Background Paper

UNited for climate JUSTICE

To serve as a discussion paper for the first meeting of the United for Climate Justice steering committee.

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EXECUTIVE SUMMARY

Climate change, both in its impacts and in the need for mitigation action to address it, creates a broad range of distributional issues, which could all be considered for discussion under the United for Climate Justice process. This discussion paper looks at a number of different dimensions, grouped under three broad headings:

- **Inter-country equity:** The main focus of climate justice considerations in the United Nations Framework Convention on Climate Change (UNFCCC) and Paris process, focused as it is on relations between, and mutual commitments of, countries. This addresses questions such as the differential impacts among countries of current and future climate change; the allocation of responsibility for mitigation, and for financing adaptation efforts; and, as a factor in discussions on both of these questions, the attribution of responsibility for the problem of climate change, and for historic emissions.

- **Intra-country equity:** Within states (or, for parties like the EU which have made joint commitments under the UNFCCC and Paris processes, within groups of countries) further justice questions arise when considering how mitigation efforts will be organised. Different groups are affected in different ways by the degree of commitment to decarbonisation, and by decisions on how targets will be met. Some groups are more affected by energy and transport costs than others; the geographical impact of mitigation commitments can vary significantly, particularly where regional economies have been focused on hydrocarbon extraction or other high emissions activities; and the impacts of climate change (and the costs of Government commitments to addressing them, for example through land use planning or through insurance subsidies) can also create differing impacts.

- **Inter-generational equity:** Differences in impacts between generations underlies many of the inter-country and intra-country issues; but creates challenges which are specific to the climate issue, and deserve to be separately addressed. The key issue is that while older generations are generally responsible for, and face the costs of, mitigation action now, younger generations and future generations face the impacts of climate change, and will bear the main costs of any failure to take adequate action. This is an increasingly prominent framing of the climate question, driven by legal action in a number of countries, and by the growing youth climate movement.

Each of these issues matters in its own right; and needs to be properly understood and addressed in developing and implementing climate policies and action. The challenge, and one which the United for Climate Justice initiative will focus on, is finding ways of addressing justice and equity issues which help to galvanise action. Identifying an objectively right answer on justice and equity issues is not feasible; differing views on them need to feed in to the political process. Addressing them effectively and appropriately can help societies, and the global community, coalesce around agreed programmes of action. But a focus on them can also risk delaying action, by lengthening the process of debate because

groups and parties do not want to compromise on their interests or the assertion of their rights. We cannot address climate change without addressing climate justice issues. But we cannot wait to fully resolve climate justice questions before we take action.

The section below addresses our three categories of topics in turn; section 2 briefly addresses some of the impacts equity and justice issues have had on the speed and adequacy of policy responses at national and international level. Section 3 then identifies a number of existing and initial concepts or proposals for addressing equity and justice issues in ways which drive forward mitigation and adaptation policy. Debate and discussion in the preparation of the United for Climate Justice conference will help to further flesh out these ideas, and identify those which look most promising.

1. ASPECTS OF CLIMATE JUSTICE

This section identifies some of the issues associated with disputed responsibility for climate change, or for climate action, under the three broad headings identified above: inter-country equity, intra-country equity, and inter-generational equity. Section 2 will then identify how these issues either facilitate, or act as obstacles to urgent climate mitigation and adaptation action. Section 3 will suggest some avenues for discussion about how to address these obstacles; or how to turn climate justice allocation issues into drivers for positive change.

INTER-COUNTRY EQUITY

Global efforts to analyse and coordinate action on climate change have been centred on national governments and regional organisations like the EU, notably through the UNFCCC process. Other actors could equally be used as a focus of analysis and/or action, for example individuals, corporations, or other levels of political organisation[1]; but effective action appears likeliest to be coordinated through inter-governmental approaches.

Allocating the costs of mitigation, adaptation, and compensation

With regard to climate justice between states, the main issues to address are **how to fairly allocate the costs of mitigation, adaptation, and compensation** between countries. Ensuring a fair distribution is one of the foundational principles of the UNFCCC, which maintains that states "should protect the climate system ... on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities"[2]. It is thus of interest to define a fair way to allocate the different responsibilities and capabilities between states. Of course, finding a common understanding of these issues is fraught with difficulties and complexities. Common concepts used to help understand and operationalise these issues include the polluter-pays principle (PPP), the ability-to-pay principle (APP), the beneficiary-pays principle (BPP), historic responsibility, and the right to sustainable development.

[1] For a discussion of this issue see: Caney, S. (2005). Cosmopolitan justice, responsibility, and global climate change. *Leiden Journal of International Law*, 18(4), 747–775.
[2] United Nations Framework Convention on Climate Change. (1992). Paris. Retrieved from https://unfccc.int/resource/docs/convkp/conveng.pdf.

Some significant practical issues arise from this theoretical consideration of equity, and include how to allocate a **fair share of future emissions for each country**, who should **pay the costs of mitigation and adaptation** in different countries, as well as **how compensation (or other approaches to dealing with the costs of adaptation, should be distributed** for countries suffering from the effects of climate change.

Determining responsibility

Fundamental to the above discussions is the issue of **historical contribution to, and responsibility for, climate change**. A distinction can be drawn between a contribution to climate change, which focuses on the causal contribution of emissions originating from the territory of a country, and the moral responsibility for climate change which is a more complicated question[3]. A number of factors complicate the issue of responsibility for historical emissions, including how to handle the emissions of countries whose political boundaries have shifted over time, countries who have undergone revolutions or major constitutional changes, and colonial relationships. **Can the current citizens of a country be held responsible for the actions of previous generations?** Additionally, **can people be held collectively responsible for actions over which they had no control, and which ultimately were the responsibility of other people?** This seems to be a contradiction of the polluter-pays principle.

