Griffin, 2017, [CDP Carbon Majors Report](#)

²⁸ Grist, Kate Yoder, 2020, [Footprint Fantasy - Is it time to forget about your carbon footprint?](#)

CONCLUSION

As is apparent, there are geographic and economic parameters that determine the vulnerability of nations and communities to the ramifications of climate change. The way to alleviate this is to approach the matter from several directions and modes of discourse.

Disaster mitigation in the form of infrastructural development to protect and sustain marginalised and poorer communities comes first due to the imminence of extreme-weather events and its human cost. What follows is an acceleration of current energy transition trends and more direct intervention by governments and influential financial institutions to incentivise this change of course. The most significant aspect of this intervention is the creation of serious accountability mechanisms to ensure economic and political entities remain in line with set environmental goals.

INSIGHT

OVERVIEW

This section aims to address underlying factors which cause climate change and inequality to have the link established in the previous section. It first aims to associate the disproportionate risk of weather-related climate change faced by disadvantaged groups and nations primarily to their lack of infrastructure. This section then works to distinguish between the disproportionate costs of climate change on an individual level and on the national level, arguing that different underlying contributors are at play depending on what level is being examined. Finally, this section puts forward the idea that emissions inequalities are rooted in processes of industrialisation which have yielded vastly different rates and patterns of consumption between poorer and wealthier individuals/nations.

This section works to demonstrate the extent to which climate change has historically contributed to both inequality within nations and inequality on a global scale. The actions, or lack thereof, of wealthier countries and individuals are crucial to understanding why the relationship between inequality and climate change is in its current state. Accordingly, this section argues that the responsibility for curbing the detrimental consequences of climate change ultimately lies with those wealthy nations which have historically contributed the most to the cumulative release of emissions.

Increased risk is rooted in the reliance on underdeveloped and unstable infrastructure

As has been explored, both poorer individuals within nations and poorer nations themselves are more at risk of facing the adverse effects of climate change. A key factor at play in this relationship is the nature of infrastructure within these areas of increased climate risk. Infrastructure that is built in geographical locations more susceptible to the adverse effects of climate change tends to be cheaper and lower in quality. These locations range from hill slopes, low-lying spots of terrain and areas of close proximity to coastal zones.

Nations that reside in volatile climate zones, typically those that lie within the global south, hold a higher concentration of these climate risk-prone landscapes. A significant portion of the population in developing nations live in low-elevation coastal zones, for example³. Haiti is heavily deforested and has vast, mountainous areas which are prone to landslides²⁹.

This same fact does not hold true within more developed and urbanised nations.

Housing built within these high-risk geographical terrains is, predictably, cheaper than more stable housing built in lower-risk areas. Consequently, these areas tend to house a high concentration of society's most economically disadvantaged. This makes disadvantaged groups within developing nations the group most exposed to the weather-related risks of climate change. Furthermore, it can be suggested that areas densely populated with poor individuals are less likely to receive adequate funding or government, meaning living conditions scarcely improve. Poorer sections in society tend to hold less political capital and so fail to secure the support needed for change to be seen.

Developing nations are less economically capable of enjoying widespread infrastructural integrity than their wealthier counterparts. This is not only evident when the quality of housing is examined, but another key manifestation of this is the poor infrastructure of the water supplies in developing nations. Already fragile water supplies are damaged when water-related natural disasters, such as floods, strike. This leads to an increase in water-associated diseases⁵. These health-related consequences of damaged water supplies are exacerbated by underdeveloped and ill-equipped healthcare infrastructure in place in these nations. Crucially, this works to exacerbate the pre-existing inequality of unsafe water death rates being higher in low-income countries than in the rest of the world. This is exemplified by the fact that, in 2017, the share of annual deaths caused by unsafe water was 14% in Chad compared to 0.01% across most of Europe³⁰ - demonstrating how the relationship between climate change and inequality is both multi-faceted and ingrained.

²⁹ Time, 2019, [The Climate Crisis Is Global, but These 6 Places Face the Most Severe Consequences](#)

³⁰ Ritchie and Roser, 2019, [Clean Water](#)

Health-care systems are crucial not just to the general well-being of a society, but this infrastructure plays a vital role in mitigating the lasting effects of damage caused by extreme weather events. When such infrastructure is underdeveloped or existing alongside poor sanitary infrastructure, the extent of loss and damage felt in the aftermath of extreme weather events is increased. It is evident that weak infrastructure exposes developing nations and poorer individuals to the risks of climate change in a myriad of ways.

