Reconfiguring just transitions: a multi-dimensional approach

Álvaro Castaño García

A thesis submitted in partial fulfilment of the requirements of

Sheffield Hallam University for the degree of Doctor of Philosophy

Collaborating Organisations:

Lund University, International Energy Agency

November 2023

Candidate Declaration

I hereby declare that:

1. I have been enrolled for another award of the University whilst undertaking my research degree. I was an enrolled student for the following award:

Name of award: PGC Advanced Social Research

Awarding body: Sheffield Hallam University

2. None of the material contained in the thesis has been used in any other submission for an academic award.

3. I am aware of and understand the University's policy on plagiarism and certify that this thesis is my own work. Chapter 3 of this thesis consists of a collection of publications, which includes articles, reports, book chapters, and a conference paper. Some of these publications are solely authored by me, while others are multi-authored. For multi-authored publications, my specific contributions to each work are indicated in Appendix A, by means of a list, following the University's guidelines. The use of all published or other sources of material consulted have been properly and fully acknowledged.

4. The work undertaken towards the thesis has been conducted in accordance with the SHU Principles of Integrity in Research and the SHU Research Ethics Policy.

5. The word count of the thesis is 81,588.

Name	Alvaro Castano Garcia
Award	PhD
Date of Submission	November 2023
Research Institute / Centre	SERI / CRESR
Director of Studies	Prof. Aimee Ambrose

Abstract

The focus of this research is on social justice issues in the transition to a low carbon future. Our relationship with the environment, but also the relationships within our own species and across species need to change to increase justice and sustainability via more even distributions of power and resources. These relationships include, but are not limited to, relations between global north and south, between rich and poor and between the human and non-human world. These are issues of moral concern, as well as practical priorities for individuals, all levels of government and organisations all over the world, either because they are already suffering the effects of environmental problems, discrimination and disadvantage, or because they need to reduce the negative impacts these issues could have both now and in the future.

By focusing on just transition (both as a concept and a process), and linked to this, high consumption, this research critically explores the social justice implications of low carbon transitions at primarily the conceptual, but also the empirical level. It proposes generosity as a guiding principle for low carbon transitions, as an alternative or complement to justice, in order to overcome some of the limitations of justice when radical changes are necessary, and to emphasise the need for more equitable resource distribution. This PhD operated across multiple research projects and therefore required methodological flexibility. As such, a range of complementary methodological tools were employed, including literature reviews, semi-structured interviews, Q methodology and secondary data analysis.

There are three primary contributions to knowledge associated with this programme of research. Firstly, a conceptual contribution: by questioning the use of justice as the virtue behind low carbon transitions and positioning generosity as an alternative guiding principle, which, it is argued, can operate as a catalyst for justice. Secondly, a methodological contribution, through a novel application of Q methodology to explore policy makers' perspectives about the operationalisation of a just transition in South Yorkshire. And finally empirical contributions, by exploring just transition through a detailed case study in South Yorkshire, contributing new insights into how just transitions are interpreted within a particular place and the attendant implications for social justice; and by investigating high consumption as a key, but overlooked social justice issue associated with the transition to a low carbon future.

Acknowledgements

I would like to express my deepest gratitude to my supervisors, Aimee Ambrose and Will Eadson, for their support, guidance, and expertise throughout the entire journey of my doctoral research. Your dedication to my academic and personal growth has been instrumental in shaping this thesis and my development as a scholar. Your mentorship has been truly inspiring.

I extend my heartfelt thanks to the Centre for Regional Economic and Social Research at Sheffield Hallam University, where I had the privilege to conduct my research. The resources, collaborative environment, and intellectual exchange within this research centre were pivotal in the successful completion of this work. I am indebted to my colleagues and fellow researchers for their camaraderie and insightful discussions.

To my beloved wife Joanne, your unwavering love, patience, and encouragement sustained me during the most challenging phases of this journey. Your belief in me has been my constant motivation, and I am deeply grateful for your support.

I also want to express my gratitude to my family. To my parents, Marisa and Pablo, your endless support, encouragement, and belief in my abilities have been the foundation upon which I have built my path. To my sister, Eva, your commitment to making the world a better place has been an inspiration to me throughout this journey. Your unique blend of humour and profound understanding has been immensely important.

Lastly, I extend my gratitude to all those whose work, research, and contributions have laid the groundwork for my own. Their dedication to advancing knowledge has been a source of inspiration.

This thesis is a culmination of the collective effort, encouragement, and support from all of you. I am genuinely appreciative of the support and resources that allowed me to dedicate myself to my studies.

Thank you all for being a part of this remarkable chapter in my life.

Table Of Contents

List of Tables and Figures

Chapter 1. Introduction

The function of this chapter is to briefly introduce the focus of my research, the questions and issues it is concerned with, the contributions it makes and to set them in the context of key concepts and arguments from the literature. This thesis is comprised of a set of publications united by a focus on social justice in the context of low carbon transitions. As the Intergovernmental Panel on Climate Change (IPCC, 2023) states in its latest report, human emission of greenhouse gases (GHG) has caused global heating. We reached a 1.1°C increase in global surface temperature above 1850-1900 levels between 2011-2020. The report also states that unsustainable energy use, land use, lifestyles, and patterns of consumption and production have all contributed to that temperature increase. Importantly, historical and ongoing contributions vary significantly between and within regions, countries, and between households and individuals.

Climate change caused by human actions is already impacting weather and climate extremes worldwide, causing widespread harm to food and water security, human health, economies, society, and nature. The IPCC report explains how this harm is felt most acutely by vulnerable communities who have historically contributed the least in terms of GHG emissions. The communities and ecosystems that are at the greatest risk are those that are already in a fragile state, such as coastal communities, small island nations, and areas dealing with issues related to food and water scarcity. For a transition to a low-carbon future to be just, emissions reduction must be combined with achieving a safe, prosperous and self-determined future for groups most at risk.

My research (see Table 1 for a list of publications) has been concerned with critically exploring the just transition concept, commonly used by researchers and policy makers in the context of transitions to low carbon societies and economies. Understanding just transition in a more all-encompassing manner than is typical within scholarship in this area, I have explored issues around those who have historically benefitted most from carbon-intensive systems and are causing the most emissions, as they are better placed to reduce their impact while maintaining reasonable living standards than other population groups. This began with an exploration of consumption inequality and particularly arguing for a greater focus in policy and research on domestic high consumers of energy, transport and food, and the value of targeting them with consumption reduction policy initiatives. I then undertook work in South Yorkshire using a mixed-methods approach of

my own design (Q methodology and semi-structured interviews). This project explored how decision-makers interpret the concept of just transition within a specific, place-based context in an old industrial metropolitan region. The selection of this case study stemmed from a gap in academic literature: despite the considerable attention devoted to the concept of just transition, there remains a distinct lack of explicit investigation into the perspectives and viewpoints held by policy stakeholders on the topic of urban just transitions. This study sought to address this critical void by examining how these stakeholders perceived and interpreted the notion of urban just transitions in the context of the specific places in which they work, and what approaches to operationalisation of just transition they envisioned. This work prompted me to take a step back and question something that appears somewhat taken for granted within scholarship surrounding low carbon transitions, by critically exploring whether justice is in fact the right concept to underpin our transition towards a low carbon society and to experiment with alternative guiding principles, such as generosity and care.

This programme of research – which was advanced through my participation in a series of research projects undertaken with my supervisors and independently – resulted in the following set of publications, which form the foundation of my PhD submission (compiled in chapter 3):

Publication number	**Title**	**Type of publication**	**Level of contribution**
1	High consumption, an unsustainable habit that needs more attention	Journal article (published) Journal: Energy Research & Social Science	First author
2	Lessons for a Just Transition from the COVID-19 pandemic	Book chapter (in press) Book Title: Making a Global Just Transition Possible Editors: Darren McCauley, Tracy-Lynn Field, Raphael Heffron, and Iain Todd.	Sole author

		Publisher: Edward Elgar Publishing Ltd	
3	Transitions for zero carbon futures: from just to generous	Journal article (under review) Journal: Futures	Sole author
4	What is an urban just transition? Grappling with an unsettled concept in an industrial region	Journal article (being revised) Journal: European Urban and Regional Studies	Second author
5	Uneven consumption and the work of being a high consumer	Book chapter (in press) Book Title: Post-Carbon Inclusion Editors: Ralph Horne, Aimee Ambrose, Gordon Walker, Anitra Nelson. Publisher: Bristol University Press	Second author
6	Alternatives to justice for a thriving transition	Book chapter (in press) Book Title: Post-Carbon Inclusion Editors: Ralph Horne, Aimee Ambrose, Gordon Walker, Anitra Nelson. Publisher: Bristol University Press	Second author
7	High consumers of energy and resources and the	Conference proceedings (published)	Contributing author

	work of being wealthy: towards a research agenda	ECEEE 2022 Summer Study on energy efficiency: agents of change.	
8	High consumption in the UK: an exploration of secondary data	Project report (published) CRESR Report for South Yorkshire Sustainability Centre	First author
9	It's high time to talk about the climate impacts of high consumers	Project report (published) CRESR	Contributing author

Table 1. List of publications

1.1 Social Justice in Low Carbon Transitions

Historically, the study of justice has focused on what people owe one another, and what obligations human beings might have to treat each other fairly in a range of domains, including over matters of recognition and distribution. Before the 1990s, political philosophers theorised about justice mostly in relation to the state, but contemporary phenomena like intensified globalisation and potentially catastrophic ecological collapse have expanded thinking about justice issues to a global scale (Brock & Hassoun, 2023). Social justice is, in general, a societal value founded on equality and fairness principles. Therefore, morality, or the values on which people base judgments on right and wrong, underpin social justice (Tanner & Harvey, 2013). This creates multiple, subjective interpretations of equity and social justice, not least in the context of equitable low carbon development. For example, some focus on living members of our species, such as utilitarian views that usually call for 'the greatest happiness for the greatest number' (Bentham, 1996). Others focus on inter-generational equity (Page, 2006) or extend equity considerations to other species or even the non-living world (Pepper, 1993).

Social justice is fundamentally a principle which applies to the division of benefits and the allocation of burdens within a group, "a just distribution justly arrived at" (Harvey, 1988 p. 98). It is also a principle associated with the institutional arrangements which guide the activities of production and distribution. It is therefore a manifestation of both distributional justice and procedural justice, but its applications are arguably a

manifestation of generosity as well, because questions of what is to be distributed and among whom are of central importance for social justice to be achieved. As will be explored, I posit that the application of generosity as a guiding principle can help ensure that more types of benefits and burdens and more social groups are considered in the pursuit of social justice.

The recognition that social justice and sustainability are interrelated concepts has grown through public and academic discourse. This recognition has primarily been driven by the environmental perspective that acknowledges that without incorporating social concerns, any ecological agenda, including sustainability, cannot extend beyond a conservation agenda (Tanner & Harvey, 2013). Agyeman and Evans (2004) argue that while 'environmental' sustainability is essential, sustainability cannot be limited to an environmental concern. For a society to be truly sustainable, broader social needs, social welfare, and economic opportunity must be integrated with ecological concerns.

It is vital to mitigate climate change and adapt to it as part of the transition to a more sustainable world (Tanner & Harvey, 2013), but climate change mitigation and adaptation policies must not neglect their own impacts on inequalities. All human developments are founded on the Earth's system. Therefore, further widespread human welfare enhancements must also ensure the sustainability of the planetary system (Rockström *et al.*, 2009). One of the ways to achieve such sustainability is to avoid harmful interference with the planetary climate system through GHG emissions, which place inequitable burdens on those least responsible for the interference (Adger *et al.*, 2006). Another approach entails implementing low carbon transitions that specifically counter poverty, inequity, and inequality, such as supporting indigenous communities to protect forests through payment or widening access to clean energy for more people to enjoy the associated health benefits (Angelsen *et al.*, 2012).

There are moral and ethical concerns underpinning the transition to a more sustainable world (Tanner & Harvey, 2013). In particular, there are ethical concerns with low carbon transition approaches that impose GHG emissions mitigation obligations on developing nations that have historically contributed little to the climate change problem (Barker *et al.*, 2008). Such ethical concerns are especially prominent when considering low-income countries whose industrialisation levels remain low. These nations have a history of low emissions and currently have low per capita emissions, although the situation is complex due to factors like net emission transfer from developed countries and outsourcing of

carbon-intensive production, both measured at the national level (Jiang *et al*., 2018). Additionally, these low-income nations are often afforded less power in the context of international negotiations regarding climate change and how to counter it. Consequently, this procedural inequity generates distributive inequity by creating barriers to equitable decision-making (Adger *et al*., 2006). Any initiatives towards a more sustainable future need to take into account that poor people are more likely to suffer environmental damage than rich people, and communities which have been discriminated against due to colonialism and racism have a greater chance of suffering it than white people (Martínez Alier, 2003, 2020).

No single definition exists for the concept of social justice in the context of low carbon transitions. Different groups interpret the relationship between social justice and climate change differently based on their particular values and interests (Adger *et al*., 2006). Coming up with a common standardised framework for ensuring a balance between low carbon goals and social justice equality and fairness goals still presents a significant challenge (Drupp *et al*., 2021), but a deliberation and negotiation process involving all stakeholders and underpinned by a shared vision for socially just low carbon transitions is critical to moving to a more sustainable world (Barker *et al*., 2008). The IPCC (2018) identified public participation in adaptation planning as a means to enhance capacity to cope with climate change risks, not only to increase knowledge sharing, but also to mitigate any potential resistance and unanticipated consequences of adaptation measures.

Building upon the insights gained from this literature, my research has been shaped by a comprehensive understanding of the evolution of justice concepts, especially in the context of low carbon transitions and sustainability. This broader perspective extends beyond traditional notions of justice, encompassing the interconnectedness of social justice and environmental sustainability. Additionally, it has prompted me to explore alternative guiding principles such as generosity and care as potential foundations for transitioning to a low carbon society. This body of literature has also highlighted the moral and ethical dimensions of climate change mitigation, particularly regarding the historical contributions and power dynamics within and between nations, and emphasised the importance of inclusive stakeholder engagement and public participation in shaping socially just low carbon transitions.

1.2 Just Transition

1.2.1 History and current importance of the just transition concept

The following sections summarise the history of the just transition concept and some of the key challenges policy makers and scholars face, in order to set the scene for my critique of just transition. The just transition movement developed in the US during the 1980s and 1990s, by organised workers who saw their industries endangered (Abraham, 2017; Doorey, 2016; Pinker, 2020). As environmental regulations threatened jobs that relied on fossil fuels, unions tried to achieve just transitions for their workers. These were programmes that guaranteed re-training, new jobs or early retirement for workers displaced by new environmental legislation. Environmental justice organisations also collaborated in forging just transition strategies. While recognising the imperative to gradually eliminate industries that were detrimental to the well-being of workers, community health, and the environment, these strategies aimed to establish fair and equitable opportunities for workers to transition to alternative employment.

This approach was therefore founded on the joint efforts of labour and environmental organisations in advocating for a shift away from environmentally harmful industries, in solidarity with communities directly impacted by these industries. For example, in the late 1990s the OCAW union promoted just transition as a response to a prevalent threat of destroying jobs, wielded by many employers to maintain the loyalty of workers who might otherwise oppose their company's exploitative or environmentally damaging practices (Young, 1998). This divisive tactic often led to the fragmentation of natural allies, including trade unions, environmental organisations, and community activists, rather than their coming together in a united front against employers willing to prioritise profit over protecting the environment and preserving jobs. The just transition approach envisioned by OCAW advocated for a fundamental principle: that workers who lost their jobs due to trade agreements or the prohibition or gradual elimination of toxic substances should not experience a net loss of income. They should not bear a disproportionate burden, in the form of their own lost wages, to achieve broader societal objectives related to global trade, environmental regulation, or corporate profit. Moreover, just transition acknowledged the severe repercussions of layoffs on communities and proposed comprehensive community support, including full compensation and reparations for damages such as the loss of tax revenue. This historical example underscores how the collaboration between environmental and labour organisations has significantly shaped

the development of the just transition concept. However, this collaboration is not universal. Trade unions can sometimes oppose climate policies because they fear that ambitious mitigation measures would lead to job losses (Vesa *et al*., 2020). This raises the question of whether the divisive tactics opposed in the past by the development of the just transition concept are still relevant today.

In the UK, the Committee on Climate Change (2019) stated that ensuring a just transition is very important for a net-zero emissions target, given the large and rapid changes required. It warned the UK government that if the potential negative impacts of moving towards net-zero emissions are not managed, and if those affected are not engaged in the debate, the transition will stall due to opposition. The decarbonisation of energy systems will impact workers in industries which depend on fossil fuels and the communities in which they live (Healy & Barry, 2017; Johnstone & Hielscher, 2017). The social and economic impacts of a transition to a low carbon economy will not be distributed fairly between people and places, with places that lose jobs and those who lack the skills and resources to invest in energy efficiency and low-carbon technologies in clear disadvantage (While & Eadson, 2019).

My research has been significantly influenced by the historical development of the just transition concept, tracing its roots back to the organised efforts of workers and environmental activists (see publications 2, 3, 4 and 6). This historical backdrop highlights the need to address the potential negative impacts of transitioning to a low-carbon economy on workers and communities, by prioritising people's wellbeing and environmental sustainability. Ensuring a fair transformation of current practices towards a more sustainable future will require robust collaboration, active engagement of multiple stakeholders, and a fundamental rethinking of governance approaches to optimise resource utilisation. By integrating sustainability considerations into policy frameworks, establishing clear regulatory guidelines, fostering collaboration, implementing incentive (and disincentive) mechanisms, and enhancing transparency and accountability, a comprehensive governance strategy could mitigate the potential challenges associated with the transition and also propel society towards a more equitable, sustainable, and resilient future.

1.2.2 International examples of just transition frameworks

In the last decade there seems to be a wide international agreement about using 'just transition' as a framework that combines the protection of the environment with job

creation in a socially just way (Newell & Mulvaney, 2013; Pinker, 2020). For example, the International Labour Organization (ILO, 2015) approved the guidelines for a just transition towards environmentally sustainable economies and societies for all, and The United Nations Framework Convention on Climate Change (UFCCC, 2020) released a technical paper with the main objective of assisting countries "in the process of just transition of their national workforces, and the creation of decent work and quality jobs in relation to the implementation of climate change mitigation policies" (p.5).

The EU announced The Just Transition Mechanism, which aims to ensure that the transition towards a climate-neutral economy happens in a fair way and leaves no one behind (European Commission, 2020). In Canada, the federal government created the Just Transition Task Force for Canadian Coal Power Workers and Communities, which aims at facilitating its phase-out of coal (Government of Canada, 2019). Similarly, the Scottish government held a Just Transition Commission between 2019 and 2021 and a second Commission began in 2022 (Scottish Government, 2020, 2023).

In all these cases, governments are collaborating with key stakeholders (e.g., industry representatives, trade unions, NGOs, community organisations) to manage major and politically challenging transitions. As the socio-economic and industrial context where the just transition needs to take place will vary, a vital part of the process is correctly identifying and creating the conditions for all stakeholders to be part of the decision-making process, especially those who are more likely to be negatively affected by decarbonisation. Additionally, it is imperative to ensure that the transformative essence of the concept is preserved and that the principles of a just transition are not diluted or co-opted by governments or companies making false claims of supporting a just transition merely for appearances. Genuine commitment to a just transition necessitates more than collaboration; it demands a steadfast dedication to equity and the well-being of all, especially those most vulnerable to the impacts of decarbonisation. Publications 3 and 6 delve into the ethical underpinnings of the just transition concept, proposing generosity and care as alternatives or complements for the principle of justice in guiding this transformation.

1.2.3 A multifaceted concept of just transition

Contemporary scholars associate different meanings to the term 'just transition', beyond its original use in the 1990s. For example, Heffron & McCauley (2018) identified three research areas operating independent versions of just transition frameworks:

- Climate justice literature emphasises sharing the benefits and burdens of climate change from a human rights perspective.

- Energy justice uses an energy life-cycle perspective and looks at how every individual's right to a share of energy to meet their needs is met.

- Environmental justice aims to involve all citizens in the development, implementation and enforcement of environmental laws.

Heffron & McCauley (2018) draw on those three previously mentioned research areas, as well as legal geography to propose the JUST framework, a just transition framework that is intended to be results-driven. The framework uses five key forms of justice (distributive, procedural, restorative, recognition and cosmopolitan), as well as an awareness of issues related to location and time to address key questions that need to be resolved under each element of justice and within the limited timeframes for action. Heffron (2020) has recently used the framework to explore justice issues in mineral extraction. Publication 2 examines the impact the COVID-19 pandemic could have on the achievement of a just transition in the medium to long-term future from the perspectives of those five tenets of energy justice, to facilitate the identification of unjust practices as well as explore some opportunities and challenges for a just transition in a post-pandemic world. These forms of justice are yet to be fully integrated in a just transition policy framework. Publication 2 points at the possibility of doing so and the strengths and limitations associated to such a framework.

1.2.4 Participating in a just transition: who matters, to who?

Although the term 'just transition' might be useful to overcome the dichotomy of 'environment or jobs', it also requires a clear vision of what is just and what the transition should aim for. The widespread use of the concept might create difficulties in terms of priorities and definition that did not exist 30 years ago and dilute the strength of 'just transition' as a plausible integration of the labour movement, the environmental movement, civil society organisations, political organisations, and researchers for a common goal (improving the quality of the environment and ensuring the well-being of all).

In practice, cooperation between agents of the state, unions, and private companies often reinforces the power of relatively small groups of people in policy formation (Crepaz & Lijphart, 1995; Brand & Pawloff, 2014; Della Porta, 2006). This can block necessary

transformations for a just transition and contrasts with more democratic understandings of decision-making and agenda-setting. However, as Scruggs (1999), Crouch (2006) and Abraham (2017) noted, interest groups, through effective negotiation and agreement, could also generate economic adjustments to compensate those affected negatively by new environmental regulation.

According to McCauley & Heffron (2018), the process of moving towards a post-carbon society must seek fairness and equity with regards to different dimensions of inequality, such as ethnicity, income, gender and other issues related to global justice, within both developed and developing countries. This transition must take place at a global scale and connect effectively with multi-scalar realities at the same time. It requires the development of principles, tools and agreements that ensure both a fair and equitable transition for all individuals and communities. In practice, there is some evidence of the appropriation and manipulation of the concept by actors that are more interested in greenwashing that just transitions (Stevis & Felli, 2020). As Bainton *et al*. (2021) explained, few major mining companies have engaged with the just transition concept yet, but the ones which have done so seem to have anticipated the position different stakeholders will expect from them (in terms of corporate social responsibility). Consequently, they are meeting shareholders expectations by framing their commitments to the environment, communities and workers as part of a just transition. As well as using the term to improve their reputation, co-opting the discourse of their critics might also be a way to achieve a gradual creep in the meaning of 'just transition' so it aligns with the companies' interests without the need to alter their practices in a significant manner. For example, framing purely financial decisions as ethically considered steps towards a just transition.

Heffron & McCauley's (2022) critical examination of current just transition policies reveals a concerning trend: the gradual phasing out of the fossil fuel industry, starting with coal, may not effectively facilitate the global shift toward low-carbon economies. The creation of EU just transition funds could inadvertently lead to ongoing subsidies for the fossil fuel sector, as coal, oil, and gas will need to be phased out in turn. This approach might unintentionally prolong the transition period, hindering progress in achieving the Energy & Climate 2030 goals and targets (European Commission, 2021). According to the same authors, we have witnessed a reluctance to subsidise renewable energy in recent years. However, during the same period, there has been growing support for just transition

policies that inadvertently provide subsidies to the fossil fuel industry. This makes clear that standard market dynamics are not being applied to the fossil fuel sector. The progressively decreasing costs of renewable energy technologies, and the stance of public policy and legislation against fossil fuel intensive processes should mean that these industries become less competitive and attract less funding.

Literature which critically examines just transition has significantly shaped my research by shedding light on the evolution of the concept, its multiple interpretations and its growing prominence in various contexts (academic, policy, industry). This has brought to the forefront the challenges arising from its broad utilisation, particularly the struggles related to setting priorities, establishing clear definitions and misappropriation for commercial interests. Furthermore, this literature has underscored the importance of recognising the dynamics of power within collaborations among state entities, unions, and private companies, which can either facilitate or hinder essential transformations. It has also emphasised the need to address multiple dimensions of inequality, such as ethnicity, income, and gender and intersections between them, at both global and local levels in the pursuit of a socially just transition. Additionally, this literature has drawn attention to the potential co-optation and manipulation of the 'just transition' concept by actors with varying interests, raising concerns about its potential dilution and deviation from its transformative roots.

1.2.5 Balancing Low Carbon Transitions: Development, Justice, and Social Considerations

Low carbon transitions from fossil fuel to renewable energy sources have great potential to provide solutions on a global scale to the challenge of minimising GHG emissions, hence reducing the rate of climate change and increasing access to clean, affordable energy. These solutions are especially critical at a time characterised by increased environmental changes driven by the increased focus on international economic development (Valentine *et al*., 2019). As mentioned above, the international policy community recognises that low carbon transitions are part of a process of change that simultaneously meets several goals, including facilitating access to renewable energy, making the economy environmentally sustainable, providing decent work, and reducing poverty (Siciliano *et al*., 2021). Importantly, these transitions must achieve these goals while ensuring climate change mitigation and environmental protection and repair (Prober *et al*., 2019), but there is often an emphasis on economic growth and employment.

Therefore, some argue that while low carbon transitions integrate climate change objectives with development goals, they prioritise development (Fisher, 2013). This development-first approach is based on the idea that sustainable development strategies that facilitate social and economic prosperity while tackling climate change reinforce each other mutually (Sathaye *et al*., 2007).

However, critics of this approach highlight that this agenda does not consider equity and justice principles, instead taking a "techno-managerial" strategy that excludes the procedural and distributional aspects of social justice (Munro, van der Horst, & Healy, 2017). They therefore argue that it is necessary to incorporate justice-based strategies for equity in resource allocation and access, as well as better decision-making regarding energy (Sovacool *et al.*, 2021). Civil society and governmental actors have increasingly highlighted the importance of and urgency for integrating social justice principles in the transition to a more sustainable low-carbon world (Sovacool *et al.*, 2021). Climate justice and energy justice have emerged as crucial principles in the pursuit of a just transition towards a more sustainable world. These concepts stem from the imperative to integrate social justice considerations into transition efforts, particularly with regard to equitable decision-making processes and the fair distribution of costs and benefits (Jenkins, 2018).

Part of my research (see publications 1 and 8) has had a particular focus on energy use and energy generation, which are key issues in relation to climate change mitigation. Together, power generation and transport accounted for more than two thirds of all GHG emissions in 2019. The industry and buildings sectors accounted for the majority of the remaining third (IEA, 2021). The concept of energy justice becomes relevant, and is particularly useful for linking policy and technology with the underpinning philosophical and ethical issues that shape energy systems (Guruswamy, 2010; Sovacool & Dworkin, 2014; Pellegrini-Masini *et al*., 2020). This concept becomes central when thinking about how to apply justice principles (mainly distributional, procedural, and recognition justice) to energy policy, energy production, energy consumption, energy activism, energy security and climate change (Jenkins *et al*., 2016). However, it is important to examine the causes of injustice as well as identifying what those injustices are. This involves recognising that energy injustices are often related to large-scale and centralised energy systems and decision-making processes which are distanced from users, as well as political, economic, and technical ideologies which perceive conflicts (across places and

generations) as the unfortunate but unavoidable results of industrial success (Lee & Byrne, 2019).

Current research also draws out the importance of approaches that feature better consideration and inclusion of the social dimensions in the decision-making processes associated with the transition to a more sustainable world. Essentially, just transitions should involve the equitable participation of various private and public social entities, such as individuals, civil societies, government agencies, and businesses (McCauley *et al*., 2019). This argument posits that achieving socially just low carbon transitions must entail recognising the diverse social needs and priorities of different parties, ultimately fostering shared interests (Roberts & Parks, 2006). This involves acknowledging and incorporating the priorities and perspectives that various sections of society hold regarding just low carbon transitions. These sections include individuals and groups involved in policies and projects design and implementation and those affected by these policies and projects (Williams & Doyon, 2019). It is important to realise that power disparities often result in the exclusion of many people from decision-making processes, which raises doubts about the recognition of their needs. The exclusion of these people could be motivated by a lack of empathy, mediated by place and identity, which can be linked to a disregard for environmental protection (Brown *et al*., 2019).

As mentioned above, the 'just transition' concept can be seen as a tool for ensuring a fair and equitable transition to a low carbon future which has gained significant traction in the last decade (Newell & Mulvaney, 2013; ILO, 2015; Pinker, 2020). As such, it can be used to help address the equity and justice dimensions associated with tackling and adapting to climate change, but it has certain limitations which are summarised below:

- Lack of clarity: The term 'just transition' is often used without a clear definition, leading to confusion about its meaning. Different stakeholders may have different interpretations of the concept, which can lead to challenges in implementation and misappropriation (Wang & Lo, 2021).
- Lack of implementation: Despite being widely discussed, the implementation of 'just transition' policies has been limited (Snell, 2018). This may be due to lack of political will, funding, and capacity at the local, regional, and national levels.
- Limited focus: The concept of 'just transition' has primarily focused on the impact that the move to a low-carbon future has on male miners and their communities.

While this is an important aspect, it overlooks the complex gender dimension of the transition (Walk *et al*., 2021), as well as the impact on vulnerable groups such as children, and low-income households. Also, the 'just transition' concept often focuses on the transition from carbon-intensive industries to low-carbon alternatives, but it may not fully address the systemic changes needed to achieve a truly sustainable and just society. For example, issues which arise from historical injustice (such as "rent theft" and "the crime of poverty") must be addressed or campaigns for a just transition that promote a cleaner energy system will end up reproducing the central problems associated to inequality (Obeng-Odoom, 2021).

- Tension with economic growth: There is a tension between the 'just transition' concept and the drive for economic growth. Some argue that a move to a more sustainable future and a 'just transition' can only be achieved if economic growth is limited or halted (Burke, 2020; Barry, 2021), while others argue that economic growth is necessary to fund the transition and can be one of the aims of a just transition (Zhang & Wang, 2018; Loewen, 2022).
- Power imbalances: The 'just transition' concept often assumes a level playing field, where all actors have equal power to negotiate the terms of the transition. However, power imbalances between different stakeholders can make it difficult to achieve a truly just transition (Eberhard, 2021).

1.2.5 Just transition and high consumption

High consumption is not generally addressed in just transition literature, but it is arguably a key issue if we are to achieve justice in low carbon transitions, and particularly relevant when thinking of just transition as a whole-system approach to justice in the transition process, which can help in identifying systemic solutions encompassing environmental and socio-economic considerations (e.g. Abram *et al.*, 2022). Studies reveal that consumption is a more relevant factor for global environmental impacts than other socioeconomic, demographic and material determinants (Wiedenhofer *et al*., 2013). Consumption has a strong correlation with income. Accordingly, the income inequalities that characterise today's capitalist world translate to significant consumption inequalities, which in turn generate unequal environmental impacts. According to Teixidó-Figueras *et al*. (2016) income distribution is the main contributor to the distribution of materials and fossil energy. This supports the idea that the world's wealthiest citizens contribute

disproportionately to and drive the most significant global environmental impacts (Nielsen *et al*., 2021).