Additionally, there is the question of intentional vs. unintentional harm. **Can a country be held responsible for emissions that occurred before the problem of climate change became scientifically established?** Many observers have concluded that it is not reasonable to hold people who were unaware of the harm they were causing responsible for their greenhouse gas emissions and thus propose a 'cut-off date' after which it is reasonable to do so. These dates vary, with some placing it in the 1960s or 70s when climate change theories started to achieve wider acceptance in the scientific community and the United Nations Conference on the Human Environment was held, or the UN Environment Program was created, while many place it in 1990 coinciding with the first Intergovernmental Panel on Climate Change (IPCC) report, or in 1992 when the founding text of the UNFCCC was approved[4].

Others **contend that it is reasonable to hold countries responsible for all of their emissions** going back to the beginning of the industrial revolution, and potentially ever further, because the present generation is the beneficiary of development that took place as a result of those emissions. In this 'strict liability' view, "those who have been unilaterally put at a disadvantage are entitled to demand that in the future the offending party shoulder burdens that are unequal at least to the extent of the unfair advantage previously taken, in order to restore equality"[5].

Another specificity which some analysts have considered is the distinction between **'subsistence' and 'luxury' emissions**. Given the general dependence of economic growth on fossil fuel usage until

[3] MÜLLER, B., HÖHNE, K. & ELLERMANN, C. (2009). Differentiating (historic) responsibilities for climate change, *Climate Policy*, 9:6, 593-611, DOI: 10.3763/cpol.2008.0570

[4] Alcaraz, O., & Buenestado, P., & Escribano, B., & Sureda, B., & Turon A., & Xercavins, J., (2018). Distributing the Global Carbon Budget with climate justice criteria, *Climatic Change*, Springer, vol. 149(2), pages 131-145, July.

[5] Shue, H. (1999), Global Environment and International Inequality. *International Affairs*, 75: 531-545. doi:10.1111/1468-2346.00092

present, it could be considered necessary for economies to have used a certain baseline of emissions per capita in order to ensure a certain baseline subsistence level. Such emissions should, it has been argued, not be counted against the responsibility of a given country[6].

A further complication with regard to which countries can be held responsible for particular emissions, while the focus has traditionally been on emissions from production, increasing attention is now focusing on the emissions from consumption[7]. Today, many consumer products, used in developed countries, are produced in developing countries. Thus, emissions have in a sense been 'exported' to developing countries, while decarbonisation has been claimed by some countries in the developed world. Counting these emissions against a producer's 'allocation' could have the perverse effect of penalising the development of emerging economies, while privileging the already wealthy, developed countries. Counting consumption-based emissions could incentivise changes in consumer behaviour. On the other hand, it would have the disadvantage of reducing incentives for cutting production emissions, it would ignore the fact that producer countries enjoy the benefits of economic development associated with their sales and have some control over the production processes chosen.

The issue of trade and climate emissions will have to be considered as an integral part of ensuring a just transition, as it is a central part of the policy mix in ensuring that these issues are dealt with fairly, as well as having an important impact on a number of other environmental, social and economic sustainability issues[8]. Allocation of responsibility for emissions arising from the use of **bunker fuels** for aviation and shipping presents similar challenges.

Capability

Regardless of historical responsibility issues, it is clear that certain countries today have a **much greater ability to bear the costs of mitigation and adaptation** to climate change, both because they are more economically developed, but also because they may be less vulnerable to the effects. It is generally agreed, as in the UNFCCC, that countries with greater financial and technological resources to address both mitigation and adaptation should take the lead in bearing their costs. In the original UNFCCC treaty the world was divided into 'annex I' and 'annex II' countries based on their economic circumstances at that time, with the clear expectation that the developed countries would take the lead in combatting climate change. Since then some of the countries listed under 'annex II', as developing countries, have made great strides in economic development, leading to calls for greater flexibility in the interpretation of 'differentiation' (linked to the key concept of "common but differentiated responsibilities"). This manifested itself in the Paris Agreement which does not use this binary approach, but rather "allows a dynamic upward adjustment of parties' efforts in a manner that is recognisant of the unique and changing responsibilities, capacities and circumstances of 197 diverse states"[9].

[6] Muller, 2009.
[7] Mittiga R. (2019) Allocating the Burdens of Climate Action: Consumption-Based Carbon Accounting and the Polluter-Pays Principle. In: Edmondson B., Levy S. (eds) *Transformative Climates and Accountable Governance.* Palgrave Studies in Environmental Transformation, Transition and Accountability. Palgrave Macmillan, Cham
[8] S. Kumar, A. Americo, C. Billingham *The New Social Contract: A Just Transition (*FEPS and Change Partnership 2016)
[9] Voigt, C., & Ferreira, F. (2016). 'Dynamic Differentiation': The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement. *Transnational Environmental Law*, 5(2), 285-303. doi:10.1017/S2047102516000212

Despite this breakthrough there remains considerable disagreement about the best ways to measure capability when it comes to bearing the costs of combatting climate change. Ultimately this will be based on some measure of economic capacity per capita, although even a per capita measure needs to be treated with caution. A measure of combined capability and responsibility would arguably need to take all of the preceding issues into account in agreeing a just approach to bearing the burdens of climate action.