Yet research has shown that, even where infrastructure investment is attained in developing nations, it is limited in its ability to create a lasting, positive impact. Statistics on physical infrastructure show, since the early 2000s, there has been a significant increase in investment in most developed nations. Despite this, infrastructure in these regions continues to lag in terms of quality and accessibility³¹.

A further factor at play in the relationship between inequality and the risks of climate change is reliance on natural resources. Though it seems paradoxical on the surface, developing countries have historically been rich in natural resources such as oil and minerals. Rather than bringing economic growth, these resource endowments have instigated conflict, corruption, and disincentivised the development of other sections of the economy crucial for long-term growth³². Overall, the result of resource reliance has been further structural instability in infrastructure development.

This reliance on natural resources has created an economic dependence on the very parts of nature that are being degraded by climate change. For example, agriculture remains the main source of employment and income for anywhere between 50 to 90 percent of the population of developing countries³³. Extreme weather events such as floods and droughts greatly undermine the agricultural industries of these nations, and those who depend on the industry for livelihood.

Dependency on natural resources can also be understood through a cultural lens. Indigenous communities, for example, hold strong historical links to their local natural resources which can constitute a significant element of their culture and identity. Many of their interactions with nature are specific to their historical experiences occupying the land. The environmental degradation brought about by climate change disproportionately affects and inflicts suffering on indigenous communities as a result of their economic and cultural connection to their environment³⁴.

³¹ Guara et al., 2018, [Trends and Challenges in Infrastructure Investment in Developing Countries](#)

³² Free Network, 2011, [Are Natural Resources Good or Bad for Development?](#)

³³ Kwa, 2001, [Agriculture in Developing Countries: Which Way Forward?](#)

³⁴ UN Environment Programme, 2020, [Indigenous peoples and the nature they protect](#)

Fragile economic assets and warming's detrimental effect on growth increase the costs of climate change

When examining the disproportionate cost of climate change at the individual and national level, different underlying issues and contributing factors can be identified. Between individuals within nations, the disproportionate cost of climate change stems from two factors relating to the economically disadvantaged: the fragility, or absence, of their economic assets and the low levels of political capital enjoyed by them. Between nations the disproportionate cost of climate change is principally derived as a direct consequence of the way in which global warming has stunted the economic growth and development of poorer economies. This has led to a greater burden being placed on these nations when they come to addressing climate change as a global problem.

This is not only the case in which disadvantaged groups within society are more prone to facing weather-related climate risks, as they also face a disproportionate cost in the aftermath. Unlike individuals who enjoy economic stability, disadvantaged groups within society do not hold a secure set of economic assets and income on which they can rely when faced with natural disasters and weather-related climate consequences. This is apparent in the way that poorer households face an asset-repairment and recovery process that higher-income families do not.

Furthermore, the governmental recovery initiatives which follow weather-related natural disasters tend to favour supporting the nation's more economically well-off groups, even when this comes at the expense of the more vulnerable. This can be understood as an element of the more widely seen phenomenon of lower-income individuals holding less political influence than those in more elite groups within society. Possible reasons for this are widespread and often include an interplay of social, economic, and political factors, the precise nature of which differs from country to country. The subsequent low levels of political capital held by society's economically disadvantaged works to disadvantage them further when it comes to receiving state aid to respond to climate risks, leaving the individuals with burdensome costs to account for themselves.

In examining the varying economic costs of climate change incurred on developing countries, the detrimental effect global warming has had on the economic growth of many developing nations stands out to be the principal contributing factor. Rising global temperatures work to both increase the costs of agricultural production and threaten biodiversity. Estimates show that climate change has contributed to there being 1 million species in danger of extinction - species that are vital to crop growth, fisheries, and livestock³⁵.

As has been explored, these are industries heavily relied upon for economic growth within the developing world. Extra warming in the already warm climates of many developing nations comes

³⁵ US Global Leadership Coalition, 2021, [Climate Change and the Developing World: A Disproportionate Impact](#)

at the detriment of their agricultural industries and local-ecosystems. Yet, the cooler climates hosted by many, typically wealthier nations enjoy the benefits of boosted agricultural industries and local ecosystems brought about by extra warming. This works to widen the existing disparity of GDP growth between developed and developing nations, demonstrating an economic cost of climate change which is felt predominantly by poorer nations.