More specifically, overconsumption is made problematic by the fact that the contemporary world features a predominantly linear economic model. This model entails extracting environmental resources, transforming them into products, using them, and discarding them. Studies have established a positive relationship between affluence and biophysical resource consumption. These growth-driven economic models have, in addition to increasing income inequality, exacerbated resource consumption and the associated ecological stresses on vital planetary support structures (Wiedmann *et al*., 2020).

Accordingly, because consumption levels determine the total environmental impacts, there is a need to address income and consumption inequalities by reducing consumption in addition to greening it (Dyrstad *et al*., 2019). Sustainability approaches can help identify opportunities for waste reduction, needs reassessment, and product innovation towards reducing resource overconsumption and contributing positively towards achieving a more sustainable world. Such approaches are critical to reducing the existing inequalities within and between the world's nations while ensuring the fulfilment of the UN Sustainable Development Goals (Wiedmann *et al*., 2020).

One such approach is implementing a circular economy, which acknowledges the finite nature of environmental resources. It is hence designed to maintain the circulation of these resources for the most extended period possible by adopting strategies like repairing, recycling, sharing, reusing, and remanufacturing (Schröder, 2020). In addition to focusing primarily on developing strategies and technologies that maintain the continued circulation of these resources, a circular economy also incorporates the concepts of natural systems restoration, the substitution of non-renewable materials with renewable ones, and wastage elimination. Along this line of thinking, degrowth proponents focus on decreasing material and energy consumption, which would most likely result in a GDP decline (Kallis, 2011). Their main objective is to meet basic human needs and ensure a ‘good life’ (Rosa & Henning, 2017), while reducing the environmental impact of the economy to a sustainable level, looking at building a fair system for all. This would represent a shift from capitalist economies and a transition towards more ecologically viable economic models (Fournier, 2008; Jackson, 2009; Kallis, 2011; Foster, 2011),

which involves valuing well-being, sustainability and equity indicators over GDP when assessing progress.

However, it is also critical to establish the potential impacts that such a restructuring will cause. For instance, transitioning to a more just circular economic model will potentially have negative implications on several low- and middle-income nations that are heavily reliant on linear industries like mining, agriculture, textiles, production on non-repairable consumer goods, and exporting these products to higher-income countries. The need for social justice manifests in the fact that these nations will require the international community's support through targeted aid programmes, especially if the global demand for the commodities they export declines. The economic model restructuring will also potentially impact the employment sector. Accordingly, it is crucial to integrate social protection measures to protect the poor from carrying potential consequences of the circularity model, such as worsening health impacts, reduced job opportunities, increased unemployment, or poorer working conditions (Schröder, 2020).

High consuming households in the developed world have rarely been the focus of academic studies or policy initiatives, although they arguably have a huge potential to reduce their environmental impact without compromising wellbeing. The study of high consumers is also bound up with issues of energy justice, as data suggests that lower income households are more likely to make changes to their consumption in order to conserve resources, potentially compromising their health and wellbeing further (Kolokotsa & Santamouris, 2015; Department for Business, Energy & Industrial Strategy, 2017). Furthermore, those who are more likely to be affected by climate change often have a smaller environmental impact, while the largest polluters are less likely to suffer the worst effects of climate change in the near future. This raises ethical concerns related to responsibility, global solidarity and intergenerational justice, and highlights the importance of generosity as a principle which could underpin a transition to a fairer, more sustainable future.

The effects of wealth inequality on consumption must be acknowledged, but we also need to look at how power and social relations shape consumption (Middlemiss, Isenhour & Martiskainen, 2019). For example, high consumers have high carbon footprints, but they also set social and material aspirations for wider society (see publications 1 and 8). Importantly, power relations also play a dual role in influencing individuals' capacity to shape their needs (Butler, 2022): On one hand, these dynamics influence people's ability

to actively define or determine their needs. On the other hand, once needs are established, these same power structures can influence the fulfilment of those needs, potentially hindering some individuals from realising them due to systemic inequalities and oppressive forces, and in the case of high consumers, locking them into unsustainable practices due to their sense of identity and status.

Exploring the relationship between just transition and the issue of high consumption, has had a profound impact on the direction of my research. It has illuminated a crucial dimension often overlooked within the just transition discourse: the role of high consumption in environmental justice and sustainability. The exploration of the impact of high consumption on the environment has illuminated how income inequality translates into unequal environmental contributions, while also urging a re-evaluation of resource utilisation. The ethical dimensions of high consumption raise important considerations about responsibility, global solidarity, and intergenerational justice that should not be disregarded. They also point at generosity and care as vital principles for achieving a socially just and environmentally sustainable future, ensuring a more equitable distribution of benefits and burdens during the transition.

1.3 Aims and objectives

Influenced by the key arguments summarised above and the gaps within them and seeking to challenge the taken for granted concepts underpinning them (e.g., just transition), my research set out to critically explore the social justice implications of transitions to low carbon futures at both the conceptual and empirical level. This was achieved through case studies gathered through my research work with the Centre for Regional Economic and Social Research (CRESR) of specific issues (e.g., high consumption, just transition) and places (e.g., South Yorkshire) using a number of different methods (e.g., semi-structured interviews, Q methodology). In doing so, I aimed to challenge, expand and where possible unify current conceptualisations of just transitions and related concepts, and to improve their accessibility for policy makers and practitioners, contributing to the elevation of the debate around just transitions out of conceptual ambiguity. The overarching questions my research addressed were:

- How does high consumption reflect and contribute to social and environmental inequalities in the context of transitioning to low carbon futures, and what are the social justice implications? (see publications 1, 5, 6, 8 and 9).

- What does just transition mean and how is it interpreted in context in a specific place in relation to the process of transitioning to a low carbon future? (see publication 4).
- How adequate is justice as the guiding virtue for low carbon transitions? How might the concept of a just transition be usefully expanded to encompass complementary virtues and a broader range of considerations? (see publications 2, 3 and 7)

1.3.1 Significance of the Research Questions

The research questions outlined above hold both theoretical and practical significance. Firstly, expanding the concept of just transition beyond distributive justice opens avenues for exploring a broader range of moral considerations. While distributive justice focuses on equitable resource distribution, in publication 2, I sought to incorporate other dimensions of justice, such as recognition, procedural justice, restorative justice, and cosmopolitan justice to the application of just transition principles, drawing inspiration from Heffron's (2020) framework. Understanding the intersectionality of these different dimensions within the framework of just transition is essential for addressing the complex and interrelated nature of social justice issues in low carbon transitions. But the identification of some limitations of justice and the disproportionate impact of high consumers also led me to position generosity as a principle which could guide the transition to a low-carbon future, as a complement to or as a catalyst for different types of justice (publication 3), aligned with historic demands of the labour and environmental movements.

Secondly, by examining how decision-makers interpret the concept of just transition within a specific, place-based context, publication 4 offers valuable insights into the challenges and opportunities associated with transitioning to a low-carbon future. It specifically focuses on how policymakers in South Yorkshire address the economic, livelihood, cultural, and identity shifts resulting from the energy transition. The goal of this research was to uncover how stakeholders on the ground interpret and apply the principles of just transition, drawing from real-world experiences. The findings from this study can serve as a valuable resource for policymakers, organisations, and individuals, helping them navigate the complexities of low-carbon transitions.

Lastly, investigating the contribution of high consumption to social and environmental inequalities in the context of low carbon transitions is crucial for understanding the underlying mechanisms that perpetuate injustice. By emphasising the cultural and psychological dimensions of high consumption, and its impacts on the environment, this research could inform strategies and policies aimed at reducing consumption patterns that exacerbate inequalities and environmental damage.

There are three primary contributions to knowledge associated with this programme of research:

1. A conceptual contribution. Questioning the use of justice as the default virtue behind low carbon transitions and positioning generosity as an example of an alternative guiding principle, which can operate as a catalyst for different types of justice.
2. An empirical contribution. Exploring just transition through (1) a case study in South Yorkshire, contributing new insights into how energy transitions play out or might play out in the context of specific places and the attendant social justice implications; (2) investigation of high consumption as a key, but overlooked social justice issue associated with energy transitions.
3. A methodological contribution. Applying Q methodology to explore policy makers' perspectives about a just transition in South Yorkshire.

Chapter 2. Methods

This chapter provides a comprehensive overview of the research methods employed in my research. It begins with an exploration of the research philosophy and analytical framework underpinning the investigation. The chapter then delves into the specific methods used and discusses my positionality within the research. Finally, it offers insights into the outputs and the methodologies applied throughout the research process.

2.1 Research philosophy and analytical framework

The socially constructed categorisations of nature and society lead to the separation of social and environmental justice. A focus on a single, combined, justice movement called 'socioenvironmental justice' provides an alternative (Heynen, Kaika, & Swyngedouw, 2006; Neo & Pow, 2015). The merging of social justice and environmental justice interests not only assumes that people are an integral part of the environment (Di Chiro, 1996). It is also ontologically grounded at the nature-society intersection (Castree, 2001), providing a good starting point for exploring social and ecological stability, rights, and democratic organisation at local and global levels. I agree to some extent with merging social and environmental justice on a categorical level (as humans are part of nature), but for semantic nuance and practical reasons I prefer to look at social justice and environmental justice as often interrelated but different from each other. As Bookchin (1986) noted, the comparison of human societies to ecosystems allows us to order reality in a non-hierarchical way, but we must not fall into the trap of reducing social injustices to unavoidable natural processes. Moreover, the human antagonism with the rest of nature has not been resolved yet. Making a distinction between social justice and environmental justice allows for useful comparisons between those two connected domains.

Social questions related to race, class or gender are often issues of central concern when thinking of environmental justice (Mohai, Pellow & Roberts, 2009), but the environment is not always a central concern when thinking of social problems, and perhaps it does not need to be (e.g., researchers and activists can position themselves against child labour without the need of including an analysis of its ecological impact). Just transition is a term which emerged as a demand of the labour and environmental movements. The focus of this study then is social justice, as a term that encompasses issues related to the organisation of members of our species and their relationship with the rest of nature.

Many environmental issues, such as unsustainable energy use, can be interpreted as reflections of existing social relations and power dynamics. To delve deeper into the underlying values shaping these dynamics, I turn to Schwartz's model of values (Schwartz *et al*., 2012, see Table 2 and Figure 1). This widely accepted psychological model sheds light on the values that influence human behaviour and decision-making, offering insights into the motivations behind unsustainable economies and unfair social organisation. This model delineates various values, among which power and achievement stand out in the context of global competition and conflict. From a geopolitical perspective, energy emerges not merely as a commodity but as a strategic tool in foreign policy, influencing power relations and, at times, fuelling international conflicts (Månsson, 2014).

Value	Defining goal
Self-Direction	independent thought and action, expressed in choosing, creating and exploring
Stimulation	excitement, novelty, and challenge in life
Hedonism	pleasure or sensuous gratification for oneself
Achievement	personal success through demonstrating competence according to social standards
Power	control or dominance over people and resources
Security	safety, harmony, and stability of society, of relationships, and of self
Conformity	restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition	respect, commitment, and acceptance of the customs and ideas that one's culture or religion provides
Benevolence	preserving and enhancing the welfare of those with whom one is in frequent personal contact (the 'in-group')
Universalism	understanding, appreciation, tolerance, and protection for the welfare of *all* people and for nature

Table 2. Ten broad personal values and their defining goals (Schwartz, 2022).

Contrary to viewing the geopolitical landscape as amoral, it becomes apparent that the pursuit of power and achievement, as per Schwartz's model, can indeed lead to outcomes that may be deemed amoral but are influenced by favouring those values over existing alternatives. Power and achievement, if unchecked, have the potential to shape decisions in ways that prioritise self-enhancement over other ethical considerations. Recognising this, it becomes crucial to acknowledge them as values underpinning certain geopolitical issues. Consequently, in the governance of an energy transition towards fair, low-carbon alternatives, the values of universalism and benevolence gain significance. By

understanding and addressing the values that underlie decision-making processes, we can strive for a more just and sustainable approach to global energy transitions.

Attempting to inform a value shift in decision makers would be an understandable response to this problem. However, working within existing multilevel value structures to facilitate an effective adaptation to social-ecological threats might be a more effective strategy (Manfredo *et al*., 2017). As I argue in publication 3, prosocial forms of generosity are already aligned with benevolence and universalism. More egoistically motivated versions of generosity, in which self-improvement and self-interest are central, might provide opportunities for a more just, more sustainable future without the need of a massive shift in the social values of those societies where power and achievement are favoured.

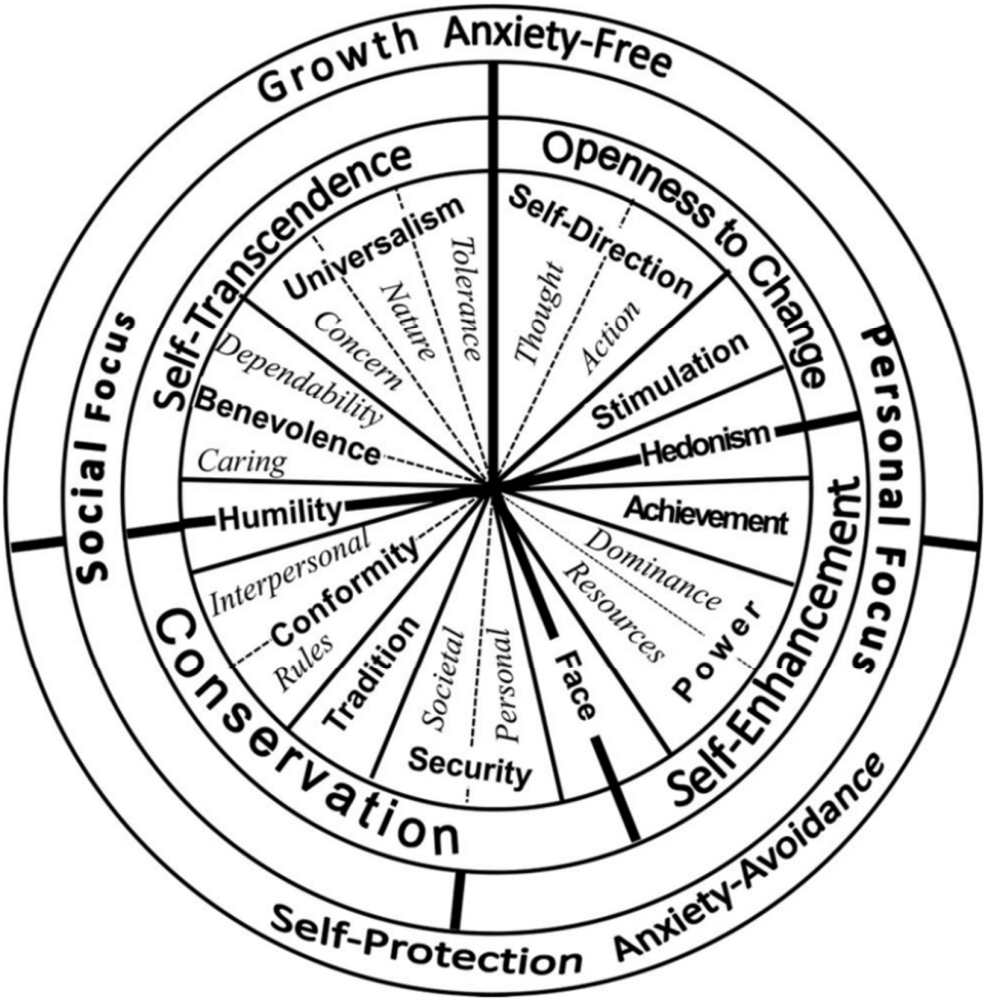


Figure 1. Proposed circular motivational continuum of 19 values with sources that underlie their order (Schwartz *et al*., 2012).

My research has human beings and how we conceptualise the world at the centre. Not because of a perceived intrinsic superiority of humanity over other species, but because many of the environmental problems we experience today are profoundly affected by social developments and vice versa. It is very likely that human societies, the ways in which we develop social relations, and the attitudes we develop towards the rest of nature as a result of human relations will determine the future of the biosphere (Bookchin, 1982). As Parker (2010, p.212) explains, our challenge as a moral species "is to find ways to design human social and economic structures collectively in order to enable the flourishing of the wider moral community".

Bookchin (1986) explained that we can experience 'the other' in an ecological manner, as variety that enhances the unity of phenomena and enriches wholeness. From this perspective I see the value in calling into question ontological categories associated with Western science, which make a distinction between nature and society, as well as between science and other ways of knowing. However, I do not think this necessarily involves ascribing to the idea of multiple existing realities, although relational ontologies, or ways of being in the world that are based on different ecological-social relations beyond nature-society binaries (Goldman, Turner & Daly, 2018) can enrich our understanding of the world.

2.1.1 Ontological and epistemological positioning

My approach is ontologically realist because it assumes the existence of actual events that occur in reality, and so are available for observation and analysis. It also assumes that these events are caused by real processes which operate even when they are not being observed (Bhaskar, 2008; Sayer, 2000). It is epistemologically relativist in that it recognises that empirical observations of these actual events are mediated by the social and cultural practices in which I am entangled as an observer (Archer, 2020). Critical realism offers a philosophical stance that transcends disciplines, fitting research designs and methods to the particular problem in hand. It also provides a good foundation for a critique of barriers to social justice. As Bhaskar (1997, p.146) stated "the process of explanatory critique (or metacritique), in isolating the causes of error in socially inadequate conditions of being (socially constitutive category mistakes), gives us a mode of transition to a negative evaluation on those causes and a positive evaluation on action directed at their removal".

One of the main challenges for this research programme, given the wide scope of topics related to social justice in low carbon transitions, was being flexible enough to allow for exploration of new ideas while keeping the boundaries of the research clear and manageable. The nature of the research questions that emerged during my research required the use of quantitative and qualitative data, as well as critical analysis. Corsini *et al*. (2019) found that research publications about energy transitions tend to focus on technological innovation for energy production and consumption, rather than focusing on the role different groups of people and theoretical concepts play in planning the energy transition to reduce emissions, with the latter being closer to my interests. My research contributes to redressing this imbalance. The variety of questions I addressed required methodological flexibility depending on specific projects, as detailed in the table below.

2.1.2 Overview of methods applied

Method	**Description**	**Rationale for using method**
Literature review	Systematic collection, synthesis, and critique of previous research (Baumeister & Leary, 1997). Its purpose is creating a firm foundation for advancing knowledge and facilitating theory development. By integrating findings and perspectives from many empirical studies, a literature review can often address research questions in a more comprehensive way than other studies (Snyder, 2019).	Reviews are useful to evaluate theory or evidence in a certain area or to examine the validity or accuracy of different theories (Tranfield *et al*., 2003). They also reveal gaps in knowledge/ areas of inquiry that are under researched and establish the state of the art on which new contributions can build.
Secondary data analysis	Identification and thorough evaluation of previously	There are large amounts of data being collected,

	collected data in an area of interest and re-examination in the context of different research questions or lines of inquiry (Vartanian, 2010).	compiled, and archived by researchers all over the world. Many of these databases are easily accessible, which is a cost-effective and convenient way to utilise large samples without having to collect big amounts of data.
Semi-structured interviews	Data collection strategy in which the researcher asks participants a series of predetermined but open-ended questions (Given, 2008).	Semi-structured interviews are useful to gather qualitative data from participants. This allows researchers to appreciate the interpretations of participants and to analyse the social contexts, constraints and resources within which they act.
Q methodology	A form of analysis of human subjectivity, which allows researchers to discern people's perceptions of the world using factor analysis (McKeown & Thomas, 2013).	Q methodology combines the openness of qualitative methods with the statistical rigour of quantitative analysis. It provides a way of establishing patterns among individuals, eliciting the variety of discourses about a particular theme. Instead of measuring their responses against predetermined concepts, in Q studies

		participants are empowered to speak for themselves, and the methodology facilitates the emergence of novel concepts and explanations at the interpretative stage.

Table 3. Overview of methods applied.

2.2 Positionality

My interest in investigating ways of making society fairer while improving sustainability has been influenced by my personal history and experiences. I was born in Madrid in 1986, although I grew up with strong ties to a rural village in Toledo. I migrated to the UK in 2012 to work, improve my English and study Environmental Science. I lived in Sheffield for two years. After that, I spent a year living in an ecovillage in Almeria. For my undergraduate dissertation I used an ethnographic approach (participant observation and interviews). I conducted this study during the time I lived in Almeria, exploring how ecovillages can promote pro-environmental values and serve as inspiration for sustainable practices. I then moved back to Sheffield to finish my undergraduate degree in Environmental Science at Sheffield Hallam University in 2016.

After that, I studied for a postgraduate diploma in Sustainability and Adaptation at the Centre for Alternative Technology in Wales. During that course, I was introduced to futuring exercises, which were originally developed within the armament and fossil fuel industries. I came to question whose values and whose vision of the future guided scenario planning in those contexts, and what accounts of history were used to elucidate trends.

I then moved to Brighton and after that to Edinburgh. I have been exposed to different ways of living, which has shaped my perspective on the environment and the moral issues in the transition to a low-carbon future. Until I got funding for a MRes in Social Science and the PhD programme which culminated in this research project, I always had to work to sustain myself, often in low pay jobs, in warehouses, in the hospitality sector, as a cleaning operative, or in a tap factory. Those jobs have shaped a class consciousness which influences my approach to research and to the just transition concept. I do not romanticise working class or poverty whatsoever, but I am fully aware of how power imbalances and access to resources make certain discourses (e.g., “we all have to play our

part in the transition", "we all need to reduce our consumption") both unfair and ineffective. There are power imbalances which we need to take into consideration, and those who have historically benefitted the most from fossil fuel intensive systems have to reduce their impacts the most. The wealthy are in a better position to reduce their environmental impact while maintaining decent standards of living.

My PhD studies initially focused on developing innovative methods to investigate our changing relationship with heat and how psychological, cultural, economic, and technological variables shape our energy practices and environmental impact. This focus evolved, partly due to the limitations the COVID-19 pandemic imposed on face-to-face social research during a significant part of my PhD studies and, partly because high consumption and just transition emerged as important topics of inquiry through my participation in research projects within CRESR.

As a critical realist, I acknowledge that my personal and social identities influence my perspective and approach to research. My positionality as a Spanish, white, male, cisgender, working-class social scientist with an environmental science background informs how I interpret and analyse theories and data, as well as my relationships with research participants. Sometimes in an obvious way, for example my Spanish accent might have impacted my ability to build a rapport with participants of the study in South Yorkshire. At other times my background might affect my understanding in ways I am not fully aware of, because of the complexity and fluid character of my identity, and because of the blind spots linked to my standpoint. I am committed to engaging in reflexive practices that allow me to critically reflect on my positionality and the potential biases and power dynamics that may arise in my research. I strive to approach research with humility, openness, and a willingness to learn from the diverse perspectives and experiences of others. In that sense, my research is just one more of "a variety of worldviews and practices relating to the collective search for an ecologically wise and socially just world" (Demaria *et al.*, 2023, p.62).

2.3 Outputs and methods used

2.3.1 High consumption (publications 1, 5, 7, 8 and 9)

a) Literature review

The work on high consumption started with a literature review (publication 1), which comprised an analysis of articles, books and reports related to high consumption, to characterise what high consumption is, and make the case for further investigation of and

policy responses to the phenomenon. A literature review is a type of research method that involves an in-depth analysis of previously published scholarly articles, books, and other sources related to a particular topic or research question. This type of research method is commonly used in fields where a deep understanding of existing knowledge and theories is critical for developing new insights and ideas. As high consumption remains an underdeveloped area of research, we made use of the strengths of literature review as an exploratory method:

- Identifying gaps in existing knowledge. One of the main strengths of literature reviews is that they help researchers to identify gaps in existing knowledge. By analysing the literature, we identified areas where there is a lack of research or where current research is limited.
- Providing a comprehensive overview of existing knowledge. Another strength of literature review is that it provides a comprehensive overview of existing knowledge on a particular topic. By analysing a large number of sources, we developed a deep understanding of the current state of knowledge on high consumption and gained a more nuanced and precise understanding of concepts and theories related to the topic.
- Developing research hypotheses and questions. Another strength of literature review is that it can help to develop research hypotheses and questions. As well as the gaps in knowledge mentioned above, we identified trends and developed research questions for further research, some of which were addressed within the ECEEE conference paper (publication 7), a book chapter (publication 5) and the secondary data analysis work (publication 9).
- Identifying potential research participants and collaborators. We identified other researchers who were working on similar topics or who had expertise in a particular area related to high consumption, and some of them were interviewed alongside NGO practitioners for the study published in the ECEEE paper (publication 7) and further developed in a book chapter (publication 5). The aim of this exercise was exploring the ways in which participants characterised and quantified problematic consumption, how they addressed consumption behaviour, their suggestions for targeting high consumption, and whether they had any suggestions for how sustainable and desirable levels of consumption could be described and attained.

The data sources reviewed were varied in terms of disciplinary focus, hence the use of a targeted literature review approach to identify empirical studies and theoretical texts that could provide insights on the topic, rather than a more systematic approach. We identified texts by searching in Google Scholar and the Scopus database for the terms "high consumers", "high consumption" and "overconsumption". We then screened the results and excluded sources focused on a narrow type of consumption (e.g., health sciences articles on pathologies related to high consumption of alcohol). The reference lists of eligible papers, books and reports were used to identify additional sources related to the topic (snowballing). The analysis was organised around wider systemic issues related to high consumption (from psychological, socio-political and economic perspectives), and the three primary areas of consumption in focus (energy, transport and food). To enhance rigour and validity, we adopted triangulation of researchers, data, and theories. This helped us get a more complete understanding of the research problem.

The findings of the literature review have to be seen in light of some limitations. The first is a bias towards the developed world due to that being where we live and where the literature is focussed, plus the snowballing leading to further sources set in that context. The second limitation concerns the paper looking at the issue from a limited number of theoretical perspectives (social theory, ecological economics, moral psychology and environmental science), but that may just reflect where most of the academic activity has taken place. Within resource and space constraints we attempted to map out the key dimensions of the debate. However, the complex nature of the topic requires a multidisciplinary approach, and a more systematic, exhaustive review of the current evidence on problems associated to high consumption could probably include a broader range of areas of research less explicitly related to the topic, as well as more evidence and critical perspectives from the developing world.

Another limitation is that we may not have had access to all the relevant information on the topic. Some information may have been unavailable due to copyright restrictions, language barriers, or limited availability of some publications. Also, there might be valuable sources which were not listed in the databases we searched in, or which used different keywords around the topic of high consumption to the ones we identified. This can lead to incomplete or biased information, which may limit the scope and quality of the literature review.

Literature review as a method is also limited by the lack of original data. Unlike other research methods such as surveys or experiments, literature reviews do not involve collecting original data. Instead, they rely on existing data and information. This can limit the ability of researchers to develop new insights and ideas, as they are working with data that has already been analysed and interpreted by other researchers. However, it can lead to different applications and interpretations of existing insights, which amounts to an effective and efficient use of data.

b) Secondary data analysis

After the literature review (which I led), we explored secondary data sources (see Table 4) to examine existing patterns of high consumption in the areas of energy, transport, and food. The purpose of this research was to gain insights into the nature and spatial dynamics of high consumption, with the scope being limited to the UK for easier comparison across datasets. The study (see publication 8) used five geographical areas as case studies: Sheffield, London, and County Durham in England, Edinburgh in Scotland, and Powys in Wales. These locations were selected to provide a diverse geographical spread and because preliminary investigation revealed these locations as having well above average or highly polarised levels of energy consumption.

Dataset	**Published**	**Lowest spatial granularity**
National Travel Survey	DfT (2019)	Region
Sub-national total final energy consumption	BEIS (2018)	Region
Lower and Middle Super Output Areas domestic gas consumption	BEIS (2019)	LSOA
Lower and Middle Super Output Areas domestic electricity consumption	BEIS (2019)	LSOA
Road transport energy consumption	BEIS (2018)	Local authority

Dataset	Published	Lowest spatial granularity
Sub-national residual fuel consumption	BEIS (2018)	Local authority
Detailed household expenditure by countries and region	ONS (2018)	Region

Table 4. Data sources for secondary analysis.

A range of secondary data sources linked to the three areas of interest (energy, transport, food) were identified and explored to enable a relatively quick identification of existing patterns of consumption across these areas. Secondary analysis was chosen for a scoping exercise before undertaking further research. Attention was paid to the publication date of the data as well as the level of spatial granularity provided (such as the Lower Super Output Area (LSOA)) in order to appraise the suitability of the datasets for providing insights into current spatial variation in consumption and concentrations of high consuming households. The research scope was limited to the UK as this allowed for easier comparison across datasets, while offering an illustrative example of the nature and dynamics of high consumption. Following data scoping, charts were produced in Excel focusing on the key identified variables, and geographical mapping of the data was carried out in QGIS. These maps were compared with maps of the Index of Multiple Deprivation to look for correlations.

Descriptive analysis was conducted for each of the datasets in order to understand the broad range of consumption patterns, including mean consumption, and to identify geographical areas with notable patterns of consumption (either high or low). Analysis was carried out in Microsoft Excel with the exception of the National Travel Survey which was analysed in SPSS given the size and complexity of its datasets.

This research confirmed the correlation between high-income and factors such as high-energy consumption, frequent air travel and multiple car ownership.

A limitation of using secondary data is that the data collection was not designed to answer the specific research questions of this study, although it did include indicators directly related to the research questions. The geographic areas for which consumption data were

available are often insufficiently granular to provide detailed insights in terms of where high consumers are located or how high consumption is distributed. Due to this, we were unable to address spatial patterns of consumption beyond the regional level within the transport and food analysis.

Nevertheless, as well as confirming the correlation between high income and high consumption in those areas, the study provided valuable exploratory insights to help guide the next stages of the research agenda. For instance, the study identified gaps in the data that need to be addressed in future research. The study also highlighted the importance of considering geographical location and associated place-based factors and influences when examining consumption patterns and identifying areas where targeted, contextually sensitive interventions may be required.

c) Interviews

After identifying a tendency for qualitative researchers to rely heavily on interviews to understand perceptions and experiences, often without sufficient critical analysis, Silverman (2017) encouraged qualitative researchers to move beyond traditional interview techniques and adopt more sophisticated analytical frameworks to better understand human behaviour and social phenomena. This perspective is based in the idea that the context in which narratives are created plays a significant role in shaping the meanings attributed to individual experiences. Questioning alone does not directly extract these meanings, nor are they solely conveyed through truthful responses. Instead, meanings are deliberately constructed as part of the interview process (Holstein & Gubrium, 2016).

Thematic analysis (TA) is a qualitative method designed to identify, analyse, and interpret patterns of meaning, or themes, within qualitative data (Clarke and Braun, 2016). TA offers a methodological tool characterised by flexibility across theoretical frameworks and research paradigms. It involves the generation of codes to capture pertinent features of the data and the subsequent development of themes guided by a central organising concept. TA's objective transcends mere data summarisation, aiming instead to identify and interpret key features pertinent to the research question. Its adaptability extends to various research designs, sample sizes, data collection methods, and meaning generation approaches.

TA acknowledges the importance of the context in which narratives are created, echoing Silverman's recognition that the interview process involves deliberate construction of meanings. The versatility of this methodological tool allows researchers to tailor their analytic approach to the epistemological and ontological assumptions underlying their research questions, aligning with Silverman's call for critical analysis that considers the broader contextual factors shaping perceptions and experiences.