Vulnerability, Loss and Damage

Many of the countries most vulnerable to the effects of climate change are also those that have benefitted least from the economic activity that led to it. It is thus a clear issue of climate justice that these countries are provided with the resources to adapt to these changes by those who have benefitted and have the capability to do so. There is also a strong argument to make that they should be **compensated for their loss and damage** due to climate change. Loss and damage can result from sudden-onset events (climate disasters, such as cyclones) as well as slow-onset processes (such as sea level rise). The **Warsaw International Mechanism for Loss and Damage** is a first institutional effort to address this issue in a concrete way, although it is still a comparatively small step given the scale of the problem.

INTRA-COUNTRY EQUITY

There is some overlap between the drivers of inter-country equity and intra-country equity. The Chancel and Piketty 2015 study[10] on carbon and inequality, for example, looks at the levels of responsibility for carbon emissions of different segments of the income distribution both at a global and a country level. But the ways in which the issues present themselves, and their political resonance, is defined by political geography. Inter-country equity issues are largely addressed by international negotiations on both mitigation and finance flows. Intra-country equity issues are the raw material of domestic climate politics.

There is a range of types of issues; some key ones are set out below.

Income distribution

A first, and perhaps most obvious issue, is the climate justice and equity impacts of **income (and consumption) inequalities**. Efforts have been made to estimate the differing levels of responsibility for carbon emissions associated with different income levels, including the ambitious Chancel and Piketty study from 2015. Unsurprisingly, the responsibility for carbon emissions associated with consumption rises as income and consumption increases, with richer segments of the population being responsible for higher levels of emissions. However, the carbon intensity of consumption is more difficult to assess; and appears more likely to *decrease* with rising income and expenditure. Chancel and Piketty, for example, use a central estimate of 0.9 for income-CO_2e elasticity, implying that as

[10] Chancel, L, and Piketty, T, "Carbon and inequality: from Kyoto to Paris. Trends in the global inequality of carbon emissions (1998-2013) & prospects for an equitable adaptation fund", Paris School of Economics, November 2015.

consumption increases by 10%, emissions increase by only 9%. In reality, a range of levels of carbon-intensity of increased consumption will apply across countries and social groups, influenced among other factors by age, property, capacity to adjust, and so on.

However, the central insight, that **consumption at lower levels of income distribution is likely to be more carbon intensive**, seems to be robust: in lower-income households, the share of the total household budget represented by energy prices and food prices is likely to be higher; the share represented by luxury goods, services, or notional value added associated with brands, is likely to be lower. This has implications for the distributional impact of mitigation policies; the more they focus (as, arguably, they need to as targets become progressively more demanding) on reducing levels of consumption, the more likely they are to impinge more directly on lower-income groups. Moreover, **lower-income groups have less flexibility to reduce consumption** (for example, by investment in more fuel-efficient transportation options, or more energy-efficient goods and housing).

Sectoral employment / economic activity: Just Transition

The issue which has created the most political tension, and perhaps had the most impact in delaying action on mitigation, has been the **geographical distribution of industrial activity,** particularly hydrocarbon extraction, but also heavy and energy intensive industries. A key characteristic of extraction industries, which gives them significant weight in domestic politics, is that they are usually geographically concentrated where the raw materials are available; while the benefits of decarbonisation are more diffuse, and spread over the population at large. The **impact of mitigation policies on incumbent industries and communities is thus concentrated**, which means that in political systems based on geographical circumscriptions, the votes of those who see themselves as 'losers' from decarbonisation have more weight. The concerns go beyond the purely economic; where whole communities have grown up around specific industries, the perceived negative impact of decarbonisation policies is cultural and social.

Differing approaches have been taken to coal and other fossil fuel extraction industry interests. In **Germany**, the Energiewende package of measures to both decarbonise the German economy and reduce reliance on nuclear power has thus far been slow to tackle coal emissions, the employment and industrial impacts of which are mainly felt in relatively poor regions of Germany and particularly in the Eastern Länder. In **Spain**, where coal mining was much less significant in the country's overall economic impact, but still carried real political relevance, the government announced a package of measures in 2018, in agreement with mining unions, to speed up the closure of privately-owned mines, including through enhanced early retirement packages. In the **United States**, votes from coal mining regions in Pennsylvania, Tennessee, and other states were seen as central to the narrow electoral college victory of president Trump in 2016, ushering in a new administration with pro-coal policies, which have nevertheless been insufficient to stem the decline in coal power. Whereas in **Canada**, the province of Alberta, with significant economic interests in oil and other extraction industries, has long been seen as a block on more progressive carbon policies.

We have not included here as a climate justice issue the impact of **lobbying by incumbent industries** in slowing or halting decarbonisation agendas (except where it is also linked to significant social and electoral pressures). It should, however, be noted that economic vested interests will often make use

of and amplify social concerns in order to create a political climate favourable to their own interests. It should also be noted that there are some countervailing **local economic benefits associated with renewable energy investments**[11]; but these will tend to be less politically salient precisely because they are not associated with incumbent interests.