One of the major obstacles in countering climate change at the national level is low-carbon energy transition which is a much more difficult undertaking in the framework of poorer countries where there is already an energy insecurity with existing technologies in place. This is extenuated further by the projected population boom in developing economies alongside the betterment of living standards. Africa's population for example, is expected to almost double by 2060³⁶ that entails a significant, if not proportional, increase in energy demand. It is unambiguous that developing nations will struggle to meet decarbonisation goals let alone meet a level of energy security that would provide all their citizens a respectable quality of life. Moreover, lack of research investment and shaky infrastructure networks plague nations of the global south, combine this with the political volatility present in those regions and it is apparent that not many initiatives would choose to divert assets towards development.

Ultimately, it is a matter of economic influence that determines the level of degradation an individual or nation has to endure in the face of climate change. The unequal access to resources in disaster mitigation scenarios and long-term energy transition plans is self-evident among economies with varying degrees of development on both the national scale and individual scale.

³⁶ Max Roser, 2014 (Revised in 2019), [Future Population Growth](#)

The industrialisations of economies and subsequent inequalities of carbon consumption have caused vast emissions inequalities

The emission inequalities of today are rooted in the mass industrialisation of society from almost two centuries ago. The powers of the day adopted an economic model with an unhealthy reliance on fossil fuels, dominating the energy mix by the end of the 19th-century³⁷. This historical precedent, along with the colonial practices of former empires and expansionist regimes, further entrenched the unequal integration and exploitation of carbon-heavy resources in a time where the concept of human-caused climate change was nonexistent, laying the foundations for an ecologically negligent way of life.

Those nations who were able to make the transition from agrarian to industrial civilisation witnessed an exponential growth in economic potential and capability, bypassing the Malthusian Trap which limited capital growth per individual efficiency, thus setting an example for the rest of the world to follow³⁸. However, the rate at which each nation made their shift varied, defining their future success in guaranteeing their citizens a respectable quality of life and consequently, their contribution to global emissions.

The development of poorer countries has been and continues to be impeded in terms of energy and technological capacity. This is due to the increasing difficulty of industrialisation and integration into a world economy that has, for the most part, already inherited its pathways and value-chains from the foremost industrial powers³⁹. This effectively creates a spectrum of nations with varying consumption rates of fossil fuels and, in turn, subdivisions within them in terms of class.

The differences in consumption between classes owe themselves to the contrast in the quality of life. A more luxurious lifestyle is synonymous with a larger carbon footprint, which comes as no surprise when the vast majority of infrastructure relies on unclean energy networks. This combined with a lack of accountability and awareness concerning individual effects on climate change only serve to encourage hedonistic lifestyle choices that impact the world as a whole.

Since the nature of energy usage and consumption in the current state of the world is heavily centralised, it is state or corporate bodies that bridge the gap between consumers and the sources of production. This central design leaves consumers little room to explore lower-carbon energy sources. Exacerbating this further is the global fossil fuel subsidy, valued at \$5.2 trillion in 2017⁴⁰.

³⁷ Vaclav Smil, 2017, [Energy Transitions : Global and National Perspectives](#)

³⁸ Gregory Clark, 2014, [The Industrial Revolution in Theory and History](#)

³⁹ Adam Szirmai, Wim Naudé, Ludovico Alcorta, 2013, [Pathways to Industrialization in the Twenty-First Century: New Challenges and Emerging Paradigms](#)

⁴⁰ IMF, 2017, [Fossil Fuel Subsidies](#)

This blatantly discourages investment in cleaner energy systems and highlights the influence of the fossil fuel industry in the political arena.

It is no surprise that 35 of 50 major influential corporations are actively lobbying against climate policy⁴¹. It is estimated that almost \$200 million is spent by the likes of BP and Chevron to restrict climate policy reforms⁴². The most influential firms have yet to integrate environmental sustainability into their production practices beyond lip service. These entities have undertaken this deceptive approach which was set in motion as soon as anthropogenic global warming became apparent. Exxon, for example, knew about the adverse effects of their industrial practices as early as 1977⁴³. The course of action taken by Exxon, as well as other tycoons of the fossil fuel industry, following this revelation was an active disinformation campaign undertaken to subvert any attempt at halting their capital growth⁴⁴.

It is self-explanatory that those who emit the most share the highest proportion of responsibility for climate change. It is those nations and individuals that are wealthy enough to not define this as an existential crisis who have the moral obligation to extend their assistance to those who are otherwise burdened with more immediate, unavoidable circumstances. This follows from not only their inherent privilege which is a direct consequence of their historical and cumulative contribution to global warming but also from their undeniable culpability in this global dilemma of climate change.