For our study on high consumption, in parallel with the analysis of secondary data sources, we conducted interviews with seven academic and NGO practitioners who work in the field of sustainable consumption. The purpose of the interviews was to gain insights into how problematic consumption was characterised and quantified in the working practices of participants, how their work addressed consumer behaviour, their suggestions for targeting high consumption, and whether they had any working definitions or suggestions for how sustainable and desirable levels of consumption could be described and attained.

The interviews were semi-structured to retain a focus upon a consistent set of themes whilst making allowance for new and unanticipated themes to emerge from the research participants. Detailed notes were taken by researchers during the interviews, which were then analysed and summarised thematically. Participants were selected purposively because of their known interest in the field of sustainable and equitable consumption, with some snowball sampling where participants suggested other people to interview. The participants' views were anonymised, and the study received ethical approval from the University's Ethics Review system.

2.3.2 Just transition (publications 2, 3, 4 and 6)

a) Theoretical work

My theoretical work on just transition draws together theories of virtue ethics and ethics of care, to develop the alternative concept of a generous transition (see publication 3). It also explores how distributional, recognition, procedural, cosmopolitan and restorative justice can be used in combination to think about current and future just transition policy initiatives. For example, I looked at the opportunities and challenges associated with developing a framework based on those forms of justice (as tools for theory development, decision-making and policy interventions) after the coronavirus pandemic (see publication 2), but this is an exercise which can be replicated in other contexts (e.g., specific transitions at various geographical levels, such as city initiatives or national

strategies) and expanded by placing generosity as a guiding principle. I also explored how a generosity focussed philosophy might have led to different approaches and outcomes in relation to the example of loss and damage policies (see publication 3).

b) Empirical work

We used a mixed methods approach in South Yorkshire to explore the phenomenon of a just transition within a specific geographical context (see publication 4). Paying attention to the historical particularities of the place and the context in which the transition is happening, we investigated issues around the just transition concept and its implementation. The study looked into the meaning attached to just transition and into how policymakers thought it could be implemented it in the region. Stakeholders were found by examining the composition of the LEP and MCA decision-making boards and by speaking with MCA policy experts to find additional important stakeholders who were not directly represented on these boards. We found 40 potential participants, and 21 of them consented to participate in the research. These included two educators, three politicians, eight representatives from the private sector, two from civic society, and six from public sector organisations. The proportions from the various sectors roughly mirrored the representation on regional boards.

The focus of the study was to examine how stakeholders understood the term 'just transition' as a potential framework for action. The research design was prefigurative in nature. Just transition was an unfamiliar concept to many stakeholders and was not yet a part of the region's official policy discourse. We thought focusing on a process of prefigurative sensemaking would provide a good standpoint for understanding how policy-makers address novel concepts like just transition.

I led the Q-methodology part of the study. While Q-methodology (Brown, 1980) has been utilised by researchers to understand stakeholder preferences for policy development in other areas (Black, Kopke, & O'Mahony, 2019; Carr, 2019), its use in just transition studies is novel. Q-methodology combines the openness of qualitative methods with pattern-identification through statistical analysis. The method is particularly useful for exploring perspectives on complex problems where there are differing views like just transition. The process involved providing participants with a set of statements (50 in our study) which they placed into a bell shape grid in relation to an overarching question ('What is a just transition for South Yorkshire?'). The sorting process used a scale ranging from "least like how I think" to "most like how I think", and the grid forced the

distribution of statements. Forced distribution is an important feature of Q-Methodology, which can be explained by comparing a Q-Sort and a questionnaire to explore the same research question: If a 50 statement questionnaire had been used and a participant had been asked to mark if they agreed or disagreed with each statement using a standard Likert scale, a participant could have agreed with all statements equally, or at least agreed with a large number of the statements equally. If the participant is forced to rank the statements they agree with in a hierarchical manner, with only a few spaces for statements on the extremes, the participant needs to think more critically about the topic, which allows the researcher to have a deeper insight into the most salient views on the topic.

Statements were derived from existing literature on just transition, climate action and different models of economic development for low carbon transitions. These were sense-checked through a panel including other academics not directly involved in the study and with three policy stakeholders at the South Yorkshire Mayoral Combined Authority (SYMCA). Decisions on the final set were made by the research team.

I used statistical factor analysis to group sets of responses, identifying patterns which were interpreted as answers to the overarching question 'What is a just transition for South Yorkshire?' (See Appendix B). The sorting exercise was combined with qualitative interviews (digitally recorded and professionally transcribed), providing rich qualitative data. The sorted statements served primarily to prompt discussion around conceptions of just transition for South Yorkshire. The study was conducted in 2020 and 2021 during periods when there were restrictions on social contact due to COVID-19. Research was conducted remotely, which meant employing a slight variation on the Q-method, in which respondents were invited to complete the Q-sort online in advance of an interview during which they reflected on their choices. Qualitative data was coded and analysed using NVivo 12 qualitative data software. Analysis involved an iterative process, moving between empirical data and theory, as well as between different interpretations between respondents, and between the researchers. The use of Q methodology is a novel approach for understanding what a just transition means for stakeholders in the UK. As such, in the context of this thesis it constitutes a methodological contribution by introducing a methodology to an audience that might not be familiar with its existence, via transfer (Bergh *et al.*, 2022). Internationally, there is a recent example of a similar study in Belgium (La Gioia *et al.*, 2023), which uses Q methodology to analyse the various points of view on just transition in Belgium at a national level.

Chapter 3. Publications

In this chapter, I present the outputs that contribute to the overarching research questions outlined in Chapter 1. These publications and the methods used are summarised in Chapter 2.

High consumption, an unsustainable habit that needs more attention

Alvaro Castano Garcia[1], Aimee Ambrose[1], Anna Hawkins[2], Stephen Parkes[1]

[1]Centre for Regional Economic and Social Research (CRESR), Sheffield, UK
[2]Department of the Natural and Built Environment, Sheffield Hallam University, Sheffield, UK

Abstract
High consumers contribute to environmental degradation through their own consumption practices and the setting of societal material aspirations. This review of research on individual, social and structural aspects of high consumption shows that high consuming households remain largely unstudied, despite their likely significance for ensuring the well-being of current and future generations. The contradiction between the apparent impact of high consumers and their exclusion from research and policy initiatives highlights the need to initiate a research agenda on the topic of high consumption. This paper sets the scene for a research agenda which seeks to gain a better understanding of the role of high consumers in transitions to more sustainable consumption practices; the psychological, social and structural drivers of high consumption; the precise environmental impact of high consumers; their geographical distribution and the barriers to engaging them in sustainable consumption initiatives.

Keywords
Sustainable Consumption, High consumption, Overconsumption, Energy, Transport, Food

Introduction
High consuming households have rarely been the focus of academic studies or policy initiatives, although ostensibly many of them have a huge potential to reduce their environmental impact significantly. Because they are poorly understood, we do not know what contribution it might make to urgent carbon reduction efforts were we to target high consuming households as part of consumption reduction initiatives. As Dubois *et al*. [1] explained, we need to both better understand the potential contribution of households in climate policies, and locate households as a higher priority in climate policy strategies. The study of high consumers is bound up with issues of energy justice, as data suggests that lower income households are more likely to take steps to reduce their consumption in order to conserve resources, potentially compromising their health and wellbeing further [2, 3].

This paper is linked to an ongoing international project which conceptualises high consumers as a form of hard to reach energy users and seeks to characterise and better understand high consumers (in the context of the developed world), the scale of their

contribution to carbon emissions and other forms of environmental degradation and therefore the value of targeting them with policy and engagement initiatives. Here we provide a review of what is already known and understood about high consumers and make the case for further research in this area. We consider the concept of high consumption in the context of the UN's Sustainable Development Goals (SDGs) and from a critical social theory and ecological economy perspective, and explore some of the difficulties around arriving at a definition of high consumers. We then provide an overview of key debates around consumption, development and growth and situate the concept of high consumers within this. We also cover the subject of consumption inequality, as well as individual, social and structural aspects of high consumption. After that, we address the literature related to three of the primary areas of consumption: energy, transport and food, as these are the main sources of individuals' environmental impact in developed countries [4]. The conclusion summarises the findings of the review and proposes a research agenda on high consumption.

Methodology

This literature review comprises of an analysis of articles, books and reports related to high consumption, to characterise what high consumption is, and make the case for further investigation of the phenomenon. The data sources reviewed are varied in terms of disciplinary focus, hence the use of a targeted literature review approach to identify empirical studies and theoretical texts that could provide insights on the topic, rather than a more systematic approach. We identified texts by searching in Google Scholar and the Scopus database for the terms "high consumers", "high consumption" and "overconsumption". We then screened the results and excluded sources focused on a narrow type of consumption (e.g. health sciences articles on pathologies related to high consumption of alcohol). The reference lists of eligible papers, books and reports were used to identify additional sources related to the topic (snowballing). The analysis was organised around wider systemic issues related to high consumption (from psychological, socio-political and economic perspectives), and the three primary areas of consumption (energy, transport and food). To enhance rigour and validity, we adopted triangulation of researchers, triangulation of data, and triangulation of theories.

The findings of this study have to be seen in light of some limitations. The first is a bias towards the developed world due to that being where we live and where the literature we accessed is focussed, plus the snowballing leading to further sources set in that context. The second limitation concerns the paper looking at the issue from a limited number of theoretical perspectives (social theory, ecological economics, moral psychology and environmental science), but that may just reflect where most of the academic activity has taken place. Within resource and space constraints we have attempted to map out the key dimensions of the debate within this paper. However, the complex nature of the topic requires a multidisciplinary approach, and a more systematic, exhaustive review of the current evidence on problems associated to high consumption could probably include more areas of research, as well as more evidence and critical perspectives from the developing world.

What is Sustainable Consumption and Production?

In September 2015 UN member states set the SDGs, intended to be achieved by 2030. Goal 12, Responsible Consumption and Production, requires a shift to sustainable consumption and production in developed and developing countries. The UNEP [5] affirms that Sustainable Consumption and Production (known as SCP) is a holistic

approach and is about systemic change. This goal is divided into three more specific objectives: (1) Decoupling environmental degradation from economic growth, (2) applying life cycle thinking, and (3) identifying opportunities for developing countries for a transition to more resource efficient, environmentally friendly and competitive technologies, which could bypass the more inefficient and polluting phases of technological progress followed by developed countries. This systemic approach is further developed in the targets which countries use to measure their progress towards Goal 12 of the SDGs. Although all these targets (and many of the SDGs) are arguably interrelated, the ones which are more directly related to high consumption on a household level are:

a) Target 12.1: Implement the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead, taking into account the development and capabilities of developing countries. This 10-Year framework was adopted in 2012, and followed reaffirmation by the world's governments that changing unsustainable patterns of production and consumption is an essential requirement for sustainable development [6]. It involves resource efficiency initiatives, at national and regional levels, which aim at decoupling environmental degradation from economic growth.

b) Target 12.3: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses. To meet this target, many changes are required in food production and distribution, but food waste at different stages is arguably linked to the problem of high consumption (especially if we understand disposal as a form of consumption and we look at the full process of food production, distribution and consumption). Looking at the problem of waste disposal as a consumption issue highlights the importance of waste distancing in the context of economic globalisation. Geographic and mental distance tends to make people think that waste generation and disposal is someone else's responsibility [7].

c) Target 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse. This target is focused on waste reduction too, but it is not limited to food products and makes explicit use of prevention and reduction as strategies to reduce waste generation, although it does not mention high consumption specifically.

d) Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature. This target assumes that environmental education campaigns are an efficient way to promote some of the systemic changes needed to make progress towards SCP.

Using this framework, the UNEP calls for a policy approach which includes tools that aim at phasing out undesirable products and behaviours, and tools that focus on expanding the market for more sustainable products while incentivising more sustainable behaviour [8]. As we will see, this might be a very limited framework because of the dominant cultural values in capitalist economies, and because of contradictions between different SDGs. For example, Goal 8 (which involves sustained per capita economic growth) seems to be incompatible with sustainable consumption. The UN recognises this when it sets as an objective 'decoupling environmental degradation from economic growth', but it is unclear to what extent this is possible within the next decade (if at all). Even if this

objective were possible, implementing policies focused on reducing the impact of high consumers would probably accelerate the progress towards sustainable consumption.

What does critical social theory say about overconsumption?

Drawing from critical social theory, Anantharaman [9] argues that questions of power, legitimacy, authority and justice have not been addressed enough in the field of sustainable consumption. According to her, the focus of research should be in the relational and structural power within sustainable consumption examples, in order to analyse how they challenge or reinforce existing patterns of oppression and marginalisation. According to Di Muzio, the wealthiest people have a desire for social status and demonstrate their superiority through unequal intraclass consumption [10]. He argues that the consumptive practices of the rich are contributing to put global society into an unsustainable quest for perpetual economic growth. This growth project complicates social changes based on ideas of fairness between humans and threatens vulnerable populations with the worst effects of environmental collapse. De Graaf *et al*. agree with this view of materialism [11], but they focus on wider social dynamics and explore cultural changes and technological progress as causes of increasing demands and rapid obsolescence.

Dutta stated that there is a tendency in climate change mitigation policy to target production and producers [12]. But one could also look at high consumption, and gear policy towards changing consumption patterns. This is still a relatively new approach, but a promising strategy for policy-makers targeting high consumers might be focusing on target 12.5 of the SDGs and aim for robust prevention and reduction regulations, perhaps combining a fairer taxation on overconsumers, information campaigns as suggested by target 12.8, and legislation that restricts advertising of certain products. This type of strategy is not as popular due to the potential effect these measures would have on the dominant paradigm of continuous economic growth, which is also a SDG. Although by looking at historical data and modelled projections, decoupling GDP growth from negative environmental impact seems impossible [13, 14]. Also, the SDGs targets acknowledge the difference in consumption rates between developed and developing countries, but do not take into account the different levels of consumption by individuals or companies within those countries. Understanding how consumption varies within countries, and not just between them, might be a necessary step towards reducing different dimensions of inequality. Tackling the problem of overconsumption requires a complex understanding of the economic and social issues that make it possible, which in turn calls for comparing consumption patterns not only between, but also within communities.

There are conflicting views of how living standards should be evaluated. Some see welfare as highly correlated with GDP per capita, but there are often significant deviations [15]. Other authors favour evaluating living standards by focusing on different personal perceptions and widely accepted values in a society [16] or improved health [17]. Some have argued that sufficiency rather than development should inform policy-making [18]. However, most people do not want to embrace voluntary simplicity, or scale down their access to goods and services which they consider to enrich their lives, as Bookchin noted [19]. For example, Hirsch [20] shows how people in the UK see buying birthday presents, alcohol and eating out as minimum necessities. Bookchin also explained that looking at consumerism can only provide limited explanations if one ignores the role played by

producers in shaping public taste and guiding and incentivising purchases [19]. Another critique of the sustainable development approach recognises the need to resist ideas of economic development and politics dependent on Western modernity and historicity [21]. This approach calls for alternatives to development, as opposed to alternative forms of development. From the post-development perspective, the global framework for development represents an extension of imperialist systems, which perpetuates unsustainable expectations of growth and consumption.

Overconsumption from an ecological economy perspective

Brown and Cameron looked at definitions of overconsumption and found that most of the literature providing these definitions was in the field of social theory and the starting point was a critique of consumerism [22]. The main focus of this approach is on questioning the idea that consumption is the best way to achieve happiness. From this perspective, overconsumption is the excessive use of goods and services which departs from a false belief that owning and using an increasing quantity of a range of goods and services is a normal motivation and an acceptable cultural desire, as well as the more likely way to achieve personal happiness, status, and national success. If one accepts this kind of definition, a certain consumption level is only excessive if the quest for material goods and services does not lead to happiness. According to Dupor and Liu, the happiness of an individual is also related to the consumption of others [23]. They think overconsumption exists because individuals do not anticipate the negative effect of their own consumption on jealous others. Moving away from definitions which are linked to happiness, Brown and Cameron favour an approach which focuses on our relationship with the environment [22]. Here, the focus shifts from overconsumption of goods and services to the overuse of natural resources. They recognise this standpoint is related to the one developed in social critique, but a focus on the environment allows a distinction. On one hand, there are those who aspire to achieve happiness through the use of goods produced from abundant resources or goods which use very few natural resources. They may overconsume goods and services but not natural resources. On the other hand, people might not consume a good above what is needed for subsistence or because of a false belief that they would achieve happiness, but they would still cause a depletion of the resource if it is a scarce one and the rate of extraction exceeds the rate of regeneration.

Trying to incorporate in their analysis a variety of technical issues, which must be addressed in order to progress towards sustainable consumption, they defined overconsumption as “a large, unique form of common pool resource dilemma in which: (a) the size of the pool of resources is often unknown; (b) people differ in their access to resources and their preferences for resources; and (c) people must make their decisions about the use of goods and services without a clear understanding of the types and quantities of the resources used in their production” [22, p.30]. Although both terms are likely to overlap in many cases, using the term ‘high consumers’ instead of ‘overconsumers’ enables a focus on impacts of consumption beyond resource depletion, as well as comparing consumption patterns within and between different populations.

How are consumption, development and growth understood in economics?

Recognising some of the unwanted effects of markets, economists such as Stern [23] or sociologists such as Arvidsson [24] argued that there is space in current economies for the inclusion of more ethical, collaborative and sustainable practices. They believed that by improving technologies and collaboration practices, as well as by implementing carbon taxes (in the case of Stern), a transition towards a more ethical, low-carbon

economy was possible. They held that continuous capital accumulation and GDP growth was compatible with positive environmental and social impacts. This is arguably the most influential narrative for the UN, as goal 8 of the SDGs shows (countries should aim to sustain per capita economic growth). This would explain the objective of decoupling environmental degradation from economic growth in order to shift towards responsible consumption and production, although there is no empirical evidence of the existence of a decoupling of economic growth from environmental degradation, and such decoupling seems unlikely to happen in the future [13, 14]. Stern does not address the differences in consumption rates by different individuals, countries and businesses and the implications of higher consumption for environmental degradation [23]. But ecological footprints vary across nations, and in terms of social classes, the wealthy generate more negative environmental impact than other income groups due to excessive consumption [25], [26]. This perspective also seems to overlook the rate at which commons (public assets as well as community management systems) are being privatised and commercialised [27]. This private control of ecosystems, public spaces in cities, social institutions, communications, etc. endangers the ability of communities to choose the way they relate with their environment through a democratic process.

Some political economists and ecological economists do make those links between consumption and environmental issues [28, 29]. They argue that the concepts of 'sustainable development' and 'green growth' focus too much on adapting technologies and educating the public, while preserving some problematic theoretical assumptions. They explain that if they address environmental and social issues in a way that takes for granted an unrealistic idea of perpetual quantitative growth (measured in GNP or GDP), economists and policy-makers are acting before engaging in necessary debates. According to them, those debates should be framed around what constitutes development, what are the most just ways to satisfy needs and desires, and how consumption could be a way to enhance human welfare instead of an end in itself. All of those topics should be addressed bearing in mind we live on a finite planet. Also, as environmental and social issues are often connected, there are opportunities to improve our relationship with the environment at the same time as we improve other aspects of society.

Along this line of thinking, degrowth proponents focus on decreasing material and energy consumption, which will most likely result in a GDP decline [30]. Their main objective is to meet basic human needs and ensure a 'good life' [31], while reducing the environmental impact of the economy to a sustainable level, looking at building a fair system for all. This would represent a shift from capitalist economies and a transition towards more ecologically viable economic models [30], [32, 33, 34], which involves valuing well-being, sustainability and equity indicators over GDP when assessing progress.

Why looking at consumption inequality?

According to Attanasio and Pistaferri, using consumption as well as income to phrase the debates around inequality offers some advantages [35]. Especially in cases in which the distribution of income is wider than that of consumption, or when changes in consumption over time are smoother than changes in income levels. As a way to measure wellbeing at a household level, a welfare analysis should look at factors such as the value people assign to leisure time and the quality of goods they consume, as well as the quantities. Going beyond looking at components of income, they show how inequality in the consumption of products and services in the US has increased considerably over the last few decades

(see Figure 1), as measured by different authors [36, 37, 38, 39] using a variety of empirical strategies. This reflects an increase in inequality in welfare and well-being, which often parallels income inequalities but can be analysed separately. This might be an exceptional case, as the US is becoming more economically unequal in relation to multiple economic dimensions [40]. Also, the increase in consumption inequalities does not track income inequalities so closely in every country. Looking at the case of Canada, where the increase in consumption inequalities has increased less than income inequalities in the last two decades, Boyer argues that the rich were already consuming a great deal at the beginning of the period [41]. As there is a limit to what an individual can consume, the gains in wellbeing must have been more important for the lowest incomes.

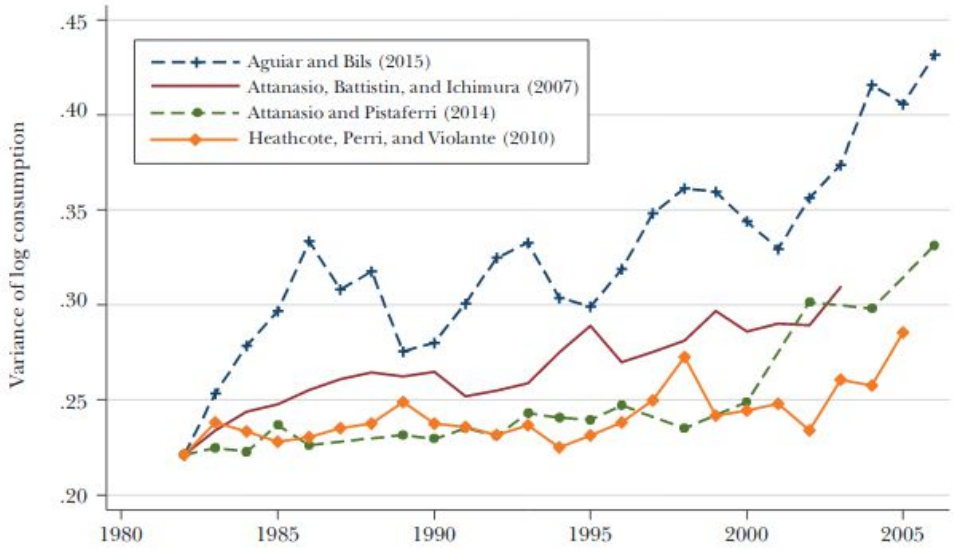


Figure 1. The evolution of consumption inequality over time as measured by different papers [35].

There is no widely accepted, clear definition of 'high consumer' in the literature. The definition can be associated with overconsumption and be context dependent, linked to psychological traits, or it can be based on quantitative classifications used on particular studies, which look at specific resources. This complicates the agreement on the definition of a high consuming household, and how to prioritise households for consumption reduction measures. However, income is a major predictor of household consumption related environmental impact [42, 43, 44, 45]. For example, CO_2 emissions per household in the UK increase with income [46] (see Figure 2).

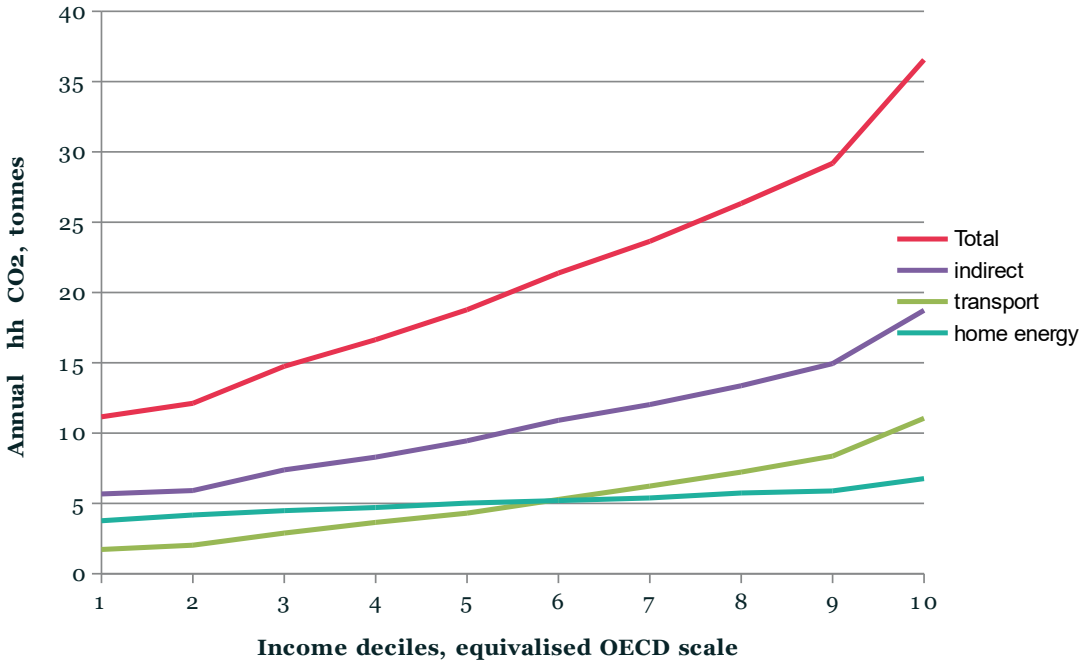


Figure 2. Annual Household CO_2 emissions (tonnes) and income deciles [46].

Both direct emissions (mostly from domestic fuel and electricity use), and indirect emissions (embodied in food, consumer goods and services, including imports) are mostly driven by income, but household composition, and employment status are also significant variables [47, 48]. At a global scale, Hubacek *et al.* estimate that the top 10% affluent households emitted 34% of global CO_2 in 2010, while the 50% of global population with the lower income were only responsible for 15% of emissions [45]. According to Kartha *et al.* the richest 10% were responsible for 49% of emissions in 2015, whereas the bottom 50% were responsible for 7% of emissions (see Figure 3). Emissions grew between 1990 and 2015, but this growth occurred overwhelmingly in the higher-income half of the world's population [49].

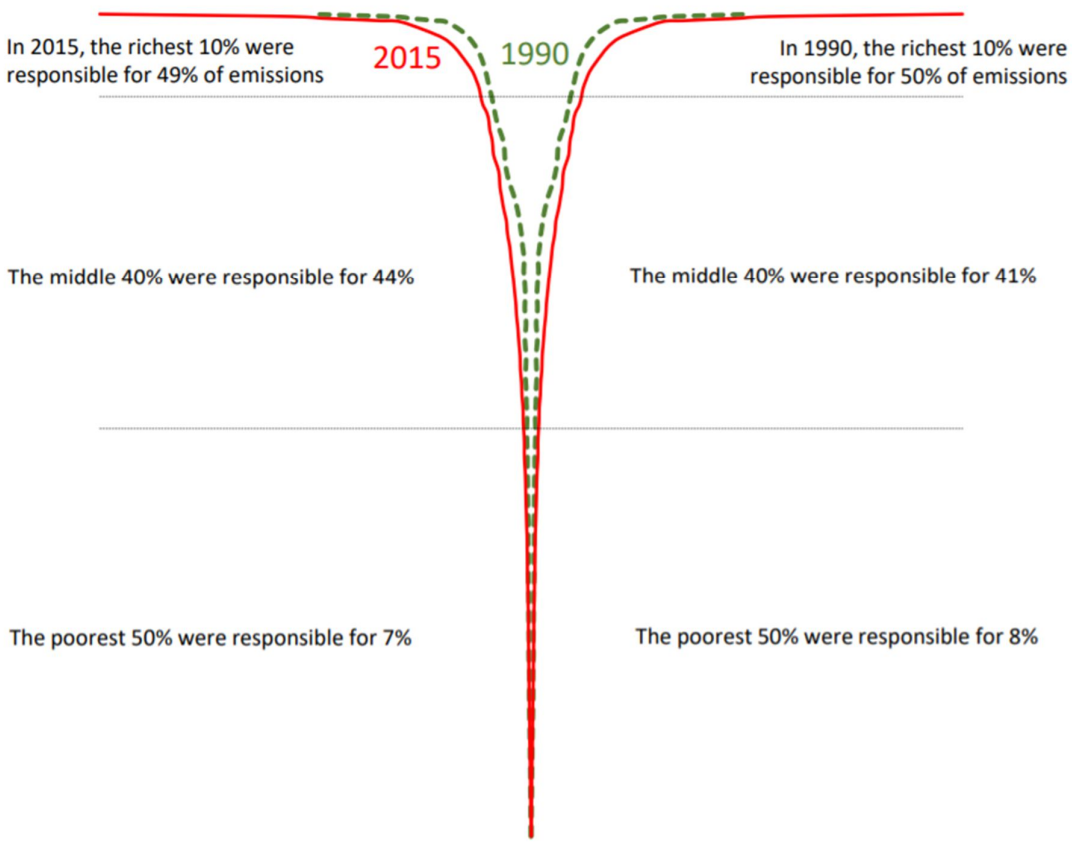


Figure 3. The 'champagne glass' of global carbon inequality in 1990 and 2015, showing the shares of annual global carbon emissions in each year that are attributed to individuals in three global income groups. The global population is arranged by income vertically, and the corresponding share of annual global carbon emissions is represented horizontally [49].

Geographically, due to increased population in urban areas, consumption and carbon footprints are spatially concentrated in high-income cities and suburbs [50]. High consumption at a household level often appears at the same time across different domains [44, 51, 52]. Therefore, although there might be difficulties in terms of definition and identification, targeting higher consumers with consumption reduction measures, should make a more significant contribution towards reducing emissions (and decreasing the extraction of resources) than focussing on larger groups of lower consumers.

Kenner explored the links between inequality and overconsumption within countries. He recognises the need to reduce overconsumption across society, but looking at the current levels of inequality he focused on the ecological footprints of high-net-worth individuals (HNWIs) [53]. He found four challenges in trying to get HNWIs to reduce their ecological footprint: (1) some of them may be disconnected from the reality of the ecological crisis; (2) they have more resources to adapt to climate change; (3) environmental taxes may have less effect on these individuals because they can afford to continue polluting; and (4) they may not engage with sustainable consumption information initiatives (perhaps because they are not formulated with this audience in mind).

What drives high consumption?

Håkansson found that papers looking at 'over-consuming agents' often discussed them in terms of psychological aspects or personality traits [54]. Overconsumption is described as something certain minorities or psychologically weak individuals carry out. This is in line with the findings of Humphery that problematic consumption is often described as a behaviour of weak individuals rather than being an effect of deeper, underlying structures of society and economic systems [55].

Giddens views consumption as a set of social practices, influenced by social norms and lifestyle choices, and also by the institutions and structures of society [56]. Giddens' model makes a distinction between 'practical' and 'discursive' consciousness. Every day, routine actions are mostly performed in practical consciousness. But intentional or more goal-oriented behaviours need previous elaboration in discursive consciousness. This insight is important in developing strategies to change habitual behaviours, such as sustained high consumption. There is a great diversity in human motivation for high consumption. Behaviours are driven by habit, emotion, coercion, and calculated expected utility, as well as interpretation of internalized rules and principles [57]. Davies *et al.* recognise the complexity of the individual, social and structural factors that influence and support current patterns of high consumption [58]. They see potential in using a social practice framework to identify effective interventions aimed at improving the sustainability of everyday consumption. They also look at a Multi Level Perspective as a useful framework for the analysis of strategies for system transitions, which has had some impact in policy arenas. However, they accept that this framework is limited in terms of its vertical conceptualisation of processes (which overlooks certain horizontal interactions in micro, meso or macro levels), and it does not engage with the normative dimension of sustainability. Jackson explains that since many environmentally significant behaviours are routine in nature, sustainable consumption policy must find ways of addressing and re-negotiating habitual behaviour [59]. Drawing on Giddens' theory, he observes that habit formation has its own rules and dynamics, an approach for changing habits is to 'unfreeze' existing behaviour to raise the behaviour from the level of practical to discursive consciousness. This process is more effective in a supportive social environment.