As the need to move away from fossil fuels becomes increasingly evident and more urgent, the need to plan for change and adaptation becomes more apparent. The need for a **Just Transition** is mentioned in the preamble of the Paris agreement and was the topic of the Silesia declaration. It is currently a critical time for this debate in particular as there are many foreseen prominent societal transitions; the job market is changing profoundly, the agricultural sector is set to go through fundamental changes too and it is predicted that more people will be living in cities and urban areas. At the same time cities will be based less around heavy industry thus the socio-economic dynamic of urban areas will also change. A Just Transition maximises climate protection while bringing all affected groups to the table.

Fuel poverty issues

A key element in the distributional issues associated with both climate change itself and climate mitigation policies are the differing levels of **household exposure to energy costs,** and thus to changes in energy policies. This links to both the broader issue of income distribution and climate, and to the generational equity issues dealt with in more detail below. Since older people usually spend a higher proportion of their income on energy; and since poorer households find it harder to invest the capital necessary to upgrade systems in response to fuel price rises or in the case of those renting, may simply lack the authority to make the necessary investments, or to benefit from them in the longer term.

Differing levels of exposure to climate risk

In addition to mitigation action and distributional impacts of costs and economic benefits, intra-country distributional effects of the impact of climate change itself or of the costs and benefits of adaptation action can be significant. For example:

Some regions and individuals are more exposed to **flood risks associated with both sea level rise and extreme weather events** (an issue which also, as noted above, affects inter-country equity). While the devastation caused by extreme events is greater for those whose economic existence is most fragile (lack of financial resources to rebuild, etc.), paradoxically, some of the solidarity responses available to government can exacerbate social equity problems. For example, as the insurance industry progressively withdraws from uninsurable flooding risks in coastal and river areas, there is a temptation for public authorities either to provide guarantees to act as an insurer of last resort, or to encourage or oblige cross-subsidies from other insurance premium payers. However, the effect of this is to subsidise those with property interests; where in some coastal areas the property owners are very wealthy.

[11] See for example the case studies in the report for the REVLOCAL project "Revitalisation of local economy by development of renewable energy: good practices and case studies", Nesbit et al. 2016

The **health impacts of extreme weather events**, particularly extreme heat episodes, can fall disproportionately on those with existing health conditions, on the very old, and the very young. In urban areas, this can be compounded by other environmentally-driven health inequalities (for example, higher levels of respiratory conditions in urban areas with poor air quality).

Urban/rural differences

The coastal and river basin impacts mentioned above are part of a wider spectrum of **regional differences of geographical impacts of both climate change and mitigation responses**. Further impacts can be observed, including a general distinction between urban and rural areas. Thus, urban areas are likely to be more exposed to some types of impact (particularly extreme heat events). Rural areas are likely to be more impacted by some policy responses: for example, as carbon costs of transport are more accurately reflected in prices, the relative costs of living in rural areas (which are more sparsely populated and require greater distances to be travelled) will increase. In addition, in future, as mitigation policies increasingly start to address the neglected issue of land use emissions, rural areas will potentially be more affected by the impacts (both positive and negative) on forestry and agricultural activity.

Urban areas are, at the same time, more heavily affected by wider environmental issues, including in particular air, water and other pollution risks; and also likely to have lower contributions to carbon emissions per unit of GDP (in part precisely because of the transport costs faced by rural areas). To the extent that action on climate involves the phasing out of heavily-polluting plants, and the more polluting categories of vehicles, urban areas will benefit from additional secondary benefits in terms of local air pollutants; as transport systems move towards increasing electrification for instance, urban areas are likely to benefit first from the investment. Urban/rural issues can also amplify differences in impacts on ethnic groups.

Differential impacts of environmental co-benefits of mitigation action

Climate change can either be addressed as a special issue apart from other environmental issues, or together with them; and there are distributional impacts associated with the choice. There are tensions between on the one hand a least-cost approach to delivering emissions reductions, which might be based on emissions trading (including sales of allowances between countries), and the interest of specific groups in the broader health and other benefits of reducing polluting activities. Thus, when California was developing its emissions trading system, there was opposition from Environmental Justice groups, who wanted to see a more regulatory approach which would target mitigation action on the polluting industries such as oil shipping and others in areas like Long Beach, with much greater positive impacts on health and social equity.

Impacts on indigenous peoples

Finally, while much of the existing research and political activity around equity issues associated with climate change has focused on developed economies, it should be noted that specific issues disproportionately affect different ethnic groups. In many cases, this is an additional element of other factors (such as the income distribution issue, or the rural/urban issue); however, there are additional

specific issues for indigenous populations. This can include specific climate change impacts on the environment of indigenous populations; links between environmental degradation which generates climate emissions and damage to the often fragile ecosystems services on which indigenous peoples depend; and conflict over land ownership and access rights and major infrastructure projects – for example, the Keystone pipeline project between the U.S. and Canada, and its impacts on the territories of native American nations.

INTER-GENERATIONAL EQUITY

There are different approaches available to defining inter-generational equity. One suggestion offered by Weiss (2008) is that every generation needs to pass on the Earth and its natural resources in no worse conditions than it was received in. Three principles are at the core of this approach[12]. First, the current generation has to conserve the diversity of the natural resource base, so that other generations have options available to satisfy their own – and currently unknown - values. Second, the quality of the environment should be comparable, on balance, between generations. Third, there should be a non-discriminatory access among generations to the Earth and its resources. Climate change, caused by the increasing amounts of greenhouse gases emitted by the current generation, goes against those principles. Increases in temperatures and in weather fluctuations will decrease options for liveable habitat or possible diets, natural resources are undergoing severe depletion, and the state of the global environment is worsening[13].