⁴¹ InfluenceMap, 2017, [Corporate Carbon Policy Footprint](#)

⁴² Sandra Laville, 2019, [Top oil firms spending millions lobbying to block climate change policies, says report](#)

⁴³ Neela Banerjee, John H Cushman Jr, David Hasemyer, Lisa Song, 2015, [Exxon: The Road Not Taken](#)

⁴⁴ Union of Concerned Scientists, 2015, [The Climate Deception Dossiers](#)

CONCLUSION

- Poorer individuals within nations, as well as developing nations, face disproportionately high risks of suffering from weather-related climate risks due to their reliance on weak infrastructure.
- The economic growth of developing nations has been hampered as a direct result of increases in global temperatures. This, consequently, increases the burden faced by these nations in accommodating the need to address and curb climate change.
- Nations and individuals who maintain a privileged quality of life contribute significantly more to climate change than the global average.
- The burden of responsibility for addressing climate change ought to lie with those who have historically contributed to cumulative emissions on a large scale.

POLICY RECOMMENDATION

OVERVIEW

The purpose of the following recommendations is to offer a well-balanced blueprint for ameliorating the conditions manifested by climate warming and the injustices it subsequently amplifies. In order to fortify the global stance of poorer communities and account for their fragility in the face of environmental calamities, ambitious policy trajectories are required. Furthermore, the negligence of the past decades must be remedied.

The policy recommendations are as follows:

- Action 1: Infrastructure development in developing nations can be aided through the formation of partnerships between governments and international institutions to guarantee the economic efficiency of investment.
- Action 2: Governments and international political entities must gear investments towards low-carbon energy transition to achieve net-zero emissions by 2050⁴⁵ to avoid the worst of climate change.
- Action 3: Accountability mechanisms should be developed through legislation to ensure corporations and financial institutions adopt and maintain environmentally ethical practices.

⁴⁵ UN, 2021, [COP26 Goals](#)

ACTION 1:

Infrastructure development in developing nations can be aided through the formation of partnerships between governments and international institutions to guarantee the economic efficiency of investment

Infrastructure constitutes the backbone of societies across the globe, playing an even more significant role in developing nations. Through its ability to support poverty alleviation and protect societies when faced with the threats of climate change, infrastructure development is crucial to counterbalancing the exacerbation of inequality caused by climate change.

Spending on infrastructure in developing countries within the last decade has been approximately \$0.8-0.9 trillion per year, with the majority of this being financed domestically⁴⁶. As domestic budgets will continue to play the key role in the financing of infrastructure projects, it is critical that infrastructure investment is spent and allocated as efficiently as possible. This involves targeting investment to those assets which currently pose the greatest hindrance to overall development, as well as to areas with the greatest levels of poverty and inequality.

Within the context of climate change, it is vital that developing countries focus their infrastructure investment in improving the housing in those areas which are more densely populated with low-income families and which are geographically more exposed to the weather-related risks of climate change. It also involves investing in improving water supply infrastructure to improve its resistance to water-related extreme weather events such as floods.

Such targeted infrastructure is so crucial because it maximises the economic returns that governments will see of their projects. Inefficient infrastructure investment will generate minimal benefit against the project cost. Given that much of domestic financing is raised through borrowing, debts for developing countries will only rise exponentially if investment proves to be inefficient. On the other hand, efficient investment has the potential to stimulate economic growth and create a positive, tangible impact. This would allow for greater capacity to repay loans and capital⁴⁷ which is crucial to the pursuit of long-term infrastructure projects by developing countries.

To ensure that the infrastructure investment is allocated efficiently, formal structures and regulations ought to be put in place. One such structure that exemplifies this is The World Bank - an international financial institution and global partnership body that provides loans and grants to the governments of a range of developing countries. Such capital loans are granted for the pursuit of projects which aim to reduce poverty and promote sustainable development. On

⁴⁶ LSE, 2012, [Infrastructure for development: meeting the challenge](#)

⁴⁷ Times Higher Education, [How can developing countries pay for infrastructure development?](#)

infrastructure, The World Bank helps developing countries build infrastructure that supports sustainable growth and creates opportunities⁴⁸.