How people demonstrate their status and identity in society influences their consumption habits as well [48, 60]. Kasser & Kanner state that consumerism and the culture that surrounds it (advertising, consumption, materialism, and the capitalist economic system) promote a set of values that encourages an unsustainable relationship with the rest of nature, and negatively impact personal, social, and ecological well-being [61]. Schwartz lends support to their view, by showing how more market driven, competitive societies have a cultural preference for self-assertive, mastery of human and natural resources rather than relating harmoniously to them [62].

Several researchers have suggested that moral values are key for understanding how people behave in situations related to the environment [63, 64, 65, 66, 67]. According to Schwartz, values are beliefs tied to emotions that refer to desirable goals in life, form a hierarchical system, and serve as guiding principles in the life of a person or other social entity [68, 69]. They are abstract constructs that transcend specific situations. Environmental values in particular, refer to beliefs about how humans should view and treat the environment, which serve as moral reference points for how individuals and societies interact with their surroundings [70]. The concept of welfare, especially the well-

being of others (either future beings or those living in the present) is an issue of moral concern. Thus, adapting our consumption practices to sustainable standards is a decision guided by certain moral judgements, which are influenced by how we experience the world and by how we want the world to be in future. Psychological factors are important determinants of individual pro-environmental behaviour and also influence the implementation and acceptance of certain public policies [71].

A variety of studies show the existence of measurable pro-social and pro-environmental values that transcend individual self-interest [66, 72, 73]. The relationship between pro-environmental values and behaviours is complex, and influenced by many other factors, such as attitudes [74, 75, 76], norms [63, 67, 73, 77], self-identity [78], perceived behavioural control [79], people's everyday lifestyles [80], and perceived social consequences [67]. The relationship between values and behaviours is not a simple, linear one, but studies show that self-transcendence values often show a positive relation to pro-environmental attitudes and behaviours; by contrast, self-enhancement values are negatively related to pro-environmental attitudes and behaviours [64, 65, 66, 77, 81]. The tension between self-transcendence and self-enhancement values shows in the use of 'citizens' as people willing to serve the common good, 'consumers' who are supposed to seek pleasure, or 'consumer-citizens' who engage with political issues through 'tasteful' consumption [82]. The complex interactions between different sets of values within individuals also shows in the fact that doing good deeds can increase people's willingness to transgress their morality [83].

Inequality in terms of consumption exists within and among countries. From a geopolitical perspective, high-consuming countries have the military strength and the economic power to build their prosperity by unequal exchanges. These states (and their businesses) extract raw materials at low cost and use low-paid human resources from peripheral countries, then export waste, pollution and outdated goods in exchange [84]. The behaviour of these countries and corporations, which is normal and acceptable in capitalism, comes from a standpoint which values power and achievement, self-enhancement values in Schwartz's theory of basic values [85]; over self-transcendence values, such as benevolence and universalism.

Kasser showed that countries whose citizens attached relatively higher priority to self-enhancement in their values also had higher levels of CO_2 emissions [86], providing empirical support for the idea that the pursuit of economic success at a national level may contribute to environmental damage [33, 87]. This challenges the idea of those who claim that a state is capable of having a strong, growing capitalist economy and simultaneously protecting the environment. Materialism is negatively associated with both pro-environmental attitudes and behaviours [76]. Some studies [62, 88, 89] show that the extent to which nations pursue less regulated, free-market forms of capitalism, directly correlates with the extent to which their citizens are more likely to endorse values that concern wealth and competition between individuals. Therefore, it is likely that economic practices (advertisement, commodification, planned obsolescence) stem from and also perpetuate cultural values, which in free-market capitalist countries seem to promote high consumption. This might explain why the 'most successful' (e.g. the ones with higher incomes) are often the ones which consume more and produce more pollution. According to the OECD, everything else being equal, a person with a higher level of consumption has a higher level of economic well-being than someone with a lower level of consumption [90], although high consumption lifestyles negatively affect other people

and the environment [91]. If one looks at different types of consumption; domestic energy use, private transport and food are the main sources of individuals' environmental impact in developed countries [4]. These are likely to be the types of consumption where high consumers could make a more significant reduction.

High consumers of energy

Energy consumption varies greatly across households of similar demographic types, as energy use is influenced by physical aspects of the home in conjunction with the knowledge, routines and values of the occupants [92]. Therefore, a transition towards sustainable energy use requires profound, wide-reaching changes in relevant behaviours, as well as social and technological transformations. Steg *et al.* explain how this transition can be promoted by changing the context for actions so that the costs and barriers for sustainable practices are lowered [93]. At the same time, targeting individual factors, such as knowledge and motivations, can also be a way to engage people in more sustainable energy behaviour. Although it is only one of the various factors that influence energy use, income inequality parallels inequality in energy footprints: when looking at income levels, the energy consumption share of the bottom half of the population is less than 20% of final energy footprints —less than what the top 5% consume [94]. Multivariate analysis shows that various factors, such as household size and composition, home ownership, education level and rural location also play important roles in determining energy consumption [42, 95]. However, the effects of those factors are mixed, and it is often unclear how some of them affect high consumption of energy at a household level. Bounen *et al*. analysed a sample of more than 300,000 Dutch homes. They found that gas consumption is determined principally by structural dwelling characteristics, such as the age of the building, its type and materials used, while electricity consumption varied more directly with household characteristics, in particular income and family composition. They estimated that the aging of the population and their increasing wealth was likely to offset energy-efficient improvements of the building stock (resulting from policy interventions and refurbishments) in the future [96].

Sovacool investigated how energy services differ according to sector, urban and rural areas, as well as due to direct and indirect uses. In his analysis of urban households' energy use throughout the world, he found that the low-income households use a greater number of fuels and carriers, from dung and fuelwood to gas and charcoal, but less services. Middle-income households tend to rely on electricity and natural gas, followed by coal, gas, and kerosene, and they use energy in order to get a broader variety of services. The households with higher incomes have access to the same energy fuels, carriers, and technologies as middle-income households, but consume more energy (as they have more luxury items, as well as multiple sets of the same appliance) [97]. Because of the low energy efficiency of the housing stock, energy consumption in the domestic sector could be reduced in many countries, as people inhabiting inefficient buildings must use more energy to heat their homes [98]. There is a connection between low levels of energy consumption and poor indoor environmental conditions for low income households in Europe [2], which shows a difficulty in reducing the energy use in those households, as this would increase the negative effects of inadequate housing on their health and wellbeing.

Yang & Timmermans looked at how green energy policy instruments in the EU are used to overcome different barriers for technology adaptation and household energy consumption behaviour [99]. Regulations and tax instruments are the two most widely

applied instruments in the household sector. This shows the popularity of a market-based approach, reflected in the use of tax, incentives, subsidies, fees and charges as tools for adaptation. Some studies show that as income rises, households are less sensitive to energy price increases [100, 101, 102], which means that price mechanisms might not be the most effective way to promote efficiency among high-income segments of the population. High-income households are also less vulnerable to energy-price hikes than their poorer counterparts [103] and often unwilling to reduce their energy usage [95]. Lutzenhiser showed how when faced with increases in price, low-income households often cut back consumption and make lifestyle changes, whereas middle and higher income households are able to maintain consumption or purchase more efficient equipment such as newer appliances that use less energy [104]. This raises the question of whether different energy policy instruments are needed for different households depending on their income.

A fuel transition from biomass to fossil fuels and electricity has accompanied economic growth and increasing urbanisation in developing countries [105]. Alam *et al.* analysed this transition in Hyderabad, India, and looked at how these technologies might be less polluting and more efficient, but government policy favoured the highest incomes, as they had access to more fuel and better equipment [106]. Mundaca *et al.* analysed more than 10,000 national and city-level policies in order to quantify the nature and evolution of policies promoting the adoption of low-carbon energy technologies. They found a widespread use of economic incentives (mainly subsidies) internationally. At a local level, cities focused on technology and infrastructure policies, but policy efforts do not address behavioural factors (i.e., cognitive, motivational and contextual aspects) in a direct manner, and no policies addressed high income households explicitly [107].

According to a smart meter customer experience study by the Department for Business, Energy & Industrial Strategy in the UK, the most likely to look at how much energy they were consuming at least weekly were social renters (55%, compared to 43% among owner occupiers) and those with a total household income of less than £16,000 a year (53%, compared to 40% among those in households with an income upwards of £50,000). More cost-conscious households were more likely to use their in-house display (IHD) to track how much they were spending on energy. Using their IHD to check that every appliance was off when they went out or went to sleep was also more common among respondents on low incomes. A quarter of those on lower incomes wanted further information about how their smart meter worked (25%) and how their IHD worked (22%). This was significantly more than those in the highest income category (for whom the corresponding values were 12% and 11%, respectively). Although it provides some important insights about smart meter adoption, this study did not analyse data from high consuming households as a separate entity [3].

Albert & Maasoumy explain that energy providers aim to increase their customer satisfaction and engagement, as well as promoting certain environmentally-friendly initiatives [108], and as customer data has recently become more detailed and readily available, research on demand-side management has used consumption readings and demographic information to focus on three main areas: (1) Modelling building performance and consumption patterns of populations in order to improve programs such as time-of-use tariffs and personalised energy-saving advice [109], (2) collecting data from households and individual appliances to reconstruct end-use signals from an aggregate signal [110], and (3) studying the effect of occupancy, weather and building

characteristics on household energy consumption [111]. This kind of research might provide evidence to identify high-consuming households, but it seems none of these approaches have been used yet to target high consumers as a group in order to try and identify any common characteristics and improve their individual performance if possible. White & Sintov warn that time-of-use electricity billing might produce some economic and conservation benefits, but these rates could affect vulnerable households in a negative way, which should be considered separately in rate design, in order to avoid exacerbating energy injustices [112]. Price support and price relief have traditionally been the most common measures to address energy poverty [113]. These price regulations do not target low income households and also seem to weaken price incentives for producers and consumers alike. Retail electricity companies are starting to use new technologies to make prices more flexible and responsive to the market, but this is aimed mostly at reducing energy bills, not at changing the behaviour of any consumers.

According to Aune, energy cultures involve everyday practices, but also interpretations of energy, energy-related artifacts, and energy policies [114]. Therefore, private energy consumption is a result of a combination of activities, preferences, values, technologies and material structures, with domestication (understood as the conglomeration of the house, its artifacts and activities) at its core. Any behavioural change initiatives and new technologies have to address different images and practical constructions of what home is, as information and the use of energy-efficient technologies do not spread in a simple, linear manner. Drawing on culture-based approaches to behaviour, and soft systems thinking, Stephenson *et al.* developed the Energy Cultures framework, which states that consumer energy behaviour can be understood by looking at the interactions between cognitive norms, material culture and energy practices [115]. A transformation towards a sustainable society will require significant cultural changes along with material and behavioural changes at different levels (in households, businesses, etc.) [116]. Energy policy still relies heavily on a top-to-bottom approach and often understands implementation of technology in a linear way. Perhaps a different understanding of the interactions which shape consumer behaviour would facilitate a move towards more sustainable practices. For instance, Eksin *et al*. developed a simulation which shows that communication about consumption between neighbouring energy users improves welfare and that power providers could lower consumption by adjusting their target profits [117].

High consumers of transport

In the UK, households with high incomes, high education and with children are more likely to have high emissions, which are mainly driven by high indirect and high transport emissions [42]. The geographical areas in the UK which used more gas and electricity, used the most energy from private transport as well [52]. In general, the households who owned cars in urban areas spent less on road fuel than the households who owned cars in rural areas. There are disparities in car ownership and use by different social groups. As with other energy uses, the most pronounced is the relationship between income and travel, but there are also differences depending on gender, age, household structure, rural location and settlement patterns [118].

According to Sager, the 10% of households in the United States with the highest incomes, emit around 12 metric tons of CO_2 per year from using gasoline, whereas the 10% of households with the lowest incomes produce 3.6 metric tons of CO_2 per year from private transport and emit around 18 metric tons for everything they buy all year [119]. He concludes that income redistribution in the United States might increase total household

CO_2 emissions, as the propensity to generate emissions from an additional unit of income is higher at lower incomes. Andersson looked at the impact of the introduction of a carbon tax and a value added tax on transport fuel in the years 1990-1991 in Sweden. He estimates a reduction in emissions of 10.9% during the period of 1990-2005 [120].

Promoting electric vehicles (EVs) might not substantially improve many issues related to high consumption, considering the unclear CO_2 gain and higher costs from a life-cycle point of view [121, 122]. Any improvement in terms of CO_2 emissions is difficult to quantify, since it depends on the approach to generating electricity, and the importance of EVs on replacing fossil fuels is unclear. According to Yang & Timmermans, a large-scale use of EVs might increase overall car use and traffic in cities, and reduce the use of public transport and bicycles. They also explain that policies which involve subsidising EVs might lead to inequality of tax benefits across income levels, since richer households are more likely to purchase an EV [99].

Shove *et al.* analysed car dependence, and concluded that different forms of energy consumption, including those associated with private transport, are outcomes of interconnected patterns of social practices, including working, shopping, educational activities, leisure, etc. They acknowledge that social practices are always embedded in material arrangements, and suggest that forms of car dependence emerge through the intersection of arrangements that are integral to different types of infrastructure and their connections to social practices [123]. There are also differences in the disposition to reduce private car use between segments of the population. Andersson looked at moral factors that influence motivation to reduce private car use in Sweden, and he found that males, the middle-aged, people with low educational attainment, and rural residents are less open to decreasing private car use [124]. A higher income is likely to increase the number of trips and their average length, and income also plays a key role in car ownership, which reduces the demand for public transport [125]. The association between income and alternative ways to travel, such as cycling, is not clear in the literature [126], but car ownership is negatively associated with the likelihood of an individual being a cyclist [126, 127], and some income inequalities, which favour higher incomes, have been identified in the availability and quality of cycling infrastructure in cities [128].

In the case of flying, Cohen *et al.* looked at binge flying as a behavioural addiction, although they did not focus on income as a predictor. They looked at the tensions between tourism's short-term gratifications and the environmental impact of air travel, as well as between the discourses against excessive flying and the increase in air travel [129]. Westlake explored the influence of high-profile individuals on the intentions and attitudes of others regarding aviation [130]. He concluded that leading by example, these individuals could contribute to a shift away from excessive flying. According to Banister [131], in the UK air travel has become more affordable in the last decades, but this has not resulted in a higher proportion of the population flying. Instead, the low-cost airlines have allowed those who were already flying to fly more frequently while saving money (see Fig. 4). Recent reports [132, 133] suggest that, globally (prior to Covid-19), the proportion of the population that flies at least once a year in most countries is less than 50%, and, in many cases, much lower than this. The 1% of the world's population who flies most often accounted for more than half of the emissions from passenger aviation [132].

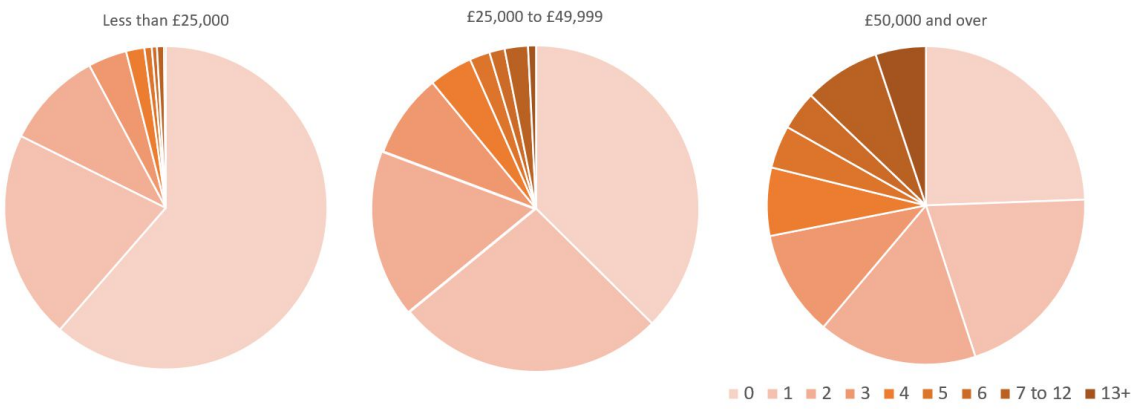


Figure 4. Number of international flights in 2019 by income (UK) [134].

High consumers of food

FAO and WHO define Sustainable Healthy Diets as "dietary patterns that promote all dimensions of individuals' health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable" [135, p.9]. Regarding cultural aspects, the focus is on avoiding adverse impacts on women's time allocation, but also on the accessibility and desirability of diets. This definition recognises the difficulty of promoting diets which have less impact but are not culturally desirable. For example, looking at meat consumption in Scotland and the cultural, social and personal values around it, Macdiarmid *et al.* recommend integrating cultural issues into the development of dietary recommendations [136]. This focus on cultural values creates a conundrum when facing high consumption in free-market capitalist countries, as their typical values are opposed to sustainable consumption.

National dietary recommendations and guidelines are developed to give indications of what people should be eating, often to address public health concerns, such as obesity, cardiovascular disease and diabetes [137]. These guidelines can also be a policy tool aimed at reducing the environmental impacts associated with the food system. For example, the latest Swedish dietary recommendations emphasise the importance of making food choices that have beneficial impacts on both human health and the environment. The report explains that a plant-based diet has a lower environmental impact compared to a diet with large quantities of red and processed meats [138]. The most recent UK set of dietary guidelines is also presented as an attempt at helping the population choose healthier and more sustainable food, but it does not make an explicit distinction between animal and vegetable sources of protein [139]. The United States guidelines are focused on healthy eating and do not mention sustainability [140]. None of these guidelines direct specific recommendations to high consumers of food, beyond looking at a recommended caloric intake and balancing food groups.

The health consequences of persistent overconsumption of food, such as the worldwide increase in obesity have been attributed to excess energy intake [141]. The problems of high consumption of food are related to this excess energy intake by human populations, but the consequences also depend on the types and quantities of foods people eat [142]. Arguably, avoiding a caloric surplus would also reduce the environmental impact of excessive consumption. However, Tukker et al. found that a shift towards healthier diets would only result in minor reductions of environmental impacts in Europe, unless those

healthier diets included a reduction of meat and dairy intake [143]. For instance, moderate changes which involve significant less red meat can lead to a reduction of impacts of food consumption by about 8%. Vieux *et al.* looked at the effects of reducing energy intake on diet-associated carbon emissions. When the energy intake did not exceed individual energy needs, the diet-associated emissions decreased by either 10.7% for low physical activity, or 2.4% for moderate activity [144]. This supports other studies which state that reducing total caloric intake to meet energy needs and meet dietary guidelines would lead to a decrease in emissions and would require less land use for food production [142].

However, choosing healthy and sustainable food choices does not depend exclusively on personal preferences. For example, Barosh *et al.* found that households in the lowest income quintile in Greater Western Sydney, would have to spend up to 48% of their weekly income to buy a hypothetical healthy and sustainable basket of food, while households in the highest income quintile would have to spend only 9% of their weekly income [145]. Bonaccio *et al.* looked at the influence of the economic crisis on diet choices in the Italian region of Molise. They concluded that socioeconomic determinants play a major role in explaining the adherence to healthy dietary patterns [146]. Maguire & Monsivais also observed that socio-economic differences in diet choices may contribute to health inequalities [147]. In the UK, Mireku & Rodriguez found that the risk of adolescent obesity increased with decreasing household income quintiles. After stratifying by geographic-level deprivation quintiles, this risk associated to family income persisted both in the most deprived and in the most affluent neighbourhoods but was not significant in middle-class neighbourhoods [148]. This study did not investigate if there were any differences regarding the composition (in terms of food types, origin, etc.) of the caloric intake of different neighbourhoods, but as socioeconomic and environmental factors play a powerful role in determining dietary intake [149, 150], it would be likely to vary.

The focus on personal high intake of food as the cause of obesity overlooks factors such as the complexity of psychological determinants of eating behaviours, low physical activity leading to a negative energy balance, a dense built environment, pervasive food marketing, and the increased availability of energy-dense, nutrient-poor food [151]. In the UK, the individual has been the focus for obesity prevention and intervention, despite strong evidence suggesting the importance of socio-economic factors, which would require collective action and multiple sites of intervention, beyond personal responsibility [152].

Conclusion

In conclusion, while they might be difficult to define and identify in some cases, high consumers have the potential to make a big difference in relation to human environmental impact by reducing their use of resources, with minimal consequences for their wellbeing. High consuming households remain largely unstudied, particularly in an explicit sense, and consumption reduction policy initiatives are not targeting them specifically. The evidence presented in this review makes plain their direct and indirect contribution to environmental degradation through their own consumption practices and the setting of societal material aspirations. However, without a better understanding of the psychological, social and structural drivers of high consumption, the precise actual environmental impact of high consumers, and the barriers to engaging them in sustainable consumption initiatives, it is difficult to determine what would make any policy

intervention in this area effective, and what roles high consumers can and should play in facilitating a transition to more sustainable consumption practices.

As well as acknowledging a significant gap in the literature in the field of high consumers at a household level (in terms of definition, classification, characteristics and motivations) from the studies available, this review identified some findings related to high consumption which could serve as a starting point for a research agenda on this important topic:

- Consumption inequalities increase with income inequalities, and consumption varies greatly between different households. As high consumers are responsible for more emissions and use more resources, households with a higher income are potentially capable of having a more positive impact through lifestyle changes.
- Different dimensions of consumption (social, psychological, moral, economic, geographical, environmental…) are interrelated, which creates specific barriers for changing the behaviour of high consumers in free-market, capitalist economies.
- Policy initiatives to reduce the impacts of consumption have not explicitly targeted high consumers as a group yet, and many countries do not recognise high consumption as an issue, perhaps due in part to the lack of clear, widely accepted definitions on the topic, but also for ideological and political reasons.

The topic of high consumers offers a ground for theoretical debates around needs, access to resources, inequalities, intergenerational justice, and solidarity with those more vulnerable in the present. There are also some research questions about this topic that require empirical attention in order to better understand who high consumers are, where they can be found and how they may reduce their environmental impact. Can we identify groups or subsets of of high consumers that are more receptive to reducing their consumption? How aware are high consumers regarding the consequences of their behaviour? What would incentivise more sustainable consumption practices? Which factors and mechanisms beyond income and lifestyle enable high consumption? This is a group which has been excluded to a great extent from research and policy-making related to sustainable consumption and carbon reduction. This has created many gaps in our understanding of the drivers of high consumption and the barriers we need to overcome to keep consumption within environmental limits. It is time to initiate a significant research agenda on this important topic.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] Dubois, G., Sovacool, B., Aall, C., Nilsson, M., Barbier, C., Herrmann, A., ... & Sauerborn, R. (2019). It starts at home? Climate policies targeting household consumption and behavioral decisions are key to low-carbon futures. Energy Research & Social Science, 52, 144-158.

[2] Kolokotsa, D., & Santamouris, M. (2015). Review of the indoor environmental quality and energy consumption studies for low income households in Europe. Science of The Total Environment, 536, 316–330.

[3] Department for Business, Energy & Industrial Strategy (2017) Smart Meter Customer Experience Study 2017. Retrieved from https://www.gov.uk/government/publications/smart-meter-customer-experience-study-2016-18

[4] Peattie, K., & Peattie, S. (2009). Social marketing: A pathway to consumption reduction?. Journal of Business Research, 62(2), 260-268.

[5] UNEP (2020). Sustainable consumption and production policies. Retrieved from: https://www.unenvironment.org/explore-topics/resource-efficiency/what-we-do/sustainable-consumption-and-production-policies

[6] UN (2003). Johannesburg Declaration on Sustainable Development and Plan of Implementation of the World Summit on Sustainable Development: The final text of agreements negotiated by governments at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa. New York: United Nations Department of Public Information.

[7] Clapp, J. (2002). The distancing of waste: Overconsumption in a global economy. In T. Princen, K. Conca and M. Maniates (eds.) Confronting consumption, Cambridge, MA: MIT Press, pp. 155-176.

[8] UNEP (2015). Sustainable Consumption and Production: A Handbook for Policymakers. UNEP, United Nations Environment Programme. Retrieved from https://sustainabledevelopment.un.org/content/documents/1951Sustainable%20Consumption.pdf

[9] Anantharaman, M. (2018). Critical sustainable consumption: A research agenda. Journal of Environmental Studies and Sciences, 8(4), 553-561. doi:10.1007/s13412-018-0487-4

[10] Di Muzio, T. (2015). “The Plutonomy of the 1%: Dominant Ownership and Conspicuous Consumption in the New Gilded Age.” Millennium: Journal of International Studies 43(2):492–510.

[11] De Graaf, J., Wann, D., & Naylor, T. H. (2014). Affluenza: How Overconsumption Is Killing Us, and How to Fight Back. Berrett-Koehler Publishers.

[12] Dutta, M. (2017). Consumption, Climate Change and Human Security: Targeting Consumer Groups for the Mitigation of Climate Change in India. In Environmental Change and Human Security in Africa and the Middle East (pp. 159-177). Springer, Cham.

[13] Ward, J. D., Sutton, P. C., Werner, A. D., Costanza, R., Mohr, S. H., & Simmons, C. T. (2016). Is decoupling GDP growth from environmental impact possible?. PloS one, 11(10).

[14] Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A., & Spangenberg, J. H. (2019). Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability. European Environmental Bureau: Brussels, Belgium.

[15] Jones, C. I., & Klenow, P. J. (2016). Beyond GDP? Welfare across countries and time. American Economic Review, 106(9), 2426-57.

[16] Sen, A. (1988). The standard of living. Cambridge University Press: Cambridge.

[17] Nordhaus, W. D. (2005). Irving Fisher And The Contribution Of Improved Longevity To Living Standards, American Journal of Economics and Sociology, v64(1,Jan), 367-392

[18] McMichael, P. (2016). Development and social change: A global perspective. Sage: London.

[19] Bookchin, M. (1989). Death of a small planet. *The Progressive*, *53*(8), 19-23.

[20] Hirsch, D. (2019). A Minimum Income Standard for the United Kingdom in 2019. Retrieved from https://www.jrf.org.uk/report/minimum-income-standard-uk-2019

[21] Escobar, A. (1992). Imagining a post-development era? Critical thought, development and social movements. Social text, (31/32), 20-56.

[22] Brown, P. M., & Cameron, L. D. (2000). What can be done to reduce overconsumption?. Ecological Economics, 32(1), 27-41.

[23] Stern, N. H. (2007). The economics of climate change: the Stern review. Cambridge University Press.

[24] Arvidsson, A. (2009). The ethical economy: Towards a post-capitalist theory of value. Capital & Class, 33(1), 13-29. doi:10.1177/030981680909700102

[25] Lynch, M. J., Long, M. A., Stretesky, P. B., & Barrett, K. L. (2019). Measuring the ecological impact of the wealthy: excessive consumption, ecological disorganization, green crime, and justice. Social Currents, 6(4), 377-395.

[26] Wiedmann, T., Lenzen, M., Keyßer, L. T., & Steinberger, J. K. (2020). Scientists' warning on affluence. Nature communications, 11(1), 1-10.

[27] Bollier, D. (2013). Silent Theft: The Private Plunder of Our Common Wealth. England: Forbes.

[28] Princen, T., Maniates, M. and Conca, K. (2002). Confronting consumption. MIT press.

[29] Daly, H. E., & Farley, J. (2011). Ecological economics: principles and applications. Island Press.

[30] Kallis, G. (2011). In defence of degrowth. Ecological Economics, 70(5), 873–880. Retrieved from https://doi.org/10.1016/j.ecolecon.2010.12.007

[31] Rosa, H. & Henning, C. (2017). The good life beyond growth: New perspectives. Routledge.

[32] Fournier, V. (2008). Escaping from the economy: the politics of degrowth. International Journal of Sociology and Social Policy, 28 (11/12), 528–545. Retrieved from https://doi.org/10.1108/01443330810915233

[33] Jackson, T. (2009) Prosperity Without Growth. London: Earthscan.

[34] Foster, J. B. (2011). Capitalism and degrowth: an impossibility theorem. Monthly Review, 62(8), 26-33.

[35] Attanasio, O.P., & Pistaferri, L. (2016). Consumption inequality. Journal of Economic Perspectives, 30(2), 3-28.

[36] Aguiar, M. & Bils, M. (2015). Has consumption inequality mirrored income inequality? American Economic Review, 105(9): 2725–56.

[37] Attanasio, O.P, Battistin, E., & Ichimura, H. (2007). Chap. 17 in "What Really Happened to Consumption Inequality in the United States?" In: Hard-to-Measure Goods and Services: Essays in Honor of Zvi Griliches, edited by Ernst E. Berndt and Charles R. Hulten. National Bureau of Economic Research.

[38] Attanasio, O. & Pistaferri, L. (2014). Consumption Inequality over the last half century: Some evidence using the new PSID Consumption Measure. American Economic Review 104(5): 122–26.

[39] Heathcote, J., Perri, F. & Viuolante, G.L. (2010). "Unequal We Stand: An Empirical Analysis of Economic Inequality in the United States, 1967–2006." Review of Economic Dynamics 13(1): 15–51

[40] Fisher, J., Johnson, D., Smeeding, T. M. & Thompson, J. P. (2018) Inequality in 3-D: Income, Consumption, and Wealth. FEDS Working Paper No. 2018-001. Available at SSRN: https://ssrn.com/abstract=3097391

[41] Boyer, M. (2020) *Inequalities: Income, Wealth and consumption.* TSE Working Paper, n. 20-1105, Toulouse

[42] Büchs, M., & Schnepf, S. V. (2013). Who emits most? Associations between socio-economic factors and UK households' home energy, transport, indirect and total CO2 emissions. Ecological Economics, 90, 114-123.

[43] Zhang, X., Luo, L., & Skitmore, M. (2015). Household carbon emission research: an analytical review of measurement, influencing factors and mitigation prospects. Journal of Cleaner Production, 103, 873-883.

[44] Wiedenhofer, D., Guan, D., Liu, Z., Meng, J., Zhang, N., & Wei, Y. M. (2017). Unequal household carbon footprints in china. Nature Climate Change, 7(1), 75-80. doi:10.1038/nclimate3165

[45] Hubacek, K., Baiocchi, G., Feng, K., Castillo, R. M., Sun, L., & Xue, J. (2017). Global carbon inequality. Energy, Ecology and Environment, 2(6), 361-369.

[46] Chatterton, T., Anable, J., Mullen, C., Lucas, K, Buchs, M. and Lovelace, R. (2019). Excess? Exploring social, structural and behavioural drivers of energy demand in areas of high combined energy consumption. In: Proceedings of the eceee 2019 Summer Study on energy efficiency, Paper 6-019-19. Hyères, France, 03–07 June 2019.