As highlighted by the European Commission in its recent reflection "Towards a sustainable Europe by 2030", the current generation is running an ecological debt that future ones will have to pay back – with interest. Also as L. Lemkow wrote for FEPS back in 2012 "Caring for the quality and health of the environment almost invariably involves policy making which has to take the long view, spanning and influencing the lives of more than one generation."[14] Science has shown that the current generation can be held responsible at the planetary level for climate change; most of all, it holds responsibility for not taking sufficient action against it. Yet, although effects are already impacting some parts of the world, the larger effects will only be felt in the coming decades, and will affect future generations most of all. Attempts have already been made at evaluating these effects; for instance, a report released in November 2018 by U.S. federal agencies predicted a decrease of the U.S. GDP by 10% by 2100, more than double the losses of the 2008 Great Recession. This would be due to decline in crop yields, sea-level rise, infrastructure damage, and health costs due to increasing heatwaves, among others[15].

Although future generations' interests are mentioned in multiple international declarations, such as the UNFCCC agreement in 1992, the UN document "The Future We Want" in 2012 and the Paris Agreement in 2015, they are in practice not sufficiently taken into account in the decision-making process. This is primarily due to the functioning of our current political system, characterised by short-termism. Political leaders follow the democratic choices expressed by the electorate, which may

[12] Weiss, E. (2008). "Climate Change, Intergenerational Equity, and International Law", *Georgetown University Law Center*. Available here.
[13] See GEO-6.
[14] L. Lemkow *Intergenerational Solidarity, sustinabilty and Climate Change* (FEPS Queries magazine N° 02 (8)/2012)
[15] New York Times (2018). U.S. Climate report Warns of damaged Environment and Shrinking Economy.

include a significant preference for early benefits over long-term commitments. Those who do not have a voice in the electoral process, such as younger and future generations, hold no influence over political decisions. Because electoral periods are short, politicians are under pressure to deliver results in the very short-term, in order to be re-elected[16].

It could be argued that present generations should themselves give sufficient priority to the protection of future generations, and should act and vote accordingly. In practice, although the importance of long-term issues will tend to be noted in political discourse, current short-termism usually has greater weight. In particular, it is hard to expect people to think of future generations if they themselves cannot satisfy their basic needs[17]. Intergenerational equity is hence intertwined with inter- and intra-country equity, as discussed above.

A key element of bias against the interests of future generations is the approach to assessment of costs and benefits in policy-making. Generally, a positive social discount rate is used[18], essentially reflecting the interests of current stakeholders. Benefits and costs accruing to future generations are effectively ignored[19]. According to intergenerational equity principles, however, a zero or a very low discount rate should be used instead; no preference should be given to current generations over future ones, especially given the fact that climate change might significantly affect future progress. The Stern Review's[20] breakthrough highlighted that the benefits of avoiding climate change significantly outweighed the costs of taking action rested on the use of a very low discount rate, explicitly addressing the interests of future generations. In individual political decisions, however, this is difficult to implement, not least because democracy rests precisely on the votes of the current generations.

Not only are future generations' interests overlooked when policymakers fail to act against climate change, but they also tend to be disregarded in climate change mitigation decisions. The numerous debates around the fate of nuclear waste are widely known, but new solutions put forward such as geo-engineering also carry a high level of uncertainty regarding their effects further into the future. For instance, stratospheric sulphate aerosol injection, a solar radiation management scheme, could lead to a significant precipitation reduction in monsoon regions, endangering future food security in those regions. Geo-engineering schemes also pose a 'moral hazard' in that they imply a possible reduction in mitigation and/or adaptation efforts; were they to cease operating in the future for technological or political reasons, the result could be a sudden and high increase in temperatures, with potentially disastrous effects on future generations.[21]

Future generations are not the only ones concerned by Inter-generational equity in the matter of climate change. Children, although they do have rights, have no voice on the political scene before reaching voting age; yet they are the first ones in line to suffer the consequences of climate change. Not only will they face the increasing effects of climate change for their entire lifetime, they are also more vulnerable to these effects. Children are the most at risk in natural disasters, physically and

[16] Oxford Martin Commission for Future Generations. (2013)
[17] Weiss (2008)
[18] Caney, S. (2014). Climate change, intergenerational equity and the social discount rate. *Politics, Philosophy & Economics*, 13(4), 320–342. https://doi.org/10.1177/1470594X14542566
[19] Princeton- Brookings (2016). Children and Climate Change. *The Future of Children*, vol.26, no.1. Available here.
[20] "The Economics of Climate Change: The Stern Review", Stern, N et al, 2006
[21] Burns, W. (2011). Climate Geoengineering: Solar Radiation Management and its Implications for Intergenerational Equity. *Stanford Journal of Law, Science and Policy*. Available here.

psychologically[22]; they are also more vulnerable to increases in temperatures and air pollution. In developing countries, climate change undermines their chances of going to school and increases malnutrition issues[23]. It also increases risks of conflicts, notably over natural resources; children are once again the most at risk, both directly and indirectly, and being caught in a war zone as children will most likely affect their entire life[24].