The governments of developing nations and international institutions such as The World Bank ought to formalise collaborative partnerships through the development and implementation of infrastructure projects to ensure that they are efficient and maximise the returns and benefits felt by the home nations. This can involve the establishing of formal, legal regulations which guarantee that efficiency is prioritised in investment projects. This will work to ensure the most vulnerable and economically disadvantaged feel the benefits of infrastructure investments first, allowing for a response to the ways in which climate change has worsened these existing inequalities. Such action has the potential for large scope, given how well-established international institutions hold capacity to form partnerships with over 100 countries.

Furthermore, this can work to incentivise private financing and investment of infrastructure projects within developing countries by making such investments safer and more attractive. Currently, approximately 20-30% of infrastructure investment in developing countries is financed through the private sector⁴⁵. Formalised relationships between governments and international institutions which oversee the efficacy of infrastructure projects may work to draw in more public-private partnerships (PPPs) as a form of investment. This will result in an overall boost to spending on infrastructure, working to alleviate the negative effect climate change has had on inequalities.

⁴⁸ The World Bank, 2021, [Infrastructure](#)

ACTION 2:

Governments and international political entities must gear investments towards low-carbon energy transition to achieve net-zero emissions by 2050⁴⁵ to avoid the worst of climate change

The onset of extreme weather events and eco-environmental calamities has increased by a factor of 5 over the decades⁴⁹. As previously explored, these reverberations are amplified the further down the social ladder a community is. The projected human cost of what may occur is catastrophic and prejudiced in nature, leaving those who are least responsible for climate change facing the worst it has to offer. The key solution to this is a rapid, global overhaul of the way in which energy is produced, distributed, stored and consumed.

It is essential to recognise that it is existing power structures that brought humanity to this state of rapid climate change and its continuous, catastrophic aftermath. Therefore, to alleviate this problem, the policy undertaking ought to be functionally altered in terms of how decisions are made. Simply put, the pursued course of action has to be unambiguous and scientifically driven at its core rather than being infinitely politicised in the realm of media and public opinion.

Green energy transition is a task that must be accomplished over several fronts that are divided by the most energy-intensive economic sectors coming in the form of government investment in each sector that leans heavily away from the present trajectory with the main goal being the decarbonisation of every sector as quickly and efficiently as possible. However, this goal should be well-balanced and nuanced in an attempt to reduce the economic ramifications that come as a result of such a sudden priority shift in strategic initiatives.

The proponents of environmental sustainability in general and in particular with respect to climate change must be integrated into the philosophy of every establishment that interacts at any level with society all the while maintaining the essential services that they provide within reason. This contrasts heavily with the dominant economic ideology of growth with no regard for its consequences and hence warrants the radical change that the scientific consensus has been advocating for decades. There is no denying that there will be a trade-off of economic growth for sustainability since this is an existential dilemma. It is developed, privileged nations who should lead the charge here and bear the brunt of this transition given that they are the most responsible for it.

Most recently with COP26, many have criticised the ambiguity and hesitant nature of the commitments made. The consensus allegedly watered down their language from “phasing out” to “phasing down” coal which is ideal for nations such as China, India and Indonesia who heavily

⁴⁹ WMO, 2021, [Weather-related disasters increase over past 50 years, causing more damage but fewer deaths](#)

rely on coal to provide domestic energy⁵⁰. The only way to bypass this coal dependency is to heavily invest in lower-carbon, less expensive energy sources such as nuclear and hydropower, a strategy that some nations have already adopted.

France sources about 70% of its electricity from nuclear power plants⁵¹ while Sweden obtains 39% which is equally matched with 39% from hydropower⁵². This outlines the strategy that must be thoroughly embraced to effectively combat the imminent temperature rise. Any technology that is capable of replacing unclean energy sources must be pursued. In other words, nuclear energy is a crutch to be relied upon while we make our transition to renewables. A double-edged approach should be taken with increased research and development investment into sustainable energy technology, whereby extending nuclear power plant lifetimes would allow the renewable utility to mature, which in turn will allow for a more decisive step away from fossil fuels.

However, it is alarming that many nations are shifting away from nuclear energy, only to replace it with fossil fuels. The misplaced stigma against the nuclear sector is a major barrier to reaching our climate goals, this is despite the fact that compared to carbon-heavy energy sources, nuclear has caused far fewer deaths (350 times less - an upper estimate) as a result of its use⁵³.