[47] Gough, I., Abdallah, S., Johnson, V., Ryan-Collins, J., & Smith, C. (2011). The distribution of total greenhouse gas emissions by households in the UK, and some implications for social policy. LSE STICERD Research Paper No. CASE152.

[48] Ramakrishnan, A., Kalkuhl, M., Ahmad, S., & Creutzig, F. (2020). Keeping up with the Patels: Conspicuous consumption drives the adoption of cars and appliances in India. Energy Research & Social Science, 70, 101742.

[49] Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A., & Gore, T. (2020). The Carbon Inequality Era: An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond.

[50] Moran, D. D., Kanemoto, K., Jiborn, M., Wood, R., & Seto, K. C. (2017). Carbon Footprints Concentrated in Few Global Cities. Retrieved from SSRN: https://ssrn.com/abstract=2984473 or http://dx.doi.org/10.2139/ssrn.2984473

[51] Shackleton, C. M., & Shackleton, S. E. (2006). Household wealth status and natural resource use in the Kat River Valley, South Africa doi:https://doi.org/10.1016/j.ecolecon.2005.04.011

[52] Chatterton, T. J., Anable, J., Barnes, J., & Yeboah, G. (2016). Mapping household direct energy consumption in the United Kingdom to provide a new perspective on energy justice. *Energy Research & Social Science*, *18*, 71-87.

[53] Kenner, D. (2015). Inequality of overconsumption: The ecological footprint of the richest. Cambridge, Global Sustainability Institute, Anglia Ruskin University.

[54] Håkansson, A. (2014). What is overconsumption?–A step towards a common understanding. International journal of consumer studies, 38(6), 692-700.

[55] Humphery, K. (2009). Excess: Anti-Consumerism in the West. Cambridge: PolityPress

[56] Giddens, A. (1984). The Constitution of Society – outline of the theory of structuration. Berkeley and Los Angeles: University of California Press.

[57] March, J. G., & Olsen, J. P. (2004). The logic of appropriateness. In The Oxford handbook of political science. Retrieved from: https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-024

[58] Davies, A. R., Fahy, F., & Rau, H. (2014). Challenging consumption: Pathways to a more sustainable future. London: Routledge.

[59] Jackson, T. (2005). Motivating sustainable consumption. Sustainable Development Research Network, 29(1), 30-40.

[60] Bronner, F., & de Hoog, R. (2018). Conspicuous consumption and the rising importance of experiential purchases. International journal of market research, 60(1), 88-103.

[61] Kasser, T., & Kanner, A. D. (Eds.). (2004). Psychology and consumer culture: The struggle for a good life in a materialistic world. American Psychological Association. https://doi.org/10.1037/10658-000

[62] Schwartz, S. H. (2007). Cultural and individual value correlates of capitalism: A comparative analysis. Psychological Inquiry, 18(1), 52–57. https://doi.org/10.1080/10478400701388963

[63] Nilsson, A. and Biel, A. (2008). Acceptance of climate change policy measures: Role framing and value guidance. European Environment 18, 203–215

[64] Pepper, M., Jackson, T. and Uzzell, D. (2009) An examination of the values that motivate socially conscious and frugal consumer behaviours. International Journal of Consumer Studies 33: 126–136.

[65] Schultz, P.W., Gouveia, V., Cameron, L., Tankha, G., Schmuck, P. and Franek, M. (2005). Values and their relationship to environmental concern and conservation behaviour. Journal of Cross-Cultural Psychology 36, 457–475.

[66] Stern, P. C. and Dietz, T. (1994) The value basis of environmental concern. Journal of Social Issues, 50, 65–84

[67] Stern, P. C., Dietz, T., Abel, T., Guagunano, G.A. and Kalof, L. (1999) A value-belief-norm theory of support for social movements: The case of environmentalism. Human Ecology Review 6, 81–97

[68] Schwartz, S.H. (1994). Are there universal aspects in the structure and contents of human values? Journal of Social Issues 50, 19–45

[69] Schwartz, S.H. (2006). Basic human values: an overview. Retrieved from: http://segr-did2.fmag.unict.it/allegati/convegno%207-8-10-05/schwartzpaper.pdf

[70] Resera, J.P., Bentrupperbaümer, J.M. (2005) What and where are environmental values? Assessing the impacts of current diversity of use of 'environmental' and 'World Heritage' values. Journal of Environmental Psychology 25, 125–146

[71] Stern P. C. (2011). Contributions of psychology to limiting climate change. American Psychologist, 66, 303–314.

[72] Schultz, P.W. and Zelezny, L. (1999). Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. Journal of Environmental Psychology, 19(3), 255-265.

[73] Schwartz, S.H. (1977) Normative influences on altruism. In Berkowitz, L. (Ed), Advances in Experimental Social Psychology (pp. 221-279). Academic Press, New York.

[74] Ajzen, I. and Fishbein, M. (1980) Understanding Attitudes and Predicting Social Behaviour. NJ: Prentice-Hall.

[75] Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179-211.

[76] Hurst, M., Dittmar, H., Bond, R., & Kasser, T. (2013). The relationship between materialistic values and environmental attitudes and behaviors: A meta-analysis. Journal of Environmental Psychology, 36, 257-269.

[77] Nordlund, A.M. and Garvill, J. (2002) Value structures behind pro-environmental behaviour. Environment and Behaviour 34, 740–756

[78] Whitmarsh, L. and O'Neill, S. (2010). Green identity, green living? The role of proenvironmental self-identity in determining consistency across diverse proenvironmental behaviours. Journal of Environmental Psychology, 30, 305-314.

[79] Schultz P.W., Nolan J.M., Cialdini R.B., Goldstein N.J., Griskevicius V. (2007) The constructive, destructive, and reconstructive power of social norms. Psychological Science 18(5), 429-34

[80] Barr, S., & Gilg, A. W. (2007). A conceptual framework for understanding and analyzing attitudes towards environmental behaviour. Geografiska Annaler: Series B, Human Geography, 89(4), 361-379.

[81] Karp, D.G. (1996) Values and their effect on pro-environmental behavior. Environment and Behavior, 28, 1, 111-133

[82] Mol, A. (2009). Good taste: The embodied normativity of the consumer-citizen. Journal of Cultural Economy, 2(3), 269-283.

[83] Merritt, A.C., Effron, D.A., Monin, B. (2010). Moral self-licensing: When being good frees us to be bad. Social and Personality Psychology Compass, 4(5): 344–57.

[84] Bonneuil, C. and Fressoz, J. (2017). The Shock of the Anthropocene. London: Verso.

[85] Schwartz S.H., Cieciuch J., Vecchione M., Davidov E., Fischer R., Beierlein C., Ramos A., Verkasalo M., Lönnqvist J.E., Demirutku K., Dirilen-Gumus O., Konty M. (2012). Refining the Theory of Basic Individual Values. Journal of Personality and Social Psychology, 103, 4, 663–688

[86] Kasser, T. (2011a). Cultural values and the well-being of future generations: A crossnational study. Journal of Cross-Cultural Psychology, 42, 206-215

[87] Speth, J.G. (2008) The Bridge at the Edge of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability. London: Yale University Press

[88] Kasser, T., Cohn, S., Kanner, A. D., and Ryan, R. M. (2007). Some costs of American corporate capitalism: A psychological exploration of value and goal conflicts. Psychological Inquiry, 18, 1-22.

[89] Kasser, T. (2011b). Capitalism and autonomy. In V. Chirkov, R. M. Ryan, & K.M. Sheldon (Eds.), Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom, and well-being (pp. 191-206)

[90] OECD (2013). OECD Framework for Statistics on the Distribution of Household Income, Consumption and Wealth. Retrieved from: https://www.oecd-ilibrary.org/docserver/9789264194830-8-en.pdf?expires=1592301638&id=id&accname=guest&checksum=9AE30DDBB0557D0FF94DC2FAEBAFBF4B

[91] Middlemiss, L. (2018). Sustainable consumption: key issues. Routledge: London.

[92] Gram-Hanssen, K. (2010). Residential heat comfort practices: understanding users. Building Research and Information 38 (2), 175-186

[93] Steg, L., Shwom, R., & Dietz, T. (2018). What drives energy consumers?: Engaging people in a sustainable energy transition.IEEE Power and Energy Magazine, 16(1), 20-28.

[94] Oswald, Y., Owen, A., & Steinberger, J. K. (2020). Large inequality in international and intranational energy footprints between income groups and across consumption categories. Nature Energy, 5(3), 231-239. doi:10.1038/s41560-020-0579-8

[95] Frederiks, E. R., Stenner, K. and Hobman, E. V. (2015) 'The socio-demographic and psychological predictors of residential energy consumption: A comprehensive review', Energies. MDPI AG, pp. 573–609. doi: 10.3390/en8010573.

[96] Brounen, D., Kok, N., & Quigley, J. M. (2012). Residential energy use and conservation: Economics and demographics, European Economic Review, vol. 56, issue 5, 931-945 doi:https://doi.org/10.1016/j.euroecorev.2012.02.007

[97] Sovacool, Benjamin K (2011) Conceptualizing urban household energy use: climbing the “Energy Services Ladder”. Energy Policy, 39 (3). pp. 1659-1668. ISSN 0301-4215

[98] Healy, J. D. (2017). Housing, fuel poverty and health: a pan-European analysis. New York: Routledge.

[99] Yang, D., & Timmermans, H. (2020). Effects of green policies on household transport and energy consumption in Europe: a literature review. Transport and Energy Research, 31-72.

[100] Brons, M., Pels, E., Nijkamp, P., & Rietveld, P. (2002). Price elasticities of demand for passenger air travel: a meta-analysis. Journal of Air Transport Management, 8(3), 165-175

[101] Labandeira, X., Labeaga, J. M., & López-Otero, X. (2017). A meta-analysis on the price elasticity of energy demand. Energy Policy, 102, 549-568.

[102] Schulte, I., & Heindl, P. (2017). Price and income elasticities of residential energy demand in Germany. Energy Policy, 102, 512-528.

[103] Anker-Nilssen, P. (2003). Household energy use and the environment—a conflicting issue. Applied Energy, 76(1-3), 189-196.

[104] Lutzenhiser, L. (1993). Social and behavioral aspects of energy use. Annual Review of Energy and Environment 18, 247–289.

[105] Démurger, S., & Fournier, M. (2011). Poverty and firewood consumption: A case study of rural households in northern China. China economic review, 22(4), 512-523.

[106] Alam, M., Sathaye, J., & Barnes, D. (1998). Urban household energy use in india: Efficiency and policy implications doi:https://doi.org/10.1016/S0301-4215(98)00008-1

[107] Mundaca, L., Sonnenschein, J., Steg, L., Höhne, N., & Ürge-Vorsatz, D. (2019). The global expansion of climate mitigation policy interventions, the Talanoa Dialogue and the role of behavioural insights. *Environmental Research Communications*, *1*(6), 061001.

[108] Albert, A., & Maasoumy, M. (2016). Predictive segmentation of energy consumers. Applied Energy, 177, 435–448. doi:10.1016/j.apenergy.2016.05.128

[109] Kwac, J., Flora, J., & Rajagopal, R. (2014). Household energy consumption segmentation using hourly data. IEEE Transactions on Smart Grid, 5(1), 420-430.

[110] Armel, K. C., Gupta, A., Shrimali, G., & Albert, A. (2013). Is disaggregation the holy grail of energy efficiency? The case of electricity. Energy Policy, 52, 213-234.

[111] Houde, S., Todd, A., Sudarshan, A., Flora, J. A., & Armel, K. C. (2013). Real-time feedback and electricity consumption: A field experiment assessing the potential for savings and persistence. *The Energy Journal*, *34*(1).

[112] White, L. V., & Sintov, N. D. (2020). Health and financial impacts of demand-side response measures differ across sociodemographic groups. Nature Energy, 5(1), 50-60.

[113] European Commission. (2013). Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Renewable Energy Progress Report. Vol. 27.3. 2013 COM (2013) 175 final. European Commission, Brussels.

[114] Aune, M. (2007). Energy comes home. Energy policy, 35(11), 5457-5465.

[115] Stephenson, J., Barton, B., Carrington, G., Gnoth, D., Lawson, R., & Thorsnes, P. (2010). Energy cultures: A framework for understanding energy behaviours. Energy Policy, 38(10), 6120–6129.

[116] Stephenson, J. (2018). Sustainability cultures and energy research: An actor-centred interpretation of cultural theory. Energy Research & Social Science, 44, 242-249.

[117] Eksin, C., Deliç, H., & Ribeiro, A. (2014). Distributed demand side management of heterogeneous rational consumers in smart grids with renewable sources. In 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 1100-1104). IEEE.

[118] Lucas, K., Cass, N., Adeel, M. (2020). Social divisions in energy consumption in the transport sector: personal car ownership and use. Unpublished manuscript

[119] Sager, L. (2019). Income inequality and carbon consumption: Evidence from Environmental Engel curves. Energy Economics, 104507.

[120] Andersson, J. (2015). *Cars, carbon taxes and CO2 emissions*. Grantham Research Institute on Climate Change and the Environment.

[121] Holtsmark, B., & Skonhoft, A. (2014). The Norwegian support and subsidy policy of electric cars. Should it be adopted by other countries?. Environmental science & policy, 42, 160-168.

[122] Prud'homme, R., & Koning, M. (2012). Electric vehicles: A tentative economic and environmental evaluation. Transport Policy, 23, 60-69.

[123] Shove, E., Watson, M., & Spurling, N. (2015). Conceptualizing connections: Energy demand, infrastructures and social practices. European Journal of Social Theory, 18(3), 274-287.

[124] Andersson, A. (2020). Is climate morality the answer? Preconditions affecting the motivation to decrease private car use. Transportation Research Part D: Transport and Environment, 78, 102198.

[125] Paulley, N., Balcombe, R., Mackett, R., Titheridge, H., Preston, J., Wardman, M., White, P. (2006). The demand for public transport: The effects of fares, quality of service, income and car ownership. Transport Policy, 13(4), 295–306.

[126] Heinen, E., van Wee, B., Maat, K. (2009). Commuting by bicycle: an overview of the literature. Transp. Rev. 30, 59–96

[127] Heesch, K. C., Giles-Corti, B., & Turrell, G. (2014). Cycling for transport and recreation: Associations with socio-economic position, environmental perceptions, and psychological disposition. Preventive Medicine, 63, 29–35.

[128] Fuller, D., & Winters, M. (2017). Income inequalities in bike score and bicycling to work in Canada. *Journal of Transport & Health*, *7*, 264-268.

[129] Cohen, S. A., Higham, J. E., & Cavaliere, C. T. (2011). Binge flying: Behavioural addiction and climate change. Annals of Tourism Research, 38(3), 1070-1089.

[130] Westlake, S. (2017). A Counter-Narrative to Carbon Supremacy: Do Leaders Who Give Up Flying Because of Climate Change Influence the Attitudes and Behaviour of Others?. Retrieved from SSRN 3283157.

[131] Banister, D. (2018) Who Travels by Air? Retrieved from: https://www.inequalityintransport.org.uk/exploring-transport-inequality/who-travels-air

[132] Gössling, S. and Humpe, A. (2020) The global scale, distribution and growth of aviation: Implications for climate change https://doi.org/10.1016/j.gloenvcha.2020.102194

[133] Hopkinson L. and Cairns S. (2020) Elite Status: global inequalities in flying. Report for Possible, March 2021.

[134] Department for Transport. (2021). National Travel Survey, 2002-2019. http://doi.org/10.5255/UKDA-SN-7559-6

[135] FAO and WHO (2019). Sustainable healthy diets – Guiding principles. Rome. (Especially Summary paper 2)

[136] Macdiarmid, J. I., Douglas, F., & Campbell, J. (2016). Eating like there's no tomorrow: Public awareness of the environmental impact of food and reluctance to eat less meat as part of a sustainable diet. Appetite, 96, 487-493

[137] Montagnese, C., Santarpia, L., Buonifacio, M., Nardelli, A., Caldara, A., Silvestri, E., Contaldo, F. and Pasanisi, F. (2015) European food-based dietary guidelines: A comparison and update. Nutrition, 31(7–8):908.

[138] Swedish National Food Agency. (2105) Find your way to eat greener, not too much and be active. Retrieved from: http://www.fao.org/3/a-az854e.pdf

[139] Public Health England (2016). Eatwell guide. Retrieved from: http://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/united-kingdom/en/

[140] U.S. Department of Agriculture (2016). 2015-2020 Dietary Guidelines for Americans. Retrieved from: http://www.fao.org/nutrition/education/food-dietary-guidelines/regions/countries/united-states-of-america/en/

[141] Uauy R, Díaz E. (2005) Consequences of food energy excess and positive energy balance. Public Health Nutrition, 8(7a) 1077-99.

[142] Blake, L. (2014) Zero Carbon Britain. People, Plate and Planet: The impact of dietary choices on health, greenhouse gas emissions and land use. Machynlleth: Centre for Alternative Technology.

[143] Tukker, A., Goldbohm, R., de Koning, A., Verheijden, M., Kleijn, R., Wolf, O., Pérez-Domínguez, I. and Rueda-Cantuche, J. (2011) Environmental impacts of changes to healthier diets in Europe. Ecological Economics;70(10):1776–88.

[144] Vieux, F., Darmon, N., Touazi, D. and Soler, L. (2012) Greenhouse gas emissions of self-
selected individual diets in France: Changing the diet structure or consuming less? Ecological
Economics, 75, 91–101.

[145] Barosh, L., Friel, S., Engelhardt, K., & Chan, L. (2014). The cost of a healthy and sustainable diet–who can afford it?. Australian and New Zealand journal of public health, 38(1), 7-12

[146] Bonaccio, M., Donati, M., Iacoviello, L., & de Gaetano, G. (2016). Socioeconomic determinants of the adherence to the Mediterranean diet at a time of economic crisis: the experience of the MOLI-SANI study. Agric Agric Sci Procedia, 8, 741-7

[147] Maguire, E. R., & Monsivais, P. (2015). Socio-economic dietary inequalities in UK adults: an updated picture of key food groups and nutrients from national surveillance data. British Journal of Nutrition, 113(1), 181-189.

[148] Mireku, M. O., & Rodriguez, A. (2020). Family Income Gradients in Adolescent Obesity, Overweight and Adiposity Persist in Extremely Deprived and Extremely Affluent Neighbourhoods but Not in Middle-Class Neighbourhoods: Evidence from the UK Millennium Cohort Study. International Journal of Environmental Research and Public Health, 17(2), 418.

[149] Adams, J., Goffe, L., Brown, T., Lake, A. A., Summerbell, C., White, M., Wrieden, W. & Adamson, A. J. (2015). Frequency and socio-demographic correlates of eating meals out and take-away meals at home: cross-sectional analysis of the UK national diet and nutrition survey, waves 1–4 (2008–12). International Journal of Behavioral Nutrition and Physical Activity, 12(1), 51.

[150] Levitsky, D. A., & Youn, T. (2004). The more food young adults are served, the more they overeat. The Journal of nutrition, 134(10), 2546-2549.

[151] Mullan, B., Ntoumanis, N., Thøgersen-Ntoumani, C., & Lipp, O. V. (2017). " It's a bit more complicated than that": A broader perspective on determinants of obesity. Behavioral and Brain Sciences, 40.

[152] Ulijaszek, S. J., & McLennan, A. K. (2016). Framing obesity in UK policy from the Blair years, 1997–2015: the persistence of individualistic approaches despite overwhelming evidence of societal and economic factors, and the need for collective responsibility. Obesity Reviews, 17(5), 397-411.

Lessons for a Just Transition from the COVID-19 Pandemic

Alvaro Castano Garcia

Abstract: Drawing upon the principles of energy justice, the chapter identifies existing unjust practices and examines the unique challenges and opportunities for a just transition in a post-pandemic world. The pandemic has amplified existing inequalities and intensified issues with energy sovereignty, thereby underscoring the importance of incorporating justice dimensions in energy transitions. The chapter argues for the co-production of policy initiatives by communities, industry stakeholders, and governments to facilitate the implementation of just transition frameworks. It accentuates the significance of just transition policies towards a sustainable, socially equitable, and economically viable low-carbon energy system in a world where oil demand may never return to pre-pandemic levels due to shifts in work patterns, advancements in fuel efficiency, and the pursuit of climate-friendly policies.

Keywords: Just transition; COVID-19; energy justice; inequalities; co-production; energy policy

Introduction

This chapter looks at the impact which the COVID-19 pandemic could have on the achievement of a just transition in the medium to long-term future, complementing the long-term historical view of *Holmes* in Chapter 2. By examining this subject from the perspectives of five tenets of energy justice, this chapter aims to facilitate the identification of unjust practices as well as explore some opportunities and challenges for a just transition in a post-pandemic world.

With the recognition of the urgent need to transition to less carbon-intensive energy systems, the implementation of just transition principles has become a priority in many parts of the world. Environmental protection and decarbonisation seem to be central to the recovery after the pandemic. As the UN Climate Chief stated in 2020: “With this restart, a window of hope and opportunity opens… an opportunity for nations to green their recovery packages and shape the 21st century economy in ways that are clean, green, healthy, safe and more resilient” (UN,

2020). There is a recognition of the need to make sure those transitions incorporate justice dimensions as well. The COVID-19 pandemic has exacerbated many inequalities (Blundell et al., 2020), creating additional economic problems for some economic sectors and regions (Brodeur et al., 2020). The pandemic has also intensified existing problems with energy sovereignty, as communities are experiencing the negative impacts of relying on energy systems that are organised to earn profit and are outside of community control: income reduction and an increase in energy prices compromise access to privatised energy services, imperilling access. This problem was mitigated in some countries through direct energy assistance programmes and temporary bans on disconnections (Mastropietro et al. 2020). Many challenges remain for the adoption of just transition principles in ensuring workers and communities are prepared for the inevitable move to low-carbon energy systems.

Communities, in tandem with governments and industry stakeholders, must work towards the co-production of policy initiatives, to facilitate the implementation of just transition frameworks, especially in regions most impacted by energy transitions (Henry et al., 2020). This is particularly important to achieve a fair distribution of the costs and benefits of the energy transition in the context of recovery from the coronavirus pandemic, a process which is predicted to be slow, with a period of economic inactivity for years to come (Nicola et al. 2020). World oil markets seem to be rebalancing after the unprecedented collapse in demand in 2020, caused by the pandemic and a stronger drive by governments towards a low-carbon future. However, the International Energy Agency (2021) explained in a recent report that oil demand in the next 5 years is set to be lower than was forecast before the pandemic, and it might never get back to pre-crisis levels due to fuel efficiency improvements, increased teleworking, new policies to reduce oil use in the power sector, etc. This stresses the importance of adopting and implementing just transition policies in a shift to a low-carbon energy system that prioritizes sustainability as well as social and economic equity.

Possible impacts of COVID-19 on a just transition

Cha *et al.* (2021) emphasise how the energy transition is only one transition, and how other sectoral transitions, such as automation, digitalization, hybrid working, and health care, will also require just transitions. Fiscal recovery packages to support the recovery offer an opportunity to reform an unsustainable, fossil-fuel-intensive economic system. Hepburn et al. (2020) recommend policy interventions which offer the potential to reconcile both economic indicators and climate goals after the pandemic: Clean physical infrastructure investment, building efficiency retrofits, investment in education and training to address unemployment (from COVID-19 and from decarbonisation), natural capital investment for ecosystem resilience and regeneration, clean R&D investment, and with low and middle income countries, rural support spending. The urgency of the transformations required, highlight the need for approaches that facilitate the transitions while making the process as just as possible. For instance, Newell *et al.* (2021) propose a transformative approach to climate justice, focusing on the social and institutional relations and inequalities that both produce climate change and profoundly shape responses to it. Here, the focus is on power and its various manifestations, to overcome the tensions between different understandings of climate justice.

Perhaps due to the need for quick responses during the pandemic, exceptional measures aimed at restricting people's mobility, and associated changes in labour conditions and energy use have been implemented using mostly top-down approaches by people in power in companies and governments. One important question to consider is whether there is evidence of an international community prepared to deal with the pandemic and its effects as ecological issues (systemic, involving vital inter-relationships) or as elements of a discourse based on economic and technological rationality that prioritises saving the economy over saving lives (Rodrigues & Lowan-Trudeau, 2021). Learning from successes and failures of policy responses during the pandemic might enhance climate action and prepare humanity for future crises, but there are important differences between COVID-19 and climate change. For example, most measures

introduced to overcome a pandemic are temporary and can be lifted once the situation improves, whereas climate change requires deep, lasting transformations of society, people's behaviour and the global economy (Klenert et al. 2020). Those transformations will require a more participatory approach, as the low level of public concern and the demobilisation of social actors associated with top-down, authoritarian environmentalism, often undermine climate policy implementation (Gilley, 2012). As we will see below, this approach also overlooks many forms of justice.

By developing comprehensive frameworks for analysis and evaluation, justice scholarship could facilitate the creation of processes that substantially increase the potential for equitable transitions towards low carbon economies. McCauley & Heffron (2018) argue that one of the main tasks of justice scholars is reframing the just transition concept beyond its original purpose. They believe the just transition concept could unite climate, energy and environmental justice scholarships and go beyond a purely instrumental purpose. COVID-19 recovery could speed up the energy transition away from fossil fuels, but analyses of recovery stimulus packages suggest that most fossil fuel producers are more likely to select a "dirty" way out of the crisis than a "green" option (Le Billon *et al*., 2021). This path will delay climate action while increasing our dependency on fossil fuels. Fossil fuel producers must embrace a "green recovery" to change course. To do this, "just transition" policies can promote global initiatives encompassing consumption and production measures.

According to Hughes & Hoffmann (2020), a just transition at an urban scale requires moving from an evaluative perspective to a process-oriented perspective, with the aim of identifying those policies and processes more likely to bring positive change. Therefore, the academic focus needs to shift from raising awareness of injustice towards using the principles of justice to better engage with those political, institutional, social, and economic forces which influence the future of cities. Although their focus is on just urban transitions, this approach does not need to be limited to urban transitions and could be generalised to just transitions. Sotiropoulos (2022) calls

for a holistic conceptualization of justice, which goes beyond fairness and takes considers the material environment as a constitutive dimension of the actuality of justice. Environmental justice, he claims, must go beyond issues of unequal distribution and disproportionate exposure of marginalised people. It must also confront its own distributional logic, which reduces the concept's potency to an ethical judgement on the current state of the world, in which failing to live up to a set ideal is viewed to result in environmental calamity. From this perspective, the COVID-19 pandemic can be seen as an "ethological accident", the effects of which are mediated by systematic subjugation, colonisation and exploitation of the physical world.

Just transition from the perspectives of five tenets of energy justice

McCauley *et al.* (2019) identified distributional, recognition, procedural, cosmopolitan and restorative justice as the main forms of justice cited in the energy justice literature when addressing issues related to transitions to a low carbon energy systems. Although energy justice is itself an integral part of a just transition, these five forms of justice have not been extensively used to think about current and future just transition policy initiatives yet. Some of the typical tenets of the 'just transition' concept also include areas which are often beyond energy justice (e.g. relationships within the labour market, broader social justice issues or certain historical considerations). These five forms of justice are often interrelated but have distinct characteristics. There are specific opportunities and challenges associated with developing a framework based on those forms of justice (as tools for theory development, decision-making and policy interventions) after the coronavirus pandemic, which are discussed below.

Distributional justice

The most widely discussed theory of distributional justice (or distributive justice), developed by Rawls (1971), sees distributional justice as fairness in the distribution of goods and advantages in a society. Different theories and principles have been used to emphasise different circumstances and moral factors of distributional justice, such as strict egalitarianism, the difference principle, equality of opportunity, luck egalitarianism, welfare-based principles,

desert-based principles, libertarian principles or feminist principles (Lamont, 2017). There have also been formulations of distributional justice related to energy issues (Bickerstaff *et al*., 2013; Sovacool & Dworkin, 2014). In just transitions, distributional justice addresses the distributions of benefits and burdens across members of a society. On the operational level, this involves ensuring access to resources for everyone and mitigating the negative effects of transitions for those who work within and are more affected by the demise of the fossil fuel economy. From a global environmental justice point of view, distributional justice is also related to questions of economic growth, security and war, as energy issues have a prominent place in the geopolitical and economic strategies of ruling elites. Because of this, it is vital to recognise the influence of political and economic agendas in decision-making processes and, therefore, in the distribution of benefits and burdens of energy production (Newell & Mulvaney, 2013). If the distribution of benefits and burdens from the transition to lower-carbon energy sources is not equitably distributed, some communities and socio-economic groups are more likely to bear the burdens of such transitions. Those working in fossil fuel dependant industries will be adversely affected by the transition. However, low-income communities and other disadvantaged groups will also suffer the consequences of energy insecurity, as well as a lack of opportunities for engagement with decision-making processes and access to technologies (Carley & Konisky, 2020).

When thinking of the pandemic, the poor, the elderly, and minority groups have been hit much harder than other groups by the COVID-19 crisis (Wang & Tang, 2020). Lower income groups are also at greater risk of unemployment and social stress due to physical distancing (Nicola *et al.* 2020). Therefore, some argue that recovery measures should be primarily directed to these groups by providing economic aid, assistance for job creation, childcare programmes, and ensuring access to health care and other social services to improve recovery, resilience and sustainability (Renn, 2020).

Climate change and other shocks like COVID-19 have unequal implications, which should be recognised by prioritising policies and initiatives that reduce emissions while providing

immediate health, social, and economic advantages to vulnerable populations. Using human health and equity as a compass, policies informed by the pandemic can help accelerate the transition to resilient, sustainable, net-zero emission societies (Wyns & van Daalen, 2021). As with just transitions, a just recovery from the pandemic involves addressing the worst effects of social inequalities. According to Gore (2020), failure to address extreme carbon inequality, prioritising even more unequal, carbon-intensive economic growth for the wealthy would result in an unmanageable and irreversible climatic disaster. While the pandemic caused a chaotic and often inequitable fall in global consumption, it also highlighted that hitherto unimaginable changes in the lifestyles of the wealthy could be made to the benefit of all of us. Gore also suggests that taxing luxury carbon, such as SUVs, frequent business class flights, and private jets, as well as expanding digital and public transport infrastructure, can help to reduce emissions, reduce inequality, and improve public health.

Drawing from the Social Determinants of Health framework, Hoernke (2020) explains that urban and public health specialists should work with multi-level stakeholders to address inadequate living conditions for the most socioeconomically disadvantaged, promote equitable provision of healthcare and ensure that the almost unavoidable, increasing digitisation of urban life improves health equity. Higgins-Desbiolles (2020) calls for redefining and reorienting tourism industry after the pandemic, with a focus on the rights and interests of local communities and local peoples. As well as specific challenges, the pandemic might create windows of opportunity for advancing towards distributional justice. For example, Gebreslassie (2020) explains how the closure of energy intensive business and industries in Africa is becoming an opportunity to provide sustained and reliable electricity supply to the health system and to households which previously endured an unreliable and strained energy supply.

Recognition justice

Regarding one of the main debates around just transitions in the academic arena, the ‘jobs vs environment’ binary, it is important to note that “job losses are not an automatic consequence

of climate policies, but the consequence of a lack of investment, social policies and anticipation" (Rosemberg, 2010 p.134). As governments and organisations move towards zero carbon, they need to mitigate the negative social consequences of their actions. Shifting social, environmental, and energy realities complicates the adequate planning of climate policies, but ensuring that the concerns and needs of affected communities are fully understood and addressed is vital for effective cooperation in a just transition. This cooperation might be further complicated where there is a gap between policy makers' understanding of just transitions, and the complex reality of the concept, whose origins "lie deep in the everyday experiences of workers and frontline communities" (Stevis *et al*. 2020, p.2).