For many children, climate change is already a reality; the WHO estimates that children currently suffer more than 80% of illnesses and mortality attributable to climate change. This is due to geographic but also institutional factors, as governments in developing countries might be less effective in representing children's interests[25]. However, no matter the country, and although they are more aware of the efforts needed to act against climate change than their parents, children do not have the political power to pressure the older generation to do the same. The recent climate strikes, with students from all around the world refusing to attend classes on Fridays in order to call on governments to take action against climate change, show that young people are finding other ways to enter the policy stage. Nevertheless, as Greta Thunberg recently stated, it is paradoxical that the young generation has to sacrifice time dedicated to education in order to protest against their future being destroyed[26]. This power inequality is also visible in the ongoing lawsuit Juliana v. U.S., which involves twenty-one minors – at the time – against the government of the United States. Their case is that the U.S. government, by contributing to climate change, has violated their generation's 'constitutional rights to life, liberty, and property'[27].

There are also significant climate impacts on the elderly. The world's population is getting older; in Europe, half of the population will be over 50 by 2020[28]. Due to their declining health, the elderly are often particularly vulnerable to climate change, especially to extreme weather events such as heatwaves[29]. It is also more difficult for them to move away if they are living in high-risk areas, both physically and psychologically. Despite this vulnerability, there is a generational gap in beliefs and actions around climate change; recent polls in the U.S. for instance showed that adults under the age of 35 are much more engaged with the problem than are adults of more than 55 years[30]. This might be due to education, as well as to the fact that the elderly might be more prone to thinking that they will not suffer the effects of climate change within their lifetime. It might be also more difficult for them to transition to new low-carbon technologies, as the benefits of changing habits and lifestyle are lower; and they may lack incentives to invest in new technologies or in energy efficiency, since they know that the period in which they will enjoy a payback is limited. Financially, fixed incomes also make the elderly more vulnerable to increases in energy prices due to the switch away from fossil fuels, which might make them weary of the energy transition. On the other hand, many of the technological conveniences developed to address age-related changes, such as elevators, are highly energy consuming[31].

[22] Princeton- Brookings (2016).
[23] Children, Young People and Climate. Plan International, Australian Youth Climate Coalition, Oaktree.
[24] Princeton- Brookings (2016).
[25] Princeton- Brookings (2016).
[26] See her recent speech at the Goldene Kamera in Berlin.
[27] See Our Children's trust website
[28] Oxford Martin Commission for Future Generations. (2013).
[29] A. Flynn, C. McGreevy, E.C. Mulkerrin, Why do older patients die in a heatwave?, *QJM: An International Journal of Medicine*, Volume 98, Issue 3, March 2005, Pages 227–229, https://doi.org/10.1093/qjmed/hci025
[30] Gallup poll
[31] Oxford Program for the Future of Cities

There are thus many issues within the idea of intergenerational equity as related to climate change; responsibilities and vulnerabilities differ among generations. This is of course intertwined with factors such as socio-economic status or geography; and is a key element in both the inter-country and intra-country equity issues addressed in previous sections.

Gender equity issues

Another essential issue apart from the ones already mentioned, however, is gender. Gender relations and roles are key to access and control of environmental resources; gender inequality issues in connection with climate change have recently been explicitly recognised in a UN Environment Assembly of the UN Environment Programme. The link between gender, environment and sustainable development was defined much earlier, at the 4th World Conference on Women, held in Beijing in 1995[32]. Gender-differentiated roles in families and households, as well as a gender-segregated labour market and income gaps, are responsible for gender differences in both the contribution to, and vulnerability to, climate change.[33]

A first issue is the low participation of women in the decision-making process on climate-related matters. In the EU Member States for instance, women in 2011 held 18.2% of positions at the highest levels in ministries dealing with the environment/climate change, transport and energy policy. Although many institutions have started promoting gender mainstreaming into climate policy and action[34], there is still a long way to go. At the recent COP24 in Katowice, more than half of the decision-making bodies had female representation of 38% or more; and nine out of the 28 delegates elected as Chair or Co-Chair of these bodies were female[35]. Although these numbers were a record, there is clearly room for improvement.

Contribution to and perception of climate change are also gender-differentiated. For instance, women might in general spend more time at home due to care duties, and thus use more domestic heating or energy. Conversely, they also use more public transport than men do, due principally to lower levels of car ownership[36]. Studies also show different food consumption patterns between genders, resulting in different carbon footprints[37]. These are of course general patterns and differ highly between communities and individuals; but the impact of gender-differentiated habits on societies' carbon footprint is worth studying further.

Generally speaking, impacts of climate change are also felt differently by different genders. There is for instance evidence that extreme weather events, notably drought and flooding leads to more

[32] European institute for Gender Equality – Environment and Climate Change
[33] European Institute for Gender Equality. (2012). Review of the Implementation in the EU of area K of the Beijing Platform for Action: Women and the Environment. Available here.
[34] See for instance UNFCCC Gender Action Plan
[35] UNFCCC news
[36] European Institute for Gender Equality. (2012).
[37] Charveriat, C. (2018). From organigrams to terms of reference: Achieving gender equality in European research and science. IEEP. Available here.

casualties among women and result in an increased burden for them afterwards[38]. Women were particularly affected during the 2002-2003 heatwaves in Europe, with mortality rates for women being twice those for men in Portugal for instance[39]. This is due to more women being elderly and poor – and thus more vulnerable – than are men, added to the fact that women are generally the ones providing care for the most vulnerable, increasing their own vulnerability in return.