Governments have to utilise the technological leverage that nuclear energy provides, and this must be combined with the removal of subsidies from fossil fuel-based energy and funnelling them towards cleaner energy practices. Yet the sway that big oil conglomerates hold over such decisions might be too dominant to allow such a thing, and this is where heavier legislation must be enacted to combat these short-term financial incentives.

⁵⁰ Reuters, 2021, [Coal trajectory is set whether it's 'phase out' or 'phase down'](#)

⁵¹ World Nuclear Association, 2021, [Nuclear Power in France](#)

⁵² Statistics Sweden, 2021, [Electricity in Sweden](#)

⁵³ Our World in Data, 2020, [What are the safest sources of energy?](#)

ACTION 3:

Accountability mechanisms should be developed through legislation to ensure corporations and financial institutions adopt and maintain environmentally ethical practices

The failure of global institutions to realign their priorities and practices after recognising the imminence and gravity of anthropogenic climate change can be attributed solely to a lack of accountability. Corporations have been persistent in their degradation of the environment and their simultaneous misdirection of the public in terms of its severity. This has continued unabashedly all the while furthering financial interests of industrial tycoons and widening the rift between rich and poor in the existential context of climate change. This not only broadens the exposure of vulnerable communities to life-threatening circumstances but also poises the upper echelons of society to consume even more in order to maintain their lifestyles and delay their perceived threat of climate change.

There are various methods to integrate responsibility and accountability into current economic models and the most prominent of which is the introduction of a carbon tax⁵⁴. Pricing carbon emissions would generate a strong incentive for industries to transition, as it would simply be less motivating to operate in carbon-heavy schemes when the costs increase proportionally as a function of emissions produced. This model should be wielded to its full potential by increasing the taxation rate per emission unit as the world goes further along the process of energy transition. Increased tax revenue when utilised strategically and responsibly would in turn allow for the alleviation of ailing aspects in governance to provide for marginalised, low-income communities who are already at risk as a result of global heating and its ramifications.

Course correction is a necessity for the vast majority of corporations who delay their transitions and continue their damaging practices. This involves the fine-tuning of certain elements across many industries that are of a technological nature, with concentration beyond carbon dioxide related emissions and more specifically a focus on methane. Methane being the more potent of the two compounds, trapping more heat than the prior by a factor of 80⁵⁵. Even more pressing is the lifetime of methane in the upper atmosphere of about a decade compared to carbon dioxide which can last up to a millennium. The significance of this is that the effect of methane on temperature rises is soluble in the short-term and would have a much more immediate effect in terms of inhibiting temperature rise. This in turn reduces the likelihood of extreme weather events and consequently the endangerment of high climate-risk communities.

It is imperative that sustainability measures are introduced to target methane emissions. This can come in the form of improving the quality of feed for cattle, more austere fuel extraction methods,

⁵⁴ LSE, 2020, [Distributional impacts of a carbon tax in the UK](#)

⁵⁵ EPA, 2021, [Overview of Greenhouse Gases](#)

and more responsible waste management and disposal. The latter two would also translate to a greater natural gas supply, which is more preferable than coal as an energy source, emitting roughly 50% less⁵⁶. Cumulatively, a combination of policy measures that strike at improving efficiency with respect to methane related emissions could potentially hinder the climate warming rate by 30% according to an environmental study⁵⁷. This would offer much needed breathing room for the deployment of stronger mitigation measures against imminent climate calamities.

The burden of responsibility for establishing these accountability frameworks lies with international institutions at the level of the UN, IMF, and more specifically, the advanced economies that constitute them. Combining this with the mobilisation of financial incentives for cleaner energy practices and erecting barriers against further fossil fuel extraction and expansion on a global scale are necessities if we are to avoid the worst of climate change.

⁵⁶ EIA, 2020, [Natural gas explained](#)

⁵⁷ EDF, 2021, [Cutting Methane Emissions Quickly Could Slow Climate Warming Rate by 30%](#)

CONCLUSION

These policies, while ambitious, highlight the necessary changes that are required to adequately address the global problem of climate change. As has been established, climate change can be held directly responsible for exacerbating inequality at both national and global levels. Thus, nations ought to feel incentivised to address climate change not only on account of the health of our planet, but also on the basis of the widespread and detrimental effect it has had on inequality.

Climate change and its subsequent injustices have taken a significantly more central role within both public and political discourses. In this sense, governments across the globe can be seen to be making advancements and the recent COP 26 summit can be interpreted as a step in the right direction. While such progress marks only one step of many, further efforts of this global scale are critical to truly addressing the inequalities of climate change.