As Henry et al. (2020) noted, some think a just transition is related to solutions such as worker retraining, targeted economic development plans, and public and private investment, whereas others emphasise the importance of community-level engagement and participatory governance. Compromise will be an ongoing task, as well as in-depth debates about what a just transition means in different contexts. Recognition justice is a prerequisite for those conversations to take place. To frame political movements in terms of recognition highlights the relational character of justice. This form of justice focuses on what kind of standing an individual deserves when compared to other persons, instead of only looking at what goods and advantages a person should have (Young, 1990).

Rajan *et al*. (2020) explain how decisions about policy priorities during the pandemic, distribution of scarce resources, and balancing conflicting goals should have included major stakeholders, in particular those who represent groups that suffer the most, and those who have expertise on the secondary effects of lockdowns, social isolation measures and movement restrictions. They warned there was little transparency and little involvement of civil society in national government decision-making processes. They called upon governments to "recognise the multidimensional effects and needs of society (…) and consult more broadly (…) across disciplines, within health and beyond health, based on a true multisectoral paradigm" (Rajan *et*

al. 2020, p.6). The imbalance between disease incidence and mortality among minorities across health conditions, including COVID-19 highlights how problematic their under-inclusion in research is. This needs to be addressed to improve the accessibility and efficacy of interventions developed for predominantly white, privileged populations for conditions that disproportionately impact other groups (Gilmore-Bykovskyi *et al.*, 2021).

A top-down, managerial approach to 'just transitions' would limit the potential for the concept to bring together civil organisations and increase the fairness of the economic and energy systems. Significant groups affected by the transition would be excluded from the decision-making process, not recognising their equal dignity and their ability to actively participate in the life of society. However, to address social and environmental problems in a just manner, those who have contributed the least to climate issues and are the most affected by them must be brought to the foreground (Walters, 2022).

Procedural justice

For people to perceive that a transition is just, fairness in legal processes and resource allocation is vital, and this is the idea of procedural justice. This is particularly relevant in the development and application of laws but is also important in ensuring the fairness of processes that guide the decisions behind the siting of new infrastructure, responses to climate change, energy systems and renewable energy provision (McCauley & Heffron, 2018).

According to Brosemer *et al.* (2020) the pandemic has created an opportunity for corporate interests to advance energy agendas that perpetuate carbon intensive and corporate controlled energy systems. This reflects ongoing procedural injustices of energy decision making. Energy sovereignty, as the right for communities to control access to energy services, should inform the design of a post-COVID-19 energy system that is resilient to future shocks and does not deepen injustices. In healthcare, Cousins *et al*. (2020) noted how procedural justice applies to the policies and procedures which were put in place to support the operation of care homes during

the pandemic. For instance, government advice for care homes in the UK was minimal and weak. Furthermore, there were numerous revisions and updates to government instructions affecting care homes, causing confusion. Services must be effective, responsive to people's needs, and well-led (Care Quality Commission, 2020), but the lack of clear government guidance and political leadership put these norms in jeopardy. Daniels (2008) advocates for a fair process for making resource allocation decisions, rather than merely assigning resources based on expected health outcomes and net utility maximisation. His "accountability for reasonableness" strategy relies heavily on transparency and participation. In short, decisions and their rationales must be made public, must be based on objective evidence or reasons and accepted principles, must have mechanisms for appeal and revision, and must have mechanisms to control and guarantee compliance with these principles. Although he developed his theory thinking of health needs, which made Supady & Bode (2020) think it was a useful theory for rationing decisions in the COVID-19 crisis, this theory could also offer insights on how to make just transitions more egalitarian and participative.

Procedural justice, understood as “the right to participate in deliberations which affect them” (Newell & Mulvaney, 2013) has been a historical demand of groups organised to promote social and environmental justice. This form of justice can be closely related to recognition justice from that perspective, but is mostly concerned with trust in the fairness of the process guiding the transition, rather than the standing of members of those groups when compared to other persons. Those who try to access deliberation spaces that do not include them, do so not only because they perceive themselves as equally deserving that right, but because they do not conceive a fair discussion of economic issues and energy transitions if their voices are not heard.

Cosmopolitan justice

Jin (2020) explained that “a pandemic and climate change are both existential challenges facing the whole human race who share this planet together. Neither Coronavirus nor climate see country borders” (p. 1709). In a context where environmental protection is often framed as a

top-down, elitist demand, just transition principles give workers an opportunity to gain space in the climate discussion, shaping policies and strategies that affect the future of their jobs and livelihoods (Rosemberg, 2017). When thinking of an international perspective, going beyond that 'elite environmentalism', in which only rich countries can fit environmental protection into their agendas, climate and environmental justice issues should be addressed both in the relationship between the global North and the global South and within those societies. The pandemic highlighted the failure to achieve the universal goal of safeguarding and promoting human rights. The structural imbalances imposed on developing countries in the name of free trade and the reduction of tariff barriers to allow for the free flow of goods and services in many cases aggravated poverty while providing no social protection (Kataria & Qu, 2022), which raises concerns about our shared obligations and collective action's effectiveness. COVID-19 gave cover for certain nations to adopt harsh and hostile steps against refugees and asylum seekers (detentions, pushbacks, and other refugee deterrence tactics), prioritising self-interest over cosmopolitan-oriented policies (Barnes & Makinda, 2021).

Inequalities between countries are apparent at many levels. The global effects of the pandemic have made evident how interlinked human populations are, regardless of borders and cultural differences, but there have also been displays of uneven power dynamics which might translate into difficulties for just transitions. As a study in September 2020 showed, wealthy countries representing 13% of the global population purchased more than half of the COVID-19 vaccine supply (Oxfam, 2020).

Armstrong (2020) explains that poor fossil fuel exporting countries will lose a significant source of revenue because of a reduction in fossil fuels use, so the international community might need to assist those countries in their development. In many countries, fossil fuel exports make up a significant share of national income. And some of the greatest losses are likely to occur in sub-Saharan Africa, North Africa and Latin America (Kartha, 2016, p.7). A large proportion of the coal found in those places must remain unburned if we are to keep the increase in global average

temperature below 2 °C above pre-industrial levels (McGlade & Ekins, 2015), which will represent an additional burden to the economic development of those areas.

Duflot *et al*. (2021) argue that there are numerous more sustainable and equitable potential futures. They suggest a change in the more damaging worldviews and reinventing governance and citizen roles on many scales. This is a difficult task which can only be accomplished with widespread cooperation among societies and a shared belief that the reciprocal benefits of collaboration may outweigh the rewards of individualistic competition.

Restorative justice

Restorative Justice focuses on the negative effects of actions on people, and actively involves victims, those who caused harm, and the community in looking for solutions which promote repair and reconciliation (Van Ness & Strong, 2014). McCauley & Heffron (2018) explain that the concept of just transition had an inherent restorative element from its inception, as the shutdown of fossil fuel industries such as mining (or moving those activities to areas of the world with lower associated costs), resulted in US unions demanding the restoration of lost jobs.

In just transitions, restorative justice must address the negative consequences of energy transitions, for example, the impact of jobs loss from fuel intensive industries. However, it must also aim at repairing harm caused by past events to individuals, the environment and the climate, creating relationships and ways of life (cooperative processes) capable of providing solutions to any future harms that a transition to low-carbon world might create (McCauley & Heffron, 2018).

Van Ness & Strong (2014) identify four core elements of restorative justice: encounter, reparation, reintegration, and participation. Clamp & Doak (2012) suggest that in periods of transition after conflict, such values should be evaluated based on their responsiveness to the needs of stakeholders, how democratic the process is, and the legitimacy of the process in terms of truth and justice. Restorative justice is often mentioned when thinking of strategies that help

to overcome the negative effects of punitive justice (justice that intends to punish people who commit a crime). For instance, Pont *et al*. (2021) argue that the health situation of overcrowded prisons is unsustainable in many countries and explains the need to take measures to reduce incarceration rates by systemic and long-term reforms, which include restorative justice approaches. Because some communities have suffered the worst effects from the pandemic (which has compounded pre-existing systemic inequalities in many cases), Cooper & Williams (2020) suggest that those communities should have opportunities to lead the development of restorative justice initiatives. When thinking of just transitions, the above systemic reforms could be a required addition to those related to work-related issues and other types of justice. Richardson et al. (2021) argue that monetary payments as reparations for descendants of persons enslaved in the US would not only have decreased COVID-19 risk for recipients of the wealth redistribution; the mitigating effects would also be distributed across racial groups, benefiting the population at large. They also note that racism manifested in disproportionate COVID-19 incidence and mortality for Black Americans should strengthen moral, historical, and legal justifications for reparations.

Going back to the unequitable vaccine distribution in a global context, Jecker (2022) explained it is a matter of justice, not charity, for wealthier countries to share vaccines. The privileged access to COVID-19 vaccines indicates upstream institutional inequities. Taking steps towards remedying structural injustices is a duty that befalls especially those nations who benefitted from them. Cosmopolitan justice would also require restorative justice initiatives.

Sharpe et al. (2022) show how the pandemic has revealed that vulnerability is not evenly distributed across Asian textile supply chains, and that carbon emissions are concentrated in specific production activities, with these activities geographically concentrated in certain hotspots–areas that are both highly reliant on the textile and garment sector, but also highly vulnerable to supply chain disruptions and climate change. This gives the need for just transition planning in the sector a strong spatial component; hot areas can be turned into possibilities for

faster community action to "build back better", which might require restorative approaches to mitigate undesirable effects of decarbonisation.

Conclusion

There are lessons we can learn from the pandemic that are valuable for a just transition. The recognition of social inequalities, as well as the implementation of participatory processes that mitigate negative effects of energy and health crises on the most vulnerable are necessary steps towards just transitions. As well as making some inequalities more visible than before, the pandemic has provided some lessons about how policy is implemented in a crisis (positive and negative).

The complex scenarios in which just transitions must be developed after the pandemic require an interdisciplinary, inclusive approach to make sure transitions stand the best chance of being truly just. This requires the identification of unjust practices, but also the engagement of communities and organisations in discussions about ensuring a just transition. Justice scholarship in different areas has established an understanding of the key justice-based issues to be considered when reflecting on how injustices take place and how to address them. Each of the scholarships has developed multiple foci which might need to be brought together in just transitions. An approach which is sensitive to different forms of justice is more likely to address justice issues in a comprehensive manner.

A justice-based policy framework could help in ensuring that a just transition is considering all the levels of injustice that communities, governments and corporate actors need to address. This offers an opportunity to gain a better understanding of the different dimensions of justice a transition should strive for. Moreover, this kind of framework could provide a good starting point to prepare those involved in a just transition process for future complications. If the process is guided by principles which simultaneously address different forms of justice, stakeholders could be more confident in the resilience and fairness of the transition towards a

more sustainable future. However, a purely justice-based framework might also have some shortcomings when it comes to implementing just transition policies:

Firstly, the strategic considerations of workers, unions, environmental organisations and other civil society stakeholders are all important parts of a just transition. This conclusion supports one of the eight core areas identified in Chapter 8 by *McCauley et. al*. These considerations often result in a diversity of priorities. Unlike Chapter 8, I argue that a purely justice-based approach would provide a limited understanding of these strategies or the likely synergies that might emerge from them. Those strategies could also conflict among them, adding difficulties to the implementation of just transition principles. For example, the priorities of people who would accept any job opportunity that brings an income to their household; the priorities of environmental protection groups who see reducing emissions or limiting industrial waste as an imperative; and the priorities of those mainly concerned with the discrimination of people for reasons of gender, race or other status are likely to prove difficult to reconcile. The implementation of a just transition might have to go beyond a purely justice-based framework to understand what these groups expect from the transition and what an acceptable course of action would look like.

Secondly, the more types of justice accommodated within the concept of a just transition, the more complicated and unachievable the process might seem. Many of the types of justice mentioned above are interrelated, but they all have distinct characteristics. This could create problems for some people involved in just transition initiatives, who might feel a transition will never reach an optimum level of fairness across all the forms of justice, which could be paralysing. This could be overcome by developing evaluation tools for practitioners involved in just transition projects based on different forms of justice.

Finally, different forms of justice are open to interpretation, and often depend on power dynamics. In parallel to what could happen to the 'just transition' concept itself, a justice-based

framework for a just transition could be adapted to fit agendas that do not want to promote energy sovereignty, climate justice, nor democracy. The mechanisms in place for just transitions, who is involved in making decisions and their vision for the future might be as important (or more) than the conceptual framework underpinning the process.

References

Armstrong, C. (2020). Decarbonisation and world poverty: a just transition for fossil fuel exporting countries?. Political Studies, 68(3), 671-688.

Barnes, J., & Makinda, S. M. (2021). A threat to cosmopolitan duties? How COVID-19 has been used as a tool to undermine refugee rights. International Affairs, 97(6), 1671-1689.

Bickerstaff, K., Walker, G., & Bulkeley, H. (2013). Energy justice in a changing climate: social equity and low-carbon energy. Zed Books, London.

Blundell, R., Costa Dias, M., Joyce, R., & Xu, X. (2020). COVID-19 and Inequalities. Fiscal Studies, 41(2), 291-319.

Brodeur, A., Gray, D. M., Islam, A., & Bhuiyan, S. (2020). A Literature Review of the Economics of COVID-19.

Brosemer, K., Schelly, C., Gagnon, V., Arola, K. L., Pearce, J. M., Bessette, D., & Olabisi, L. S. (2020). The energy crises revealed by COVID: Intersections of Indigeneity, inequity, and health. Energy Research & Social Science, 68, 101661.

Care Quality Commission (2020). The fundamental standards, 2020, https://www.cqc.org.uk/what-we-do/how-we-do-our-job/fundamental-standards

Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. Nature Energy, 5(8), 569-577.

Cha, J. M., Price, V., Stevis, D., Vachon, T. E., & Brescia-Weiler, M. (2021). Workers and communities in transition: Report of the Just Transition Listening Project. Labor for Sustainability Network (March 2021). Accessed July, 27.

Clamp, K., & Doak, J. (2012). More than Words: Restorative Justice Concepts in Transitional Justice Settings. International Criminal Law Review, 12(3), 339–360. doi:10.1163/157181212x648824

Cooper, L. A., & Williams, D. R. (2020). Excess deaths from COVID-19, community bereavement, and restorative justice for communities of color. Jama, 324(15), 1491-1492.

Cousins, E., de Vries, K., & Dening, K. H. (2021). Ethical care during COVID-19 for care home residents with dementia. Nursing ethics, 28(1), 46-57.

Daniels N. (2008). Just health: meeting health needs fairly. Cambridge: Cambridge University Press.

Duflot, R., Baumeister, S., Burgas, D., Eyvindson, K., Triviño, M., Blattert, C., ... & Potterf, M. (2021). Building up an ecologically sustainable and socially desirable post-COVID-19 future. Sustainability Science, 16(4), 1397-1403.

Gebreslassie, M. G. (2020). COVID-19 and energy access: An opportunity or a challenge for the African continent?. Energy Research & Social Science, 68, 101677.

Gilley, Bruce (2012). Authoritarian environmentalism and China's response to climate change. Environmental Politics, 21(2), 287–307.

Gilmore-Bykovskyi, A., Jackson, J. D., & Wilkins, C. H. (2021). The urgency of justice in research: Beyond COVID-19. Trends in molecular medicine, 27(2), 97-100.

Gore, T. (2020). Confronting Carbon Inequality: Putting climate justice at the heart of the COVID-19 recovery.

Henry, M. S., Bazilian, M. D., & Markuson, C. (2020). Just transitions: Histories and futures in a post-COVID world. Energy Research & Social Science, 68, 101668.

Hepburn, C., O'Callaghan, B., Stern, N., Stiglitz, J., & Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?. Oxford Review of Economic Policy, 36(Supplement_1), S359-S381.

Higgins-Desbiolles, F. (2020). Socialising tourism for social and ecological justice after COVID-19. Tourism Geographies, 22(3), 610-623.

Hoernke, K. (2020). A socially just recovery from the COVID-19 pandemic: a call for action on the social determinants of urban health inequalities. Journal of the Royal Society of Medicine, 113(12), 482-484.

Hughes, S., & Hoffmann, M. (2020). Just urban transitions: Toward a research agenda. Wiley Interdisciplinary Reviews: Climate Change, 11(3), e640.

International Energy Agency (2021) Oil 2021. Analysis and forecast to 2026. Fuel report — March 2021. https://www.iea.org/reports/oil-2021

Jecker, N. S. (2022). Global sharing of COVID-19 vaccines: A duty of justice, not charity. Developing World Bioethics.

Jin, S. (2020). COVID-19, climate change, and renewable energy research: We are all in this together, and the time to act is now. ACS Energy Letters, 5(5), 1709–1711. https://doi.org/10.1021/acsenergylett.0c00910

Kartha, S. (2016) Fossil Fuel Production in a 2°C World: The Equity Implications of a Diminishing Carbon Budget. Discussion Brief, Stockholm Environmental Institute, Stockholm, 25 September.

Kataria, S., & Qu, H. (2022). The Coronavirus Pandemic: The Growing Relevance of Moral Cosmopolitan Justice?. Fudan Journal of the Humanities and Social Sciences, 15(1), 1-21.

Klenert, D., Funke, F., Mattauch, L., & O'Callaghan, B. (2020). Five lessons from COVID-19 for advancing climate change mitigation. Environmental and Resource Economics, 76(4), 751-778.

Lamont, J. (2017). Distributive justice. Routledge. New York.

Le Billon, P., Lujala, P., Singh, D., Culbert, V., & Kristoffersen, B. (2021). Fossil fuels, climate change, and the COVID-19 crisis: pathways for a just and green post-pandemic recovery. Climate Policy, 21(10), 1347-1356.

Mastropietro, P., Rodilla, P., & Batlle, C. (2020). Emergency measures to protect energy consumers during the Covid-19 pandemic: A global review and critical analysis. Energy Research & Social Science, 68, 101678.

McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. Energy Policy, 119, 1-7.

McCauley, D., Ramasar, V., Heffron, R. J., Sovacool, B. K., Mebratu, D., & Mundaca, L. (2019). Energy justice in the transition to low carbon energy systems: Exploring key themes in interdisciplinary research. Applied Energy, 233-234, 916–921. doi:10.1016/j.apenergy.2018.10.005

McGlade, C & Ekins, P. (2015) The Geographical Distribution of Fossil Fuels Unused When Limiting Global Warming to 2ºC. Nature 517: 187–193.

Newell, P., & Mulvaney, D. (2013). The political economy of the "just transition." The Geographical Journal, 179(2), 132–140.

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M. & Agha, R. (2020). The socio-economic implications of the coronavirus and COVID-19 pandemic: a review. International Journal of Surgery, 78, 185-193.

Oxfam (2020). Small group of rich nations have bought up more than half the future supply of leading COVID-19 vaccine contenders. https://www.oxfam.org/en/press-releases/small-group-rich-nations-have-bought-more-half-future-supply-leading-covid-19

Pont, J., Enggist, S., Stöver, H., Baggio, S., Gétaz, L., & Wolff, H. (2021). COVID-19—The Case for Rethinking Health and Human Rights in Prisons. American Journal of Public Health, (0), e1-e5.

Rawls, J. (1971) A Theory of Justice. Harvard University Press, Harvard.

Renn, O. (2020). The Call for Sustainable and Resilient Policies in the COVID-19 Crisis: How Can They Be Interpreted and Implemented?. Sustainability, 12(16), 6466.

Richardson, E. T., Malik, M. M., Darity Jr, W. A., Mullen, A. K., Morse, M. E., Malik, M., ... & Jones, J. H. (2021). Reparations for Black American descendants of persons enslaved in the US and their potential impact on SARS-CoV-2 transmission. Social Science & Medicine, 276, 113741.

Rodrigues, C., & Lowan-Trudeau, G. (2021). Global politics of the COVID-19 pandemic, and other current issues of environmental justice. The Journal of Environmental Education, 52(5), 293-302.

Rosemberg, A. (2010). Building a just transition: The linkages between climate change and employment. International Journal of Labour Research, 2(2), 125-162.

Sharpe, S., Veem, K., Kallio, K., & Martinez Fernandez, M. C. (2022). Opportunities for a Just Transition to environmental sustainability and COVID-19 recovery in the textile and garment sector in Asia (No. 995169793402676). International Labour Organization.

Sotiropoulos, G. (2022). Beyond fairness: the Covid-19 pandemic as an expression of environmental injustice. Distinktion: Journal of Social Theory, 1-22.

Sovacool, B. K., & Dworkin, M. H. (2014). Global energy justice. Cambridge University Press, Cambridge.

Supady, A., Bode, C., & Duerschmied, D. (2020). Procedural justice and egalitarian principles for rationing decisions in the COVID-19 crisis. Critical Care, 24(1), 1-2.

United Nations (2020). Climate Change and COVID-19: UN urges nations to 'recover better'. https://www.un.org/en/un-coronavirus-communications-team/un-urges-countries-%E2%80%98build-back-better%E2%80%99

Van Ness, D., & Strong, K. H. (2014). Restoring justice: An introduction to restorative justice. Routledge.

Walters, S. (2022). Learning about climate justice in times of drought and Covid-19. International Journal of Lifelong Education, 41(1), 45-59.

Wang, Z., & Tang, K. (2020). Combating COVID-19: health equity matters. Nature medicine, 26(4), 458-458.

Wyns, A., & van Daalen, K. R. (2021). From pandemic to Paris: the inclusion of COVID-19 response in national climate commitments. The Lancet Planetary Health, 5(5), e256-e258.

Transitions for zero carbon futures: From just to generous

Alvaro Castano Garcia

Abstract

The ‘just transition’ concept has gained popularity in recent years and is being widely applied as a guiding concept within policy frameworks promoting low carbon transitions. Justice is at the heart of much of the policy rhetoric surrounding these transitions, favoured for the emphasis it places on fairness, equity and inclusivity. The use of justice as the guiding virtue for the transition has remained largely unquestioned. This paper examines the concept of just transition and experiments with positioning generosity as a guiding principle. It is argued that this may enable a more transformative, inclusive zero carbon future that prioritises wellbeing over mere survival. This does not seek to position a just transition and a generous transition in direct opposition to one another, instead intending to highlight how the concept of generosity might act as a catalyst for or complement to justice.

Introduction

This essay seeks to question and expand the ethical foundations of the just transition concept, by presenting an approach that goes beyond justice and the heavily economic focus of initiatives aimed at fostering a just transition. It presents generosity as a virtue which might precede or complement justice in guiding low carbon transitions and which can be seen as already implicit in many aspects of just transition. Just transition has become a popular term employed widely in policy, business, civil society, social movements and academia, to facilitate a rapid and fair transition to a lower carbon society in many parts of the world.

The just transition movement developed in the US during the 1980s and 1990s, as a response by organised workers who saw their industries threatened (Abraham, 2017; Doorey, 2016; Pinker, 2020). As environmental regulations threatened jobs dependent on fossil fuels, unions tried to achieve 'just transitions' for their workers. In practice this involved offering guaranteed new jobs in new industries or early retirement. In this context, justice is defined as securing an economic future for displaced workers.

Exploring alternative moral virtues to guide low-carbon transitions aims at preserving the benefits and opportunities that seeking a just transition creates while overcoming some of its limitations. Here it is argued that adopting generosity as a guiding principle- in pursuit of a generous transition- has the potential to provide a more precise ethical framework for those working towards fairer, more sustainable futures. Moreover, it is contended that generosity might be better aligned with the core demands of the labour and environmental movements from which the just transition concept originated.

In essence, the article outlines the potential to take just transition frameworks further, turning towards a theory of generous transition. The essay starts by critically exploring the current significance and applications of the just transition concept. It then introduces generosity as an alternative or complementary virtue for guiding low carbon transitions towards positive and equitable outcomes and explores how adopting generosity as an alternative or complement to justice could enable more radical transformations of society and economy towards a low-carbon future. A series of brief thought experiments are presented aimed at envisaging how a current policy or movement might have looked different and resulted in different outcomes had it been based on generosity. The article

concludes by assessing the usefulness of the notion of a generous transition and the extent to which justice and generosity might usefully co-exist and interact in the context of low carbon transition policy.

The rise of the just transition

Just transition principles have proven popular as a framework for guiding policy making aimed at a rapid and fair transition to a lower carbon society in many parts of the world. Recovery from the pandemic accelerated calls for investment in a green recovery that focuses on the creation of 'green jobs', and addressing wider social and economic inequalities laid bare by the pandemic. As the UN Climate Chief stated in 2020*: "With this restart, a window of hope and opportunity opens… an opportunity for nations to green their recovery packages and shape the 21st century economy in ways that are clean, green, healthy, safe and more resilient"* (UN, 2020). During COP26 (the United Nations Climate Change Conference held in 2021), sixteen governments (including USA, UK, Canada and New Zealand) and the European Commission signed a declaration pledging support for a just transition, stating that *"We recognise our role in working to ensure that no one is left behind in the transition to a net zero and climate resilient future. We recognise that all countries must benefit from the opportunities offered by sustainable and just transitions"* (UN, 2021). The use of the language of justice in the context of global climate negotiations is testimony to the significance of the concept in shaping international climate policy and commitments and sets the precedent for the adoption of the concept in the detailed transition policies of countries around the world.

Just transition is interpreted in a variety of different ways, many of which diverge from its origins within labour movements. Wang and Lo (2021) identified five

strands in the literature on just transition, which reveal different ways of understanding the concept:

1- Just transition as a labour-oriented concept, which prioritises its intrinsic link with the labour movement and focuses on the historical development of energy and economic transitions from that perspective.

2- Just transition as an integrated framework for justice, which explores how other areas in the justice-related literature, particularly environmental, climate, and energy justice are connected to different dimensions of just transition.

3- Just transition as a theory of socio-technical transition, which seeks to understand trends in technological innovations and social changes, and to reveal the patterns, and mechanisms that drive them.

4- Just transition as a governance strategy, which aims at explaining the institutional structures, political processes, and social relations underpinning a transition, as a collective pursuit of public or individual interests.

5- Just transition as public perception, which studies public perception and attitudes towards low-carbon energy transitions. This focus on public support, policy acceptance and legitimacy stems from an awareness of how social opposition could impact the scale and pace of energy transitions.

These various interpretations of the term show how just transition has evolved from its economic origins. It has now become a multifaceted concept, with different meanings associated to it. Although there are many understandings of the term, and these different strands of academic literature are still evolving, the use of the concept within policy has tended to stay true to the origins of the concept as a means of promoting fair economic outcomes for the workforce. A

broad international consensus has emerged regarding the use of the just transition concept to guide the transformation of the current economic system towards fair outcomes. This is framed as an attempt to combine the protection of the environment with job creation in a socially just way (Newell & Mulvaney, 2013; Pinker, 2020). For example, the International Labour Organization (ILO, 2015) approved the guidelines for a just transition towards environmentally sustainable economies and societies for all, and The United Nations Framework Convention on Climate Change (UFCCC, 2020) released a technical paper with the main objective of assisting *countries "in the process of just transition of their national workforces, and the creation of decent work and quality jobs in relation to the implementation of climate change mitigation policies"* (p.5). In 2020, the EU announced The Just Transition Mechanism, which aims to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind (European Commission, 2020).

In turn, many governments are also using just transition frameworks in their strategies for implementation of different aspects of low carbon transitions. For example, in Canada, the federal government created the Just Transition Task Force for Canadian Coal Power Workers and Communities, which aims at facilitating its phase-out of coal (Government of Canada, 2018). Similarly, the Scottish government launched the Just Transition Commission (Scottish Government, 2020), to guide all aspects of transition. And in the US, a 2019 Bill in Colorado created the Office of Just Transition, to help workers and communities that will be adversely affected by the loss of jobs and revenues due to the closure of coal mines and coal-fired power plants (Colorado General Assembly, 2019). Decarbonisation will bring different challenges and

opportunities for different places (While & Eadson, 2021), making localised interpretations of just transition very important in shaping how the transition will play out in the lives of ordinary citizens.

A just transition to a low carbon society is a heavily political issue, not just a technological matter or a management framework. A focus on justice encourages a focus on 'who wins, who loses, how and why' (Newell & Mulvaney, 2013, p.2), but the concept of just transition can be criticised for paying insufficient attention to the underlying causes of unjust outcomes, focussing instead on ameliorating their consequences. We can look at the problems communities in transition to low carbon energy systems and low carbon economies face as side-effects of carbon intensive systems, and the cultural values associated to those. Tackling the causes of unfair economic systems might require paying attention to the underlying causes of justice issues and how they have been shaped over long time periods (Healy & Barry, 2017). The recent raft of policies aimed at a just transition are often flawed from the outset in terms of whose perspectives they incorporate, usually written from the perspective of elite powers such as states and large private sector players, such as energy providers (Sovacool & Brisbois, 2019).

McCauley and Heffron (2018) argue that public and professional understandings and acceptance of a just transition could increase if we worked towards expansion and greater unification of the concept, liberating the debate from conceptual ambiguity. The concept can be criticised for following a narrow concept of justice, often encompassing only the 'classic' or widely recognised tenets of justice: distributive, procedural and recognition, thus limiting our awareness of the wide-ranging injustices that can be wrought by low carbon

transitions and neglecting the additional complexity associated with the different geographical, social and economic contexts across which transitions play out (Iwińska *et al*. 2021). McCauley *et al.* (2019) identified distributional, recognition, procedural, cosmopolitan and restorative justice as the main forms of justice cited in the energy justice literature. All these types of justice are important for understanding just transitions in a comprehensive way. Historically, equity has been an underlying principle of just transition, and distributive justice is strongly related to any efforts aimed at providing funds for training, early retirements, etc. Procedural justice is relevant too, as this increases the trust in the decision makers behind just transition initiatives, which would result in better outcomes. And none of these are possible without recognition of the needs and dignity of people affected by the transition. However, low carbon transitions are also related to other types of justice, such as cosmopolitan (as decarbonisation is an international issue) and restorative (because some have benefited from carbon-intensive systems while others are suffering their worst effects).

Just transition in practice: de-historicization and greenwashing?

The just transition concept has the twofold potential of bringing together many environmental and labour grassroots organisations (Galgóczi, 2020; Wilgosh, Sorman & Barcena, 2022); and guiding decision-making in policy circles. As outlined above, it has already become a common concept in the international context, permeating many national and local strategies. But there are many obstacles to the implementation of just transition frameworks. The priorities, as well as the preferred mechanisms for transitioning towards a more sustainable and fair economy will be different depending on context and the people in charge of the process, as well as the values guiding it. This emphasises the importance

of questions about the meaning of a just transition, about who is behind it and who it is for (Stevis & Felli, 2015), especially now that the popularity of the concept has grown.

Inclusion of the concept of just transition in national and international agendas has raised awareness of the social justice aspects of low carbon transitions, but it might also be contributing to de-historicising the concept and to separating it from those who have developed it, mobilised around it, and made it part of their struggles and debates for decades: unions, workers' organisations, environmental organisations and frontline communities (Stevis *et al.*, 2020). The struggles of workers, civil organisations and communities made possible the development and increasing popularity of the concept, but that popularity means that the worldviews, political agendas and meanings associated with just transition frameworks are different now to those originally behind it. Wilgosh, Sorman and Barcena, (2022) argue that the process of internationalisation which has lead just transition to become a mainstream policy tool in so many countries has weakened its union foundations and has replaced them with a predilection for investment, innovation, and ecological modernisation.