Finally, mitigation and adaptation solutions to climate change also affect genders differentially. For instance, as most workers in carbon-high sectors are men, they are the ones who suffer the most from the switch away from this sector[40]. Similarly, as countries switch from fossil fuels to biofuels, the land used for biofuel production is more likely to be taken from marginal land farmed by women for household subsistence than from prime agricultural land farmed by men for export. Women's generally lower income also means that it is harder for them to switch to domestic low-carbon solutions by investing in renewable energy or in energy efficiency[41]. Conversely, women still hold most of the food consumption power in developed countries, and are thus more influential in the switch to a sustainable consumption. [42]

Further equity issues

The issue of equity with regards to climate change is also particularly relevant for indigenous communities. Although such communities widely differ around the world, they share some common features. In particular, they usually have a unique connection to the land, on which depend their traditional knowledge and practices; and that land is often in locations most vulnerable to climate change, such as small islands or the Arctic. Indigenous communities also often have a colonisation history, and might suffer a fragile status vis-à-vis the majority population. They are for all these reasons particularly vulnerable to climate change, and many are already experiencing its effects. Paradoxically – but not uncommonly, as demonstrated previously – they also hold no, or almost no, responsibility in climate change, having a very low carbon footprint compared to Western, urban societies.

Communities in the Arctic for instance are experimenting first-hand the effects of climate change, which affects their entire way of life; ice melting renders travel difficult and hunting is limited by declining populations of reindeers, which cannot find food and often fall into melting ice. Europe's only indigenous people, the Saami, are struggling with increasing rates of suicide due in part to the loss of their traditional way of life, highly affected by the warming Arctic[43]. Similar circumstances are experimented by indigenous communities in the African savannah, the Australian desert, or the Pacific Islands. In Nicaragua, indigenous groups' traditional knowledge, based on weather patterns, has become unreliable; consequently, some communities are turning instead to other means of survival, allowing for instance illegal loggers into the forest.[44]

[38] Neumayer, Eric and Plümper, Thomas (2007) The gendered nature of natural disasters: the impact of catastrophic events on the gender gap in life expectancy, 1981–2002. Annals of the Association of American Geographers, 97 (3). pp. 551-566. Available here.
[39] European Institute for Gender Equality. (2012).
[40] Charveriat (2017)
[41] European Institute for Gender Equality. (2012).
[42] Charveriat, C. (2017). Climate change: a feminist issue, but a generational issue too. Available here.

[43] Bacchi, U. (2017). Scandinavia's Sami struggle with suicide, worsened by climate change. Reuters.
[44] Baird, R. (2008). The Impact of Climate Change on Minorities and Indigenous people. Minority Right Group International.

Paradoxically, and despite the fact that their basic rights are recognised under public international law, mitigation strategies against climate change also often affect indigenous communities. For instance, biofuel promotion, and palm oil in particular, leads to large displacement of indigenous populations in Asia and in Brazil; similar dislocations occur worldwide to make place for hydroelectric dams and forest conservation spots[45]. Indigenous people who are forced away from their lands are often pushed to cities, where they end up in slums and suffer poor economic circumstances. They also often suffer from high levels of discrimination, as both migrants and indigenous people.[46]

They also significantly contribute to mitigating climate change, through traditional knowledge practices and sustainable use of natural resources. For instance, in Vietnam, communities are planting dense mangroves along the coastal line in order to buffer tropical-storm waves; in Bangladesh, villagers are protecting their lands by creating floating vegetable gardens which helps prevent flooding.[47] In the Amazonian forest, many studies have found that lands managed by indigenous communities have comparable or lower deforestation rates than state protected areas; resources are used sustainably, and the great carbon sink that is the Amazonian forest is protected[48].

Multiple other equity issues could be mentioned, such as race or ethnicity. This is strongly linked to socio-economic factors; in particular, as minorities often have lower incomes, they tend to live in areas which are particularly vulnerable to climate change. For instance, African American communities were disproportionally hit during Hurricane Katrina in 2005; 80% of the people living in flooded areas within New Orleans were non-white[49]. Direct racial discrimination can also play a role in climate inequity however; following Katrina, white home seekers displaced by the hurricane were more likely to find an alternative home than African Americans[50]. Perhaps consequently, African Americans and Hispanic Americans were found to express more concern about climate change than white Americans in a recent study led by the Pew Research Centre. Social scientists have coined this phenomenon as the 'white male effect'; the part of the population which is doing well within the current system is less inclined to change it[51]. Black activists have been protesting against the racial dimensions of climate change for many years. In 2016, Black Lives Matter UK blocked the London City Airport in a protest against the environmental impact of air travel on black people, which affects them disproportionally while most air travellers are white. Protesters also denounced Western countries closing their borders to black climate refugees, referring to a 'racist climate crisis'.[52] This issue also goes back to the question of inter-country equity discussed above – countries with the highest GHG emissions are usually white, while countries in Africa and in the Pacific Ocean, usually with a non-white population, will experience the highest effects of climate change.

[45] Abate, R.S., & Kronk, E. A. (edited by). (2013). *Climate Change and Indigenous People – the Search for Legal Remedies.* Northampton: Edward Elgar Publishing, Inc.
[46] Climate change and Indigenous people (2007). United Nations Permanent Forum on Indigenous Issues.
[47] United Nations Permanent Forum on Indigenous Issues (2007)
[48] Global Forest Atlas. Indigenous Reserves and Community Forests. Yale School of Forestry and Environmental Studies.
[49] Baird, R. (2008). The Impact of Climate Change on Minorities and Indigenous people. Minority Right Group International.
[50] Baird, R. (2008).
[51] The Bulletin
[52] The Guardian

2. HOW CLIMATE JUSTICE ISSUES AFFECT CLIMATE ACTION

As is clear from the overview of justice and equity issues identified above, there are a wide range of equity challenges which need to be, or which can be, addressed in forming climate policy, and finding effective national and international solutions to the challenge. **A key question to address is: how can effective responses to equity and justice issues make our response to climate more effective, and better adjusted to the scale of the task?** Climate equity and justice issues clearly must not become an excuse for delaying action, or for reducing the level of ambition; allowing this would fail the vulnerable groups most exposed to current and future climate impacts.