However, workers and environmental organisations are still leading some aspects of the debate around just transitions. For instance, extending the broad frame of just transitions to issues such as democracy, gentrification, and environmental racism, among others (Ciplet & Harrison, 2019). But the appropriation and manipulation of the concept by states and corporate actors, that have been accused of employing it for the purposes of greenwashing, is concerning (Stevis *et al*. 2020). For example, as Bainton *et al*. (2021) argued, few major mining companies have engaged with the just transition concept yet, but

the ones which have done so seem to have anticipated the position different stakeholders will expect from them (in terms of corporate social responsibility). Consequently, they are meeting shareholders expectations by framing their commitments to the environment, communities and workers as part of a just transition. As well as using the term to improve their reputation, co-opting the discourse of their critics might also be a way to achieve a gradual creep in the meaning of 'just transition' so it aligns with the companies' interests without the need to alter their practices in a significant manner. For instance, framing purely financial decisions as ethically considered steps towards a just transition. In any case, when the vision for the future used to guide a transition does not encompass all the needs and views of those affected, scope for justice and democracy is likely to be limited.

Moreover, scrutiny of policies inspired by just transition reveals language focussed on survival and avoidance of stranding amongst frontline communities that feel the worst effects of climate change and decarbonisation efforts, with the language of opportunity, possibility and thriving much less apparent [redacted]. In this sense it can be argued that adherence to just transition potentially limits our ambition for the transition, overlooking the potential to promote greater well-being, thriving and a reversal of fortunes for those disadvantaged by the present high carbon economy.

Miller (2021) notes how justice, according to philosophers, has two faces. One which is conservative and largely follows existing norms and practices, and aims at fulfilling the expectations people have acquired from existing practices and social conventions. This type of justice reinforces the status quo. The other, ideal, demands more radical reform of laws, customs, and norms, resulting in new

entitlements and expectations and sometimes creating a new status quo. Conservative notions conceive of justice as concerned mostly with what individuals can demand within the limitations of current laws and social customs. At the other end of the spectrum, ideal conceptions of justice presuppose some ideal principle (such as equality) and only recognise the justice of claims that derive directly from the application of this principle. There is an unresolved conflict within justice that results from those two different and often-incompatible understandings. This does not prevent partial theories from informing what justice requires in specific domains of human life. In that sense, just transition (and energy justice for that matter) rely on different types of justice, which are applied by different actors with different notions of justice.

Generosity as an alternative moral virtue for a Just Transition

The wide-ranging critiques of just transition suggest it is appropriate and timely to question whether it is the right concept to adopt in guiding low carbon transitions. McCauley and Heffron (2018) have scrutinised the concept and believe that just transition has potential to become an all-encompassing and unifying concept capable of acting as a barometer to ensure a fair and conscientious transition but only if we expand and reframe it beyond its original economic purpose. Rather than seeking to expand the concept by accepting justice as its guiding principle, I argue that justice needs to be sparked by other principles or, at the very least, complemented by them.

My focus is on generosity on the basis that it can support and enhance fairness and sustainability while promoting inclusivity, collaboration, and the well-being of both present and future generations. Generosity as a guiding principle does not exclude any of the types of justice identified by McCauley *et al.* (2019) as the

forms of justice that should be considered in the context of low carbon transitions (distributional, recognition, procedural, cosmopolitan and restorative justice). However, generosity has a clearer focus on interconnectedness, and prioritises esteem for oneself and others (and a flourishing human life) over strict adherence to rigid and potentially divisive notions of entitlement and retribution that can be associated with justice. This section explores the notion that generosity can be located at the beginning of an alternative 'ethical chain' which starts by expanding the moral community (Castro, 2021), underpinning recognition as a type of justice. This could play an important role in driving energy transitions, bridging people and communities with different interests and making transitions as inclusive and just as possible, for people and for other beings. As Anthis and Paez (2021) explain, broadening the scope of moral consideration to include a wider range of individuals and entities is a promising strategy to impact the far future. It encourages a more inclusive and compassionate approach to ethical decision-making, not just in the present but in the long term as well.

Generosity also guides action towards what Aristotle defined as the noble and appropriate mean between the two opposing extremes of stinginess and wastefulness (Aristotle, 1908). Aristotle argues that those who suffer from generosity deficiency are either more frugal with their resources than they ought to be, or greedy because they take too much. When distinguishing generosity from extravagance or wastefulness, Aristotle highlights that extravagance is characteristically self-destructive since it wastes resources essential for living. In an international development context, Global North nations can be seen to exemplify the characteristics of extravagance that will ultimately, if left unchecked, become self-destructive as the Earth is rendered uninhabitable. Generosity

deficiency is also evident in the inadequacy of gestures towards Global South countries who experience some of the most intense impacts of climate change, driven by high carbon lifestyles in the Global North (James *et al*., 2014).

In relation to this point about the self-destructive nature of extravagance, this may be where generosity is misunderstood and perhaps rejected as a virtue, in the sense that it should not omit self-interest. Generosity does not demand selflessness but instead requires that one gives to others to the degree that giving does not damage one's own material health (Allen, 2018). This is where it is distinct from altruism which involves acting to promote someone else's wellbeing even at cost to ourselves. As I will go on to discuss, recent gestures on the part of Global North countries towards Global South nations have not been without their benefits for the giver, suggesting they are closer to acts of generosity than altruism. In this context, Singer (2015) suggests that effective altruism should be focused on donating resources only after careful reasoning to decide how best to provide support and to which causes. Singer's arguments remind us that altruism can be ineffective if it is not carefully considered, effectively targeted, and aligned with the needs of beneficiaries. Understanding the needs of the intended beneficiaries has the potential to transform an act of apparent generosity from one that is done to the recipients to one that is inclusive of them.

However, commentators such as Gabriel (2017) rail against the notion that altruism could represent the key to increased global justice, highlighting the risks associated with donor-centrism and how a reliance on altruism reinforces existing tendencies for the decision-making power to reside with the wealthy who are out of touch with the complex injustices faced by those they seek to help. In essence, under this model, the very structures that created the injustice in the first place

are relied on to address it. Here lies the distinction between the more inclusive nature of generosity and the apparent selfless nature of altruism. As will be discussed, generosity might represent a more viable and realistic first step towards justice in the context of low carbon transitions than altruism and one which is already being enacted to some degree.

Generosity as an antidote to inequality

Low carbon transitions are essential if we are to overcome the adverse environmental changes the global economy has fuelled (Valentine, Brown & Sovacool 2019). In the current context, there is a need to accelerate transitions that facilitate access to renewable energy, create the possibility for an environmentally sustainable economy, provide decent work, reduce poverty, and minimise climate-related dangers (Siciliano *et al*. 2021). However, it is important to note that while most nations seem to recognise the importance of making these transitions, global achievement presents a significant challenge considering existing inequalities. In particular, developing nations lack the adequate resources necessary to transition rapidly to low-carbon energy systems and have contributed little in terms of global greenhouse gas emissions. Also, inequalities within rich countries mean that many people living there do not benefit from the access to the abundance of resources often associated with those countries. The inequality issue and how it affects the achievement of just transitions highlights the importance of generosity as a moral virtue and its relevance for energy transitions. Inequality and calls for recognition and equity have historically been at the core of just transition demands. The causes of inequality might stem from the lack of generosity of certain actors and the cultural values they adhere to.

Expanding access to energy is one of the most immediate priorities for poorer nations. Providing clean, safe, affordable, and reliable energy to citizens who lack access is also critical for progressing towards other developmental goals in these countries. In areas where energy access is inadequate, other crucial societal and human needs are typically lacking. This means that in these countries, satisfying energy needs usually competes with other priorities (Ahuja, Tatsutani & Schaffer, 2009). However, improving quality of life for people in those countries would not necessarily involve reaching the energy consumption per capita the average person in an industrialised nation desires.

Even for rich, industrialised nations, the transition to low-carbon energy is clearly a challenging undertaking. But this undertaking is also incredibly daunting for emerging economies. High carbon energy systems are relatively new for such nations, perhaps making the transition away from newfound ways of accessing energy en mass more difficult. For instance, India predicts that while it is making significant strides towards eliminating coal-fired industries, this form of high-carbon fuel will still constitute about 30 percent of its electricity system by 2040 (Silverstein, 2021). The move towards carbon neutrality will demand extensive research, money, and other resources to commercialise future technologies. Currently, developing and emerging countries lack the resources and expertise required for this transition. However, those countries and their developed counterparts recognise that inaction will have dire consequences.

It is unclear how a shift towards more generous attitudes could be promoted on a global scale, particularly in those countries where overconsumption, individualism and competition are prized. However, individual agency and self-interest might guide that ethical and political trend, at least in part. Perfecting

oneself by becoming more generous and avoiding both wastefulness and stinginess could become a more prevalent form of self-realisation for people in rich countries who have access to more resources than they need and feel dissatisfied nonetheless (Soper, 2020). This would also prevent paternalistic attitudes towards low-income individuals and developing countries to some extent. Striving for generosity as a moral virtue could be a way of perfecting oneself by giving to a (hopefully global) community, not only a way to make sure everyone receives a fair share of a resource, although this would very likely be an effect of a culture of generosity.

Generosity has not been explicitly included in energy studies and just transition initiatives, but philosophers have developed moral theories which look at complementary virtues that might be needed if justice is to deliver its own undenied benefits (e.g. Baier 1987). For instance, the development of ethics of care in the last decades is related to an understanding of the limitations of justice and previous approaches to morality. As Damgaard, McCauley and Reid (2022) show, understanding energy systems as relational, and highlighting interconnectedness, dependence, necessity and needs within low-carbon transition discourses could be a more accurate reflection of how people make sense of the energy transition than a language of fairness and rights. Recent calls to put care at the centre of life (Chatzidakis *et al*. 2020; Burke, 2022) are a reminder of the importance of implementing policies which recognise and embrace our interdependencies for a fair, sustainable future. Generosity might be a more suitable principle than justice to underpin this kind of transition.

Imagining a generous transition

What would a low-carbon transition look like if generosity was its guiding principle? There are many possible answers to this question, depending on whose vision of the future guides the process as well as the scenario in which the transition needs to take place. But in an effort to start considering generous low-carbon futures, it might be useful to explore a couple of examples of the potential for transformational change with generosity as a guiding principle. For instance, the COP27 funding arrangements for responding to loss and damage caused by anthropogenic climate change would have been very different if they had been guided by generosity. Loss and damage refers both to the negative impacts of climate change and to the strategies to support developing countries which are particularly vulnerable to those impacts.

First of all, it is likely an international agreement would have been reached way earlier with generosity as a guiding principle. In 1991, the Alliance of Small Island States (AOSIS) already proposed the establishment of an international insurance pool to compensate the most vulnerable small island and low-lying coastal developing countries for loss and damage arising from sea level rise. The proposal was not accepted, although it arguably influenced the international debate and in 2013, at COP19, the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts was established. Developed countries have historically avoided policy initiatives that place the responsibility for addressing the impacts of climate change on them (Wei *et al.*, 2012; Okereke, 2008). Their negotiators have used different tactics to avoid the topic and obstruct policy initiatives. Focusing on loss and damage as a risk management issue, instead of discussing the most appropriate tools to shape

successful liability and compensation initiatives could be part of those tactics. Historically, developing countries have claimed that developed countries have disproportionately contributed to the problem of climate change. They have asked developed countries for compensation in order to deal with loss and damage. However, developed countries have framed the issue as an adaptation problem, for which developing countries need to take preventative measures, perhaps with assistance from their developed counterparts.

In their review of the academic literature on loss and damage, McNamara & Jackson (2019) found that loss and damage is very often conceptualised in research as the residual effects that occur after the 'limits to adaptation' have been reached; they also found the literature is more practical than critical (it does not tend to challenge underlying presuppositions); that loss and damage is conceived as both an occurring and future condition; and that studies prioritise the economic dimensions of loss and damage. They recommend the exploration of the potential for transformational change, understanding what people value and how they can engage with loss and grief, ensuring the perspectives of the most vulnerable groups are included in decision-making, and greater policy-relevant research and critical analyses of loss and damage and the Warsaw International Mechanism.

Putting the load of adaptation on those countries which have contributed less to anthropogenic climate change could be a sign of the reluctance of developed countries to accept the responsibility for the effects of their emissions, but it could also indicate that the representatives of developed countries do not perceive developing countries as members of their moral community.

UN Secretary-General António Guterres welcomed the agreement to provide loss and damage funding at COP27 as “an important step towards justice”. And perhaps this is a good reflection of some of the limitations of justice. A response to a demand of countries that have been suffering catastrophic effects of climate change seems to have arrived three decades later, as a commitment to provide aid for future adaptation measures. It is still unclear who should pay into the fund, where this money will come from, and which countries will benefit. A generous approach would have meant a recognition of people in developed countries as members of a moral community. This would have made possible the allocation of shared resources to prevent future risks but perhaps also to create the conditions for agreements on compensations for past harm.

Looking at how different the behaviour of big oil companies would be with generosity as a guiding principle might also exemplify what a generous transition could look like. The profits of companies such as Shell, TotalEnergies, Chevron, ExxonMobil and BP soared to £150bn during the first nine months of 2022 (Jolly & Elgot, 2022), while many governments had to put measures in place to protect to some extent consumers who suffered the impact of rising energy prices (Sgaravatti *et al*., 2022). Given the historical behaviour of these companies and the mismatch between their discourses, actions and investments, a just, clean energy transition does not seem to be a genuine priority for them (Li, Trencher & Asuka, 2022). However, by acknowledging the energy needs of people and reducing their profits, they could have envisioned a strategy to ensure the increase of energy prices did not affect consumers negatively. This kind of action could have had a positive impact on the public perception of these companies, so in this case generosity would have limited their short term profits, but could

have been in their interest, as perhaps calls for higher taxation and for limiting their future profits would not have been as widespread. This would have also signalled a shift in their priorities and show investors and the international community how they are taking steps to make the transition to low-carbon as fair as possible.

Justice and beyond in low carbon energy transitions

There have been many attempts to create just transition frameworks, which in many cases favour a transformative (as opposed to conservative of the status quo) notion of justice. For instance, the ILO (2015) emphasised the importance of adequate, informed and ongoing consultation with all relevant stakeholders for policymaking and implementation of just transitions. Farrell (2012) suggested using an environmental justice framework to mitigate negative impacts of a transition to more sustainable economies. Her framework involves implementing equitable public policy based on different dimensions of justice; creating mechanisms for meaningful participation of all those affected by the transition; and taking a holistic approach to the transition that addresses the political, economic, and social inequities of the fossil fuel economy. McCauley & Heffron's (2018) framework brought together distributive, procedural and restorative justice, across the three key sectors of environment, climate and energy. Stevis and Felli (2020) employed scale (spatial and temporal) and scope (people involved and historical articulation of issues) to capture the breadth or inclusiveness of just transitions. All these frameworks are both analytical and operational, as they aim at characterising what a just transition is, but also what policy-making should prioritise.

McCauley & Heffron (2018) argue that one of the main tasks of justice scholars is reframing the just transition concept beyond its original purpose. They believe the just transition concept could unite climate, energy and environmental justice scholarships and go beyond a purely operational purpose. According to Hughes and Hoffmann (2020), a just transition at an urban scale requires moving from an evaluative perspective to a process-oriented perspective, with the aim of identifying those policies and processes more likely to bring positive change. Therefore, the academic focus needs to shift from raising awareness of injustice, to showing how justice can be achieved. Perhaps that shift from a deficit model of fairness and equity (i.e. addressing injustice) can be facilitated by paying attention to other virtues. This would not necessarily mean abandoning the just transition concept altogether. Reframing just transition, by emphasising the opportunities generosity provides as a guiding principle for transitions, and how a generous transition could improve our lives, would refine our understanding of what kinds of justice the low-carbon transition requires, and what other virtues could underpin the process.

As mentioned above, McCauley *et al.* (2019) identified distributional, recognition, procedural, cosmopolitan and restorative justice as the main forms of justice cited in the energy justice literature when addressing issues related to transitions to low carbon energy systems. Although energy justice is itself an integral part of a just transition, these forms of justice have not yet been extensively used to think about current and future just transition policy initiatives. Some of the typical tenets of the 'just transition' concept also include areas which are often beyond the scope of energy justice (e.g. relationships within the labour market, broader social justice issues or certain historical considerations). Generosity as a guiding

principle would allow for the use of those forms of justice as tools for theory development, decision-making and policy interventions, while avoiding the limitations of a purely justice-based approach, especially for rapid transitions that require the commitment and participation of a wide variety of actors.

According to Rosemberg (2010), in a context where environmental protection is often framed as a top-down, elitist demand, just transition principles give workers an opportunity to gain space in the climate discussion, shaping policies and strategies that affect the future of their jobs and livelihoods. When thinking of an international perspective, going beyond an elitist environmentalism, in which only rich countries can fit environmental protection into their agendas, climate and environmental justice issues should be addressed both in the relationship between the global North and the global South and within those societies. The moral outlook most appropriate for such a task needs to harmonise justice and other virtues. Countries with the financial power to help should take on a more generous approach and share their vast resources with the developed world if the global transition to low-carbon energy systems is to be achieved with the immediacy it deserves. In the context of the global energy system, generosity should also mean not consuming resources in a wasteful manner. This would relieve poor countries from some of the economic, social, and health burdens they have experienced historically.

Conclusion

To ensure that low carbon transitions have the best chance of being truly just and taking into account other concerns outside of justice, such as interconnectedness and dependence, it is necessary to recognise unfair behaviours but also the engagement of a variety of voices in discussions about what transitions should

look like. The issue of inequality and how it influences the realisation of energy transitions emphasises the relevance of generosity as a moral virtue in the context of energy transitions. Positioning generosity as the moral principle underpinning low-carbon transitions will perhaps make it possible for humanity to transition to a more just future. A future where humanity strives for expanding wellbeing, instead of focusing on mere survival.

A transition that is both just and generous is possible, but justice needs to be complemented by or sparked by generosity. Generosity as a guiding principle could re-shape the concept of just transition in a way that includes more people, more parts of the environment and promotes individual and social well-being. Grounded on inequality, but with a focus on facilitating a meaningful life for oneself and for others, generosity is already implicit in many types of justice (e.g. distributional, recognition, cosmopolitan).

The mechanisms in place for achieving low carbon energy transitions, who is involved in making decisions and their vision for the future might be as important (or more so) than the conceptual framework underpinning the process. Generosity-based frameworks could unveil the values behind just transition initiatives. For instance, questioning how generous governments or companies' actions are when they explain their commitment to just transition principles could be a way to reveal what interests and values are behind their understanding of just transition.

Generosity as the main moral virtue guiding transitions would help overcome the conflict between the conservative and the ideal notions of justice, emphasising the interconnectedness of human beings and our responsibilities towards others, from a position of self-esteem and care. Generosity, when applied in the context

of low-carbon transitions, can draw attention to the crucial role that those with the means bear in facilitating this shift towards sustainability. By recognising their responsibility in contributing to environmental problems, wealthier individuals and nations can play a vital role in driving positive change. This approach encourages collective efforts and collaborative solutions, empowering societies to address the challenges posed by climate change and move towards a low-carbon future together. Generosity is a virtue that fosters human flourishing through interdependence and care. It can serve as a foundational principle for personal and social development in alignment with the most transformative aspects of the just transition concept. Embracing generosity as a foundation and complement of justice in low-carbon transitions not only fosters a more equitable and inclusive pathway to sustainability but also ignites a collective determination to address climate challenges with empathy, collaboration, and a shared commitment to a better future for all.

References

Abraham, J. (2017). Just Transitions for the Miners: Labor Environmentalism in the Ruhr and Appalachian Coalfields. New Political Science, 39(2), 218–240. doi:10.1080/07393148.2017.1301313

Ahuja, D., Tatsutani, M., & Schaffer, D. (2009). Sustainable energy for developing countries. Sapiens, 2(1).

Allen, S. (2018). The science of generosity. A white paper prepared for the John Templeton Foundation by the Greater Good Science Center at UC Berkeley.

Anthis, J. R., & Paez, E. (2021). Moral circle expansion: A promising strategy to impact the far future. *Futures*, 130, 102756.

Aristotle (1908). Nicomachean Ethics. [online] Available at: <http://classics.mit.edu/Aristotle/nicomachaen.4.iv.html> [Accessed 6 January 2022].

Baier, A. C. (1987). The need for more than justice. Canadian Journal of Philosophy Supplementary Volume, 13, 41-56.

Bainton, N., Kemp, D., Lèbre, E., Owen, J. R., & Marston, G. (2021). The energy-extractives nexus and the just transition. *Sustainable Development*, 29(4), 624-634.

Bickerstaff, K., Walker, G., & Bulkeley, H. (2013). Energy justice in a changing climate: social equity and low-carbon energy. Zed Books, London.

Blundell, R., Costa Dias, M., Joyce, R., & Xu, X. (2020). COVID-19 and Inequalities. Fiscal Studies, 41(2), 291-319.

Bojer, H. (2003). Distributional justice: Theory and measurement. Routledge. London

Braunreiter, L., van Beek, L., Hajer, M., & van Vuuren, D. (2021). Transformative pathways–Using integrated assessment models more effectively to open up plausible and desirable low-carbon futures. Energy Research & Social Science, 80, 102220.

Brosemer, K., Schelly, C., Gagnon, V., Arola, K. L., Pearce, J. M., Bessette, D., & Olabisi, L. S. (2020). The energy crises revealed by COVID: Intersections of Indigeneity, inequity, and health. Energy Research & Social Science, 68, 101661.

Burke, M. J. (2022). Post-growth policies for the future of just transitions in an era of uncertainty. Futures, 136, 102900. https://doi.org/10.1016/j.futures.2021.102900

Carley, S., & Konisky, D. M. (2020). The justice and equity implications of the clean energy transition. Nature Energy, 5(8), 569-577.

Castro, E. (2021) IV Encuentro De Filosofía Intercultura. Ernesto Castro. Retrieved 2 September 2021, from https://www.youtube.com/watch?v=FjNwR1n1eSY

Chatzidakis, A., Hakim, J., Litter, J., & Rottenberg, C. (2020). The care manifesto: The politics of interdependence. Verso Books.

Ciplet, D., & Harrison, J. L. (2019). Transition tensions: mapping conflicts in movements for a just and sustainable transition. Environmental Politics, 29:3, 435-456, DOI: 10.1080/09644016.2019.1595883

Clamp, K., & Doak, J. (2012). More than Words: Restorative Justice Concepts in Transitional Justice Settings. International Criminal Law Review, 12(3), 339–360. doi:10.1163/157181212x648824

Collins, S. (2006). Aristotle and the Rediscovery of Citizenship. Cambridge: Cambridge University Press.

Colorado General Assembly (2019) H.B. 19-1314, 2019 First Reg. Sess., 72nd General Assembly. https://leg.colorado.gov/sites/default/files/2019a_1314_signed.pdf

Comte-Sponville, A. (2002). A small treatise on the great virtues: The uses of philosophy in everyday life. London: William Heinemann.

Descartes, R. (1988). Descartes: Selected philosophical writings. Cambridge University Press.

Doorey, D. J., "A Law of Just Transitions?: Putting Labor Law to Work on Climate Change" (2016). Osgoode Legal Studies Research Paper Series. 164.

Farrell, C. (2012). A just transition: lessons learned from the environmental justice movement. Duke FL & Soc. Change, 4, 45.

Foot, P. (1978). Virtues and Vices, Oxford: Blackwell.

Gabriel, I. (2017). Effective altruism and its critics. Journal of Applied Philosophy, 34(4), 457-473.

Galgóczi, B. (2020). Just transition on the ground: Challenges and opportunities for social dialogue. European Journal of Industrial Relations, 26(4), 367-382.

Gilley, Bruce (2012). Authoritarian environmentalism and China's response to climate change. Environmental Politics, 21(2), 287–307.

Government of Canada (2018) Task Force: Just Transition for Canadian Coal Power Workers and Communities https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition.html

Healy, N., & Barry, J. (2017). Politicizing energy justice and energy system transitions: Fossil fuel divestment and a “just transition”. Energy policy, 108, 451-459.

Held, V. (2006). The ethics of care: Personal, political, and global. Oxford University Press on Demand.

Henry, M. S., Bazilian, M. D., & Markuson, C. (2020). Just transitions: Histories and futures in a post-COVID world. Energy Research & Social Science, 68, 101668.

Hepburn, C., O'Callaghan, B., Stern, N., Stiglitz, J., & Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?. Oxford Review of Economic Policy, 36(Supplement_1), S359-S381.

Hughes, S., & Hoffmann, M. (2020). Just urban transitions: Toward a research agenda. Wiley Interdisciplinary Reviews: Climate Change, 11(3), e640.

ILO (2015) Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All. Geneva: International Labour Office.

International Energy Agency (2021) Oil 2021. Analysis and forecast to 2026. Fuel report — March 2021. https://www.iea.org/reports/oil-2021

Iwińska, K., Lis, A., & Mączka, K. (2021). From framework to boundary object? Reviewing gaps and critical trends in global energy justice research. *Energy Research & Social Science*, 79, 102191.

James, R., Otto, F., Parker, H., Boyd, E., Cornforth, R., Mitchell, D., & Allen, M. (2014). Characterizing loss and damage from climate change. Nature Climate Change, 4(11), 938-939.

Jolly, J., and J. Elgot. 2022. "Profits at World's Seven Biggest Oil Firms Soar to Almost £150bn this Year." Guardian, 27 October. https://www.theguardian.com/business/2022/oct/27/profits-at-worlds-seven-biggest-oil-firms-soar-to-almost-150bn-this-year-windfall-tax.

Kavanagh, M. M., Gostin, L. O., & Sunder, M. (2021). Sharing technology and vaccine doses to address global vaccine inequity and end the COVID-19 pandemic. JAMA, 326(3), 219-220.

Klenert, D., Funke, F., Mattauch, L., & O'Callaghan, B. (2020). Five lessons from COVID-19 for advancing climate change mitigation. Environmental and Resource Economics, 76(4), 751-778.

Lamont, J. (2017). Distributive justice. Routledge. New York.

Li, M., Trencher, G., & Asuka, J. (2022). The clean energy claims of BP, Chevron, ExxonMobil and Shell: A mismatch between discourse, actions and investments. PloS one, 17(2), e0263596.

McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. Energy Policy, 119, 1-7.

McCauley, D., Ramasar, V., Heffron, R. J., Sovacool, B. K., Mebratu, D., & Mundaca, L. (2019). Energy justice in the transition to low carbon energy systems: Exploring key themes in interdisciplinary research. Applied Energy, 233-234, 916–921. doi:10.1016/j.apenergy.2018.10.005

McNamara, K. E., & Jackson, G. (2019). Loss and damage: A review of the literature and directions for future research. Wiley Interdisciplinary Reviews: Climate Change, 10(2), e564.

Miller, D. (2021) "Justice", The Stanford Encyclopedia of Philosophy (Fall 2021 Edition), Edward N. Zalta (ed.) https://plato.stanford.edu/archives/fall2021/entries/justice/

Newell, P., & Mulvaney, D. (2013). The political economy of the “just transition.” The Geographical Journal, 179(2), 132–140.

Okereke, C. (2008). Equity norms in global environmental governance. Global Environmental Politics, 8(3), 25-50.

Pinker, A. (2020) Just Transitions: a comparative perspective. https://www.gov.scot/publications/transitions-comparative-perspective/

Rajan, D., Koch, K., Rohrer, K., Bajnoczki, C., Socha, A., Voss, M., ... & Koonin, J. (2020). Governance of the Covid-19 response: a call for more inclusive and transparent decision-making. BMJ global health, 5(5), e002655.

Rawls, J. (1971) A Theory of Justice. Harvard University Press, Harvard.

Rosemberg, A. (2010). Building a just transition: The linkages between climate change and employment. International Journal of Labour Research, 2(2), 125-162.

Routledge, P., Cumbers, A., & Derickson, K. D. (2018). States of just transition: Realising climate justice through and against the state. Geoforum, 88, 78-86.

Scottish Government (2020) Just Transition Commission https://www.gov.scot/groups/just-transition-commission/

Sgaravatti, G., Tagliapietra, S., & Zachmann, G. (2022). National policies to shield consumers from rising energy prices. Bruegel Datasets.

Siciliano, G., Wallbott, L., Urban, F., Dang, A. N., & Lederer, M. (2021). Low-carbon energy, sustainable development, and justice: Towards a just energy transition for the society and the environment. Sustainable Development.

Silverstein, K. (2021, March 16). How Rich Countries Must Help Developing Economies Afford The Clean Energy Transition. Retrieved from Forbes: https://www.forbes.com/sites/kensilverstein/2021/03/16/can-emerging-countries-afford-to-make-the-clean-energy-transition/?sh=ea9b7f6383a7

Singer, P. (2015) The Most Good You Can Do: How Effective Altruism is Changing Ideas About Living Ethically. Yale University Press.

Soper, K. (2020). Post-growth living: For an alternative hedonism. Verso Books.

Sovacool, B. K., & Brisbois, M. C. (2019). Elite power in low-carbon transitions: A critical and interdisciplinary review. Energy Research & Social Science, 57, 101242.

Sovacool, B. K., & Dworkin, M. H. (2014). Global energy justice. Cambridge University Press, Cambridge.

Stevis, D., & Felli, R. (2015). Global labour unions and just transition to a green economy. International Environmental Agreements: Politics, Law and Economics, 15(1), 29-43.

Stevis, D., & Felli, R. (2020). Planetary just transition? How inclusive and how just?. Earth System Governance, 100065.

Stevis, D., Mourena, E. and Krause, D. (2020) Introduction: The genealogy and contemporary politics of Just Transitions. In: E. Mourena, D. Krause and D. Stevis (Eds.) Just Transitions: Social Justice in the Shift Towards a Low-Carbon World. London: Pluto Press

Thomas, A. (2011). Virtue ethics and an ethics of care: complementary or in conflict?. eidos, (14), 132-151.

UFCCC (2020) Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs. Retrieved from https://unfccc.int/sites/default/files/resource/Just%20transition.pdf

United Nations (2020). Climate Change and COVID-19: UN urges nations to 'recover better'. https://www.un.org/en/un-coronavirus-communications-team/un-urges-countries-%E2%80%98build-back-better%E2%80%99

United Nations (2021). Supporting the conditions for a Just Transition internationally. https://ukcop26.org/supporting-the-conditions-for-a-just-transition-internationally/

Valentine, S., Brown, M., & Sovacool, B. (2019). Empowering the great energy transition policy for a low-carbon future. New York: Columbia University Press.

Van Ness, D., & Strong, K. H. (2014). Restoring justice: An introduction to restorative justice. Routledge.

Wang, X., & Lo, K. (2021). Just transition: A conceptual review. Energy Research & Social Science, 82, 102291.

Ward, A. (2011). Generosity and Inequality in Aristotle's Ethics. Polis, 28(2), 267-278.

Wei, T., Yang, S., Moore, J. C., Shi, P., Cui, X., Duan, Q., ... & Dong, W. (2012). Developed and developing world responsibilities for historical climate change and CO2 mitigation. Proceedings of the National Academy of Sciences, 109(32), 12911-12915.

While, A., & Eadson, W. (2021). Zero carbon as economic restructuring: spatial divisions of labour and just transition. New Political Economy, 1-18.

Wilgosh, B., Sorman, A. H., & Barcena, I. (2022). When two movements collide: learning from labour and environmental struggles for future just transitions. Futures 137, 102903 https://doi.org/10.1016/j.futures.2022.102903

What is an urban just transition? Grappling with an unsettled concept in an industrial region.

Will Eadson (w.eadson@shu.ac.uk)

Orcid ID: 0000-0002-2158-7205

Alvaro Castaño Garcia (acg031@exchange.shu.ac.uk)

Orcid ID: 0000-0001-8906-5166

Elle Butterworth (e.butterworth@shu.ac.uk

Orcid ID: 0000-0003-3664-2470

Stephen Parkes (s.parkes@shu.ac.uk)

Orcid ID: 0000-0002-4379-2058

Sheffield Hallam University

Submitted to European Urban and Regional Studies, March 2023

Abstract

As decarbonisation pressures begin to bite, so do calls for a 'just transition' to net zero. Urban and regional governments across Europe have begun to explore what just transition means for their jurisdictions. But the term remains unsettled with little consensus on its meaning, particularly when considering what just transition means in practice. In this article we investigate how urban policy stakeholders make sense of the term, and what that means for our understanding of urban just transition as a policy frame. We adopt Q-methodology to explore sense-making processes for policy stakeholders in a UK metropolitan industrial region. In doing so we produce a new analytical conception of sense-making focused on interlinked processes of conceptualisation, contextualisation and operationalisation. This allows us to interrogate how unsettled concepts like just transition are translated into legible entities by policy makers. We found that participants struggled to grapple with just transition as a novel concept, reaching for established concepts such as 'inclusive growth' and 'net zero' to make sense of it. Contextualisation involved bringing into being a regional 'whole' which was centred around historic economic struggles and industrial heritage. Operationalisation tended to emphasise distributive justice and steered away from democratic change. Collectively these suggest willingness to engage with just transition as a policy logic but a challenge to embed more transformational approaches. Our conception helps to highlight the cultural politics of sense-making and institutional path dependency, foregrounding how abstracted notions of regional identity shape perceptions of possibilities for transformative action.

Introduction

This article examines how urban governance stakeholders perceive the concept of just transition – which has recently received global policy and academic attention, across the social sciences – and how they translate these perceptions into formulations for action. In doing so we provide a novel conceptualisation of sensemaking, and through empirical investigation, add to understanding of the politics of urban and regional just transitions.

Cities across the world have declared climate emergencies and pledged to strive for 'net zero' carbon emissions, responding in rhetoric at least to the urgent need for deep cuts to greenhouse gas emissions to maintain ecosystems and reduce the impact of climate change on society. Action on climate change is necessary but it is not guaranteed that action will be fair, or just: people and places will be impacted in different ways by carbon reduction measures. Some industries will need to radically restructure, affecting employment in places where they are located. In homes, changes to energy costs have implications for fuel poverty. Transitions to low-carbon personal mobility can take regressive as well as progressive forms. Changes have spatial implications which layer on to other forms of social disadvantage. In response, a growing literature assesses the various implications of decarbonisation for different people and places (Garvey et al, 2022).

In this context urban governments are considering what needs to be done to ensure a just transition to net zero. This mirrors widespread international consensus for using just transition as a framework combining the protection of the environment with positive social outcomes (Pinker, 2020). The United Nations Framework Convention on Climate Change (UNFCCC, 2016) Paris Agreement includes a commitment to just transition, and the European Union (EU) has also incorporated a Just Transition Mechanism, aiming to ensure that the transition towards a climate-neutral economy happens in a fair way and leaves no one behind (European Commission, 2020). National and devolved governments across Europe have implemented just transition policy too: in 2019 the Spanish government published a Just Transition Strategy, and the Scottish Government held a Just Transition Commission from 2019-21, followed with a second Commission from 2022 onwards.

Despite attention paid to just transition in academic and policy literature, there has been no explicit examination of how policy stakeholders understand urban just transitions, and what this in turn means for possibilities of achieving such transitions. Examining how policymakers translate new concepts into something they can apply to their own situation and worldview is critical to better understanding governing processes.

The article utilises empirical research with high-level stakeholders (including senior policymakers and private sector, public sector, and civil society leaders) to provide an original examination of just transition-in-practice through empirical research in an old industrial metropolitan region (South Yorkshire, England). Utilising Q-methodology we advance conceptualisations of urban and regional just transition by bringing these conceptualisations into more direct conversation with the practice of urban governance. In other words, we consider in more detail how just transition can or might be translated into programmes of governing in real-world contexts of governmental jurisdictions, capabilities and political agency. Our focus on an old industrial region draws attention to more acute decarbonisation challenges faced by such regions, exacerbated by legacy of economic restructuring associated with heavy industry in Europe since the 1970s.

Governing urban just transitions

With antecedents in 1980s worker movements (Abraham, 2017), in recent years the idea of just transition has gained momentum as shorthand for calls to ensure that decarbonisation processes are fair and inclusive. While the body of work focusing on labour implications of decarbonisation continues to grow, different frameworks have developed to capture key elements of a just transition, often also relating to long-standing debates for environmental, climate and/or energy justice (McCauley and Heffron, 2018). These conceptions have in common concern for different principles of justice, including fair allocation of resources (distributive justice), access to and involvement in decision-making (procedural justice) and acknowledgement of varying cultures and identities (recognition justice). Garvey et al (2022) add to this literature by drawing attention to spatial justice, spotlighting how different forms of costs and benefits of transition are unevenly distributed geographically.

Moving beyond principles of just transition, Newell and Mulvaney (2013 p132) argue for consideration of systemic causes of 'unjust' transitions. Given underpinning systems of provision and organisation, without state or civil society interventions, transition will at best reproduce existing inequalities (While and Eadson, 2022). This might imply the need for transformational approaches to how economies and economic development are organised, beyond mainstream economic policy logics (Clarke and Lipsig-Mumme, 2020). Likewise Hughes and Hoffman (2020) take forward concern for politics of just transition to focus on urban governance, bringing transition policies and urban politics into conversation with just transition principles. Theirs is a more action-oriented approach to just transition, focused on how frameworks and principles are mediated through urban politics. They argue for "research that takes seriously the agential dimensions of transition [and] the multiplicities of urban politics and governance" (ibid. p8). An action-oriented understanding of just transition is particularly challenging given growing use of just transition in policy, practice and academia, employing a range of implicit and explicit conceptualisations. Just transition is therefore relatively unstructured as a concept readily applicable to policy: using Hoppe's (2018) definition of an unstructured policy problem, there is both uncertainty around relevant knowledge, and variable agreement on values, norms and goals that underpin conceptions of just transition.

This leads us to consider: how is a concept like just transition translated into policy action? Governing urban just transitions involves processes of translation from principles into action, mediated by institutional and material arrangements. In theory urban governance actors have at their disposal a range of courses of action. The urban scale can sometimes be seen as a place for more transformative, and just, climate action, closer to lived realities of poverty and disadvantage than national or international governance institutions. More accessible democratic institutions provide a sense that questions of (for example) distributional, procedural and recognition justice are made more visible in decision-making: this creates possibility that urban climate action could offer different possibilities for just transition frameworks. Yet research has shown the challenges faced by urban governments to enact such policies even if there is appetite to do so, bound in part by prevailing governance norms, constraints within multi-level governance arrangements, and (particularly in Europe and North America) increasingly straitened resources following a decade of fiscal retrenchment (While and Eadson, 2019; Traill and Cumbers, 2022).

Further, the transboundary challenge of just transition means considering a wide range of interventions, which overlay climate, social and economic policy, crossing multiple domains. Integrating climate policy within existing policy domains is challenging (Kuzemko, 2013; Eadson, 2016). Urban governments do not have sole jurisdiction over the geographies they are attached to. As well as being enmeshed within multi-level governance arrangements, increasingly they

operate within an expanded field of climate action which includes individuals, sub-local collectives, translocal networks and private sector initiatives (While and Eadson, 2019). Capabilities to act are also shaped by material resources and infrastructures in combination with governance arrangements (De Laurentis, 2020). For example the material organisation of energy infrastructures is an important factor for urban action on decarbonisation (Lockwood et al, 2017) and ability to harness renewable energy resources also varies depending on material conditions (landscape, climate, built environment), impacting just transition potential.

In summary, literature suggests that urban governmental action for just transition goes against the grain of contemporary modes of governing. However, popularisation of just transition alongside increasing recognition of a climate emergency creates possibilities for reconsidering ways of thinking and doing climate action, and of social policy. But we need to tackle the question of how just transition as an unstructured problem is mobilised for action. The introduction of new entities to individual and collective logics requires sensemaking (Weick, 1995) by decision-makers, which requires its own conceptualisation and analysis.

Sensemaking for urban just transition

Urban climate policy does not operate in an institutional void and policymaking is not an abstract process: it is the product of choices made by agential actors. However, agency varies considerably and in urban and regional governments decision-making is often mediated by a small group of influential actors. Understanding how policy is made and enacted necessitates considering how those actors make sense of new challenges, and how they formulate ideas for action based on their understanding of these challenges (Béland, 2009).

Opinions and perceptions are contingent and emergent, products of cognitive processes shaped by lived experiences, mediated information (others' opinions, different media sources and so on) and attuned to specific moments and contexts. Weick (1995, p3) outlines sensemaking as a configuration of "identity, retrospect, enactment, social contact, ongoing events, cues, and plausibility". Drawing from this we understand sensemaking as an emergent assemblage: bringing-together of different heterogeneous elements to produce a new entity. The expression of views as opinions and perceptions is also mediated by the same kinds of factors: differing settings come with different behavioural norms, logics and formal rules, bound by power relations which shape what is seen as acceptable ways of acting, in turn shaping how we think about the world around us.

Assembling different factors for sensemaking and expression of sensemaking either verbally or in textual form can be seen as a process of translation, as suggested by Aaen et al (2016), following Callon (1986) and Latour (2005). Through study of citizens' sensemaking of energy infrastructure developments Aaen et al emphasise how their research participants "actively enact their surroundings" (p585): not only do they draw on their experiences as individuals, they also draw on subjective understanding of the geographic landscape around them "… to actively relate to both social and material entities and create an assemblage of entities in a translation process" (*ibid.*).

Understanding sensemaking as a process of assembling different entities is helpful for unpicking how sensemaking processes lead to a gap between 'what we know' and 'what we do' (Dobson and Dempsey, 2021). As for each of us in everyday life, policymakers do not act based solely on scientific evidence about the best course of action, even when they know about such evidence. Instead they make their own interpretations of evidence and tie this together with what they view as being possible or expedient in the specific context: "evidence is both selected and

interpreted to fit local circumstances" (ibid, p.398). Weick draws this out in more general terms, describing sensemaking as a form of story-telling:

> If accuracy is nice but not necessary in sensemaking, then what is necessary? The answer is something that preserves plausibility and coherence, something that is reasonable and memorable, something that embodies past experience and expectations, something which resonates with other people (Weick, 1995 p.60)

This is another way of describing how new connections are made through assembling ideas or deciding a course of action: mobilising different entities to build a new entity (idea, concept, course of action) considering new facts or events. Similarly, Hoppe (2018, p392) writes about the process of problem structuring for policy design, assembling ideas, contextualising those ideas and formulating possibilities for action by reconfiguring "uncontrollable, unstructured or less structured policy problem types towards the politically 'tamed' or structured ones".

Although the process of assembling concepts confers a sense of openness, new information or challenges are translated through a prism of what we already think about the world around us: an accretion of previous translation processes mediated by experience. In an institutional setting, literature dealing with 'institutional logics' (Thornton et al, 2012) has explored how individual practices are informed by ways of being and doing that build over time and become difficult to shift. But reference to existing understanding can also help forms of sensemaking that are more open to new entities. Aaen et al (2016) write how their research participants engaged in 'inclusive' sensemaking where actors made sense of new, potentially threatening issues by linking them to what they already knew or understood, making the entities and their impacts more palatable. There is also a potential dark side to inclusive sensemaking when concepts, events, activities become subsumed within existing logics to negate possibilities for more transformational, positive change.

A layered account of sense-making

We can see from these different accounts of sensemaking that people engage in different interrelated translation processes to mobilise entities and build the overall story of a situation. Here we segment these into three processes, as follows.

1. *Conceptualisation*: understanding the meaning of the new entity and its relation to what is already understood about the world ("what does an event mean?" Weick et al, 2005 p410), such as the way that Aaen et al's participants linked new entities to existing ways of seeing and understanding the world.

2. C*ontextualisation*: relating new entities – and initial conceptualisation of them – to the world you inhabit (e.g. Aaen et al's description of how citizens 'actively enact their surroundings' to make sense of new phenomena). This also requires bringing into being publics and spatial territories on which to map a conceptualisation. As Latour (2003) argues, this is a central element of the art of politics: who or what are you seeking to represent?

3. O*perationalisation*: considering how to respond to this new entity, or how to put it to use (for instance Dobson and Dempsey's (2021) 'logics of inaction' for not acting on new evidence).

Through these processes, problems or concepts are *"re-structured from problems as webs of 'undesirable situations' to problems as specific, time-and-space bound 'opportunities for improvement'"* (Hoppe, 2018 p384). Across each of these stages is the bringing together of

different entities for sensemaking, including interplay between new information or experience with existing understandings about the world. This analytical frame, in which different sensemaking processes interact with existing assemblages forms a framework for – and was iteratively informed by – our empirical analysis, below. We are interested in *prefigurative* sensemaking: how elite policy actors consider a novel concept (just transition), place it within a specific urban context, and imagine possibilities for action.

Stakeholder sense-making and urban just transitions

Context and methods

This article is based on empirical investigation in South Yorkshire, England. In some respects the UK government was a climate action frontrunner through introduction of legislation to mandate reduction in carbon emissions through the Climate Change Act 2008. This mandated 80% GHG emissions reduction by 2050 and was subsequently strengthened: in 2019 the government committed to reduce UK emissions by 100% (net zero). In other respects the UK has a mixed record. Administrations over the last decade have tended towards market incentives for action rather than direct intervention, and different administrations have placed varying weight on the importance of addressing the climate emergency (Sasse et al., 2020).

In England local and regional authorities have limited autonomy for revenue generation (such as taxes or borrowing), provision of services or regulation over domains key to just transition, including public transport, housing and energy infrastructure. Attempts to develop more devolved regional structures of governance in the 1990s and 2000s were rolled back in 2010, with regional governance institutions replaced by city-regional authorities called Local Enterprise Partnerships (LEPs), designed as partnerships between policymakers and local businesses with a remit to support economic development. The financial resources of LEPs were significantly smaller than the regional bodies they replaced, and funding devolved from central government was agreed through negotiated deals with individual LEPs. Since 2014, 10 metropolitan regions have also constituted Combined Authorities (CAs) with some powers over transport, housing and planning through negotiated Devolution Deals. Subsequently nine of these – including South Yorkshire – have become Mayoral Combined Authorities (MCAs) with a directly elected mayor. CAs and MCAs work alongside LEPs and there is usually significant operational integration between them. In 2022 it was announced that all LEPs will be absorbed into CAs by 2030.

South Yorkshire (2021 population, 1.4 million) encompasses Sheffield (England's fourth largest city by population) and the neighbouring smaller settlements of Barnsley, Doncaster and Rotherham. The region has an industrial past with steel manufacturing and coal mining forming core components of its economy until the late 20th Century. Despite significant deindustrialisation, this industrial legacy exists through longer-term economic challenges it has faced in attempting to build a service and knowledge focused economy. Manufacturing and transport (industries more exposed to net zero transition) remain large employers in the region. Across the wider Yorkshire and Humber region one-fifth of jobs are considered exposed to transition (Robins et al., 2019), of which half will require reskilling to ensure they can transition.

Methods

The study investigated what policymakers understood by just transition and their views on how best to implement it in the urban region. Stakeholders were identified through analysing composition of decision-making boards in the LEP and MCA, and discussion with MCA policy professionals to identify additional influential stakeholders not directly represented on these

boards. 40 potential participants were identified and approached: 21 agreed to take part in the study. These comprised six representatives from public sector bodies, three politicians, eight private sector representatives, two civil society representatives and two education providers. The proportions from different sectors broadly matched representation on regional boards.

The research design focused on prefigurative sensemaking: it set out to explore how stakeholders made sense of the term just transition as a *potential* framework for action. Just transition was not at this stage part of a formal policy discourse in the region and was a novel concept to many stakeholders. As such, approaching just transition as a process of prefigurative sensemaking was seen as a useful lens to conduct investigation into what just transition might look like in practice for the region.

We employed a mixed methods approach, utilising Q-methodology (Brown, 1980) which has recently been used by researchers to understand stakeholder preferences for policy development (Black, Kopke, & O'Mahony, 2019; Carr, 2019). It combines openness of qualitative methods with pattern-identification through statistical analysis. The method is particularly useful for exploring perspectives on unsettled or unstructured problems like just transition. Briefly, the process involves providing participants with a set of statements (50 in our study) which they sort in relation to an overarching question ('What is a just transition for South Yorkshire?'). The sorting process uses a scale ranging from "least like how I think" (-6) to "most like how I think." (+6). Statistical factor analysis groups sets of responses, identifying patterns in responses. The results from the factor analysis are briefly discussed below and shown in full in Appendix 1.

The sorting exercise was combined with qualitative interviews (digitally recorded and professionally transcribed), providing rich qualitative data. The sorted statements served primarily to prompt discussion around conceptions of just transition for South Yorkshire. The study was conducted in 2020 and 2021 during periods when there were restrictions on social contact due to Covid-19. This necessitated research be conducted remotely and meant employing a slight variation on the Q-sort method. Respondents were invited to complete the Q-sort in advance of an interview during which they reflected on their choices. Qualitative data was coded and analysed using NVivo 12 qualitative data software. Analysis involved an iterative process, moving between empirical data and theory, as well as between different interpretations between respondents, and between the research team's respective interpretations.

To recap, we have set out an analytical frame which emphasises the process of sensemaking as a coming-together of a range of factors, assessing new events in relation to existing knowledges, worldviews, rules and norms. This is a process of ordering the world around us, in essence a kind of storytelling. In our theorisation, this happens through different forms of translation, including *conceptualisation*, *contextualisation* and *operationalisation*. In the proceeding analysis these translation processes are used to order our own sensemaking of urban policy actors' responses to a exercise in prefigurative sensemaking using the methods described above, focusing on urban just transition.

Conceptualising urban just transition

Utilising Q-sorts highlighted what participants recognised as key just transition principles. Participants agreed just transition needs to account for the rights of future generations. They also showed agreement with the idea that it involves thinking differently about education and employment. Reflecting that just transition is not a settled concept, the analysis of Q-sorts identified different archetypes among the participants. Three distinct views on the concept were

classified as answers to the question *What does a just transition look like for South Yorkshire?* The different views that emerged were:

- Leading through investing in infrastructure and education (6 out 17 Q-Sort participants; referred to as 'infrastructure' below)
- A growing economy and technological innovation (7 participants, 'growth')
- Solidarity and citizens-first (4 participants, 'solidarity')

These archetypes show some differences between participants, particularly between a majority focus on just transition as a concept aligned to economic development policy and a minority who looked to questions of participation and democracy. While not necessarily incompatible this division speaks to contrasting visions of how just transition should be conceptualised with implications for its operationalisation. This broad view helps to set up our qualitative findings which provide more detailed understanding of how participants conceptualise just transition.

We began our interviews by asking whether participants had previously encountered the concept of just transition and what it meant to them. The concept was novel to approximately one-third of participants while most remaining respondents were aware of the term but did not know anything more about its meaning, origins or application in policy. Thus in most cases participants were engaging in an initial sensemaking process. No respondents rejected the term and it acted as a useful boundary object which different stakeholders could link to from their own frame of reference: *"Not [heard much about it] before this but it's one that, it does what it says on the tin, I can sort of instinctively understand it." (SY018 / Private Sector / Growth archetype)*

It also proved a slippery concept. For some this prompted concern that just transition might be added to a range of other competing meta-themes for policy action, each of which could be interpreted in different ways to different ends.

> *There is a risk if you have all these particular themes, statements, mindsets … do they really know what that means and can you unite everybody behind one simple phrase and why should it be just transition rather than something else (SY002 / Politician / Growth)*

This elusiveness was prevalent in interviews. Many stakeholders pointed to need for clarity, with clear tangible examples: a need to further contextualise and operationalise the term.

To make sense of just transition, participants drew from their existing understanding of allied terms. They often aligned it to other terms like Corporate Social Responsibility and sustainable development, implying similar focus on 'win-win-win' solutions for economy, society and environment. Participants often conflated just transition with a more general net zero transition. A dominant framing involved linking just transition to a policy term which had become a guiding concept for recent policy in the region: 'inclusive growth', a fuzzy concept with its own critical literature (see Lee, 2019). For many respondents just transition became 'inclusive growth plus net zero'.

> *"I'm emphasising the inclusive growth, and the trade-off there is that you don't pursue growth which doesn't produce inclusive results" (SY017 / Education / Solidarity)*

> *"I think that connection between economic growth and a just transition and net zero needs to be really strong so that it isn't just about creating jobs, it's thinking about creating the right environment to create the jobs to make sure that we're living and moving towards net zero." (SY021 / Local Authority / N/A)*

Others linked the term to existing priorities for the region, making sense of just transition as something that they already do:

> *I wasn't familiar with the terminology just transition but I'm very familiar with the underlying objectives of it … because we've been involved for the last two years in formulating the strategic economic plan for the region and the objectives of that strategic economic plan are not growth at any cost, they are growth in an inclusive and sustainable way using innovation and other techniques to achieve it. So just transition is very much part of that... to me it didn't seem disconnected from what we're actually doing in practice (SY021 / Local and Regional government / N/A[1])*

This respondent used a specific existing entity – the South Yorkshire Strategic Economic Plan – to make sense of the term and align it with their existing worldview.

By tracing how participants conceptualise just transition, we can see how it is interpreted through linking to known conceptual entities, including guiding logics and ideologies. It is translated into something that does not challenge existing worldviews, instead capturing existing beliefs and dominant paradigms: this aligns with Aaen et al's (2016) 'inclusive sensemaking', allowing stakeholders to positively respond to the concept and explore its implications within their existing habitus. This also meant stakeholders generally did not explore more transformative understanding of just transition. White (2020) outlines a fear that adoption of just transition by different interest groups could be "reduced to the status of empty signifier". Our finding likewise highlights a risk that just transition becomes subsumed within existing policy logics and in turn loses transformative potential. This makes it important to explore *how* individuals grapple with a new concept, to better understand possibilities and potential for incorporating, rather than subsuming new ideas into policy logics. We now turn to how participants contextualised their conceptualisation of just transition.

Contextualising urban just transition

When considering priorities and implications of just transition, participants often contextualised their response through drawing on geographic and historical framings of the region. Contextualisation includes bringing into being a set of publics and spatial territory in relation to the conceptualisation (Latour, 2003): in this instance these publics and territory were brought into being as 'South Yorkshire'.

The first element of this was as a representation of South Yorkshire as a site of injustice, having experienced injustice through previous economic restructuring, also creating risks for decarbonisation.

> *We can't pretend that there isn't still scarring of the last big transition that this area went through. I think the working population and the economy of Sheffield is still heavily scarred really by the transition away from heavy industry and coal in South Yorkshire into a more service-based economy. (SY007 / Education / N/A)*

South Yorkshire was brought into being by this and other participants as a regional whole, with collective emotional 'scarring': the place of South Yorkshire needed to ensure it did not lose out compared to other places, in the way that it was seen to in the past. This contextualisation meant that Just transition was first a question of distributional justice and addressing previous injustices.

[1] N/A refers to interviewees that did not complete the Q-sort so were not categorised into an archetype

> *For South Yorkshire it's really important that having been completely clobbered by the restructuring of the old economy, that that doesn't happen again in this restructuring that is underway, that is absolutely central … It's a huge risk that further entrenchments will happen as we move to low carbon, and a huge risk that the opportunities will not be realised. It's the risk that we will get further left behind, that other areas get ahead of us because they shout louder, they're better prepared, whatever and our people are left further and further behind. I think that is a huge risk for us. (SY020 / Local and Regional Government / Growth)*

For some, this context and previous responses meant that the concept of just transition should prompt a different way of thinking about economic development.

> *It made me think about this region and our previous hunt for jobs at any cost and types of industries and sectors that we were encouraging into the city region. (SY019 / Private Sector / Solidarity)*

Even so this context was employed to justify continued need to promote economic growth for the region:

> *I'm sure there is a win-win strategy for this and I think it's important given where this city region is in comparison to some of its peers around the country that we do need, we need to continue seeking investment, we need to continuously think about bringing more high value jobs in (SY019 / Private Sector / Solidarity)*

Focus on industrial past was also seen as a limiting factor, meaning that different economic futures were marginalised or overlooked: as one respondent put it, "*there's a bit of a fixation around manufacturing in South Yorkshire sometimes" (SY016 / Local and Regional Government / N/A)*. The industrial history, and sense of loss in the region created cognitive path dependencies for thinking about just transition, which interacted with and reinforced dominant growth discourses outlined above: a feeling that if only the region could revitalise its industrial base many of its problems would be resolved.

Just transition literature has focused on importance of place identity, and the lived experiences of citizens. For instance there has been interest in how economic processes entwine with local identities, focusing on how change is anticipated, experienced and lived with in places (Olson-Hazboun, 2018). This highlights how people make sense of change with implications for public acceptance of transition processes. This came through as participants sought to represent the regional whole of South Yorkshire, emphasising its economic history. But this contextualisation tended to lean towards abstract measures like 'economy', 'jobs' and 'skills' rather than lived experiences. This abstract contextualisation of the regional whole is also reflected in consensual ambivalence towards the statement 'just transition needs to be place-based' in the Q study (Infrastructure archetype, -1; Growth, -2; Solidarity, -2).

To invoke Lefebvre (1991), stakeholders' discussion inhabited the realms of conceived space rather than the inhabited space of citizens' lives. The day-to-day practice of our stakeholders as 'strategists', 'managers' and 'leaders' embedded an abstracted approach to conceiving the space they seek to govern. This should not be taken as a wholesale critique of policymakers' approach to contextualisation but a recognition of limitations in cognitive capacity which encourages a dependence on heuristics to contextualise their decisions (Cairney & Kwiatkowski, 2017). And, as Latour (2003) argues, the ability to assemble notions of unity and wholeness are a necessary element of politics, and of producing programs for change. But the nature of these

abstractions – tying physical and emotional 'scarring' to abstract economic conceptions like 'Gross Value Added' – produced a modality that problematised just transition as something which can be managed through tweaks to existing policy norms: as Hoppe (2018 p393) argues, often *"problems-as-processed by authoritative policymakers entail path-dependent, structured problem definitions that exclude newly emerging and promising alternative solutions"*.

Operationalising urban just transition

The third element in our sensemaking process is operationalisation. This was in part prompted by our Q-sort and interview questions: participants were asked to consider how just transition might be achieved for South Yorkshire. In other scenarios this might be a natural part of a policy process (see Hoppe, 2018). Discussions focused on the role of governing organisations like the LEP, MCA, anchor institutions (e.g. universities, hospitals) and local authorities.

Participants spoke about investment and coordination to stimulate infrastructure, jobs and skills: part of the existing repertoire for policymaking which they felt would be utilised for just transition. There was discussion about how to ensure such investments were inclusive, again showing concern for distributional justice both historically and in relation to contemporary challenges. During this phase participants were prompted to talk about the capabilities of existing institutions, institutional arrangements and democratic engagement in just transition. This followed examination of Q-sorts which showed disagreement over increased citizen or civil society participation in decision-making as priorities for just transition, with the majority (infrastructure and growth archetypes) not valuing this. This is highlighted through the following results:

- Neutral or negative response to *A just transition means making policy decision-making more democratic* (Infrastructure, 0; Growth, -3; Solidarity, 0.)
- Polarised response to more specific statement that *A just transition needs a people's assembly to drive decision-making* (Infrastructure, -5; Growth, -5; Solidarity, +2)
- Mixed response to *A just transition should be led by civil society and communities* (Infrastructure, -1; Growth, -2; Solidarity, +1)
- Negative response to *Trade unions should be closely involved in decision-making* (Infrastructure, -2; Growth, -3; Solidarity, -2).

This largely neutral or negative attitude to citizen and civil society participation was explored in more detail in our interviews. Some respondents from Growth and Infrastructure archetypes did suggest improved consultation with citizens and communities about the changes required to achieve just transition would build legitimacy of actions; others talked about the necessity of communication and education to inform citizens about the issues at stake: *"we're not going to get there unless we are much better at engaging with all communities and seeing people's individual circumstances." (SY009 / Civil society / Infrastructure)*. But, reinforcing Q-sort findings, most respondents were wary of major changes to institutional arrangements. One respondent encapsulated how many participants viewed the process of governing for just transition. Drawing on examples of how societal changes like acceptance of same-sex marriage, and introduction of societal smoking restrictions they made the distinction between consent and assent for change:

> *You can't impose change, you can't force people to change and you certainly can't force them to address the difficult questions on the grounds that it's probably good for them but they've had no engagement. So that's the basic rule of public policy, you've simply got to take people with you … [But] I think the extent to which you can really mobilise mass support is slightly less than we think … You do need people to agree, you do need to mobilise support but local leadership is much, much more difficult to get and it might be that you settle for*

assent rather than engagement and that's a slightly conservative position (SY017 / Education / Solidarity)

Participants gave three different reasons for this conservative approach to institutions. First, they saw net zero transition as an urgent task, without time to go through a process of changing institutions or in-depth participatory decision-making exercises like Citizens' Assemblies. Second, most stakeholders did not value the role of participatory or citizen-led decision-making, seeing it as inefficient and ineffective. Third, some stakeholders also talked about the need for SYMCA and the region's anchor institutions to show leadership through action, communicating with citizens about the need to act and citizens' role within that, but not as directly engaging with decision-making. In several instances participants shifted from emphasising importance of participation when conceptualising just transition to downplaying the need for transformative change when working this through to operationalisation.

A small proportion of respondents did raise the prospect of more transformative approaches to participation, allied to a feeling that the net zero transition was *'fundamentally different' (SY001 / Politician / Growth)* to any other challenge faced in the last century, and that 'top down' solutions might create more resentment and resistance to change. In doing so they highlighted regional bodies' position within wider systems of government, and the remit of regional organisations like the LEP and MCA.

from [SYMCA's] point of view yes because I think it's been encouraged to look for technical solutions rather how we actually change radically and quickly enough which is social solutions and it isn't really equipped to do that. (SY009 / Civil Society / Solidarity)

The conservative approach to policy and action; and reluctance for transformational change was seen by participants as partly reflecting composition of regional decision-making boards. For example, LEPs were designed as partnerships between business and public sector, which is reflected in how stakeholders thought about just transition. These voices also pointed to additional important demographics often overlooked in just transition debates: for example a repeated call for including small enterprise within a just transition framework. But institutional frameworks also excluded voices, in particular community and civil society representation, as one respondent pointed out:

There are organisations that are rooted in their communities that are able to access and engage with people with perhaps language