International negotiations

There is no internationally agreed framework for climate justice aspects of climate change policy. While both the United Nations Framework Convention on Climate Change and the Paris Agreement address equity issues to some extent, they do so mainly by acknowledging their relevance, rather than by defining them, or providing a clear agreed solution to them. To some extent this reflects the impossibility of identifying a single "right" answer to complex moral questions, which need to be addressed through political structures.

Equity issues, and questions around responsibility for climate change, have historically been a major element in climate negotiations. The concept of "common but differentiated responsibilities", introduced in the UNFCCC itself, was essentially a way of acknowledging the problem without allowing it to get in the way of action. However, for some time it stood in the way of commitments to mitigation action from developing or newly developed countries; and, arguably, led to a failure to identify a final level of commitment from developed countries which was adequate to the objectives of the UNFCCC and the Kyoto Protocol; and a failure to create adequate means to finance adaptation and mitigation actions in developing countries.

National and sub-national policy

At the level of national action, within economies, to deliver broad climate objectives, some of the equity issues we have addressed are by their nature a constraint on action. The political interests of local economies dependent on extraction industries, and perceptions of injustice when the impact of measures to address consumption fall on lower-income households, have made it more difficult for elected politicians to move at speed. In Europe, the slow pace of the phase-out of coal production in many countries, including in Germany, is an example of the former problem; and negative reactions to carbon pricing measures an example of the latter problem, most notably in the *gilets jaunes* populist movement in France, but in a number of other examples in other countries. However, there have also been examples of policies aimed at addressing distributional issues at the same time as decarbonisation policies have been introduced, thereby contributing to greater acceptance; for example, measures to address fuel poverty under the Labour administration in the UK.

3. APPROACHES PUT FORWARD ON CLIMATE JUSTICE WHICH CAN GALVANISE ACTION

Below, we set out some of the ideas that have been proposed by different groups or commentators for tackling the climate justice issues we have identified in this paper, as an initial list for discussion in the working group preparing the UNited for Climate Justice Conference in September. Further ideas should (and will) be added.

Inter-country equity

- **Explore innovative instruments for a just post-2020 finance deal** that both increases ambition and puts those furthest behind first, such **as an aviation tax to fund post 2020 global adaptation**.
- Move to a **post-2020 equity-based and demand driven model of climate finance**: proportionate to NDC commitments, and delivered through direct budget support as part of a results-based framework with strong accountability mechanisms for affected people and communities.
- **Scale up the Warsaw International Mechanism for Loss and Damage**, and provide it with resources commensurate with damages.
- Support greater ambition in the next wave of NDCs, through a framework which takes into account **specific indicators of decarbonisation and adaptation capacity but also the responsibility for emissions** (e.g. looking at both production and consumption-based emissions in all sectors).
- **Internalise externalities of trade** by increasing international ambition in terms of aviation and maritime emissions through brand new negotiations (away from the current ICAO and IMO model), as well as by ensuring adequate inclusion of climate issues in bilateral and multilateral trade agreements.

Intra-country equity

- **Introduce double benefit policies as part of a just ambition pact, which both increases ambition and reduces poverty (SDG1) and inequality (SDG 10)**. This includes free and low-carbon public transport, inclusive carbon-zero zones, remuneration schemes for traditional communities for ecosystem services, inclusive green economy policies and addressing unpaid care work within adaptation and mitigation strategies, and more.
- **Enable energy poor and deprived communities to 'leapfrog' fossil fuels** to ensure universal access to affordable, reliable, clean, and renewable energy services (in line with SDG 7), through financing and enabling frameworks that promote community and local ownership of energy generation.
- **Introduce just transition plans as part of the new generation of NDCs.** Just Transition plans should support households, SMEs, regions, and communities facing significant transition challenges, through investment in economic regeneration, retraining and early retirement.
- Use the **proceeds from carbon taxes or emissions allowance sales to fund the just transition**.
- Develop approaches to **tackling carbon impacts of consumption** that address the risk of regressive impacts and differentiate between basic and luxury consumption

- **Guarantee full access to environmental justice** that protects the rights of environmental defenders, traditional and indigenous communities and the most vulnerable people affected by climate change.
- Include the right to safe, clean, healthy and sustainable environment in national constitutions and **create a new global commission of experts to** explore creating a new generation of rights, including rights for nature.
- Use **Citizen Assembly mechanisms** and other adequate and timely stakeholder group engagement processes to strengthen the participation of, and accountability to, citizens.

Generational equity

- **Introduce a future-generations test to future-proof all major public and private investment decisions**, thereby avoiding back-loading change and locking youth and future generations into destructive, expensive and polluting high-carbon pathways.
- **Make the voice of youth and future generations count in climate decision-making** – both nationally and globally – through the creation of youth councils, the introduction of a duty to future generations' clause in all new international agreements (including trade), and the creation of a guardian for future generations, both nationally and globally, to ensure accountability.

About the Foundation for European Progressive Studies (FEPS):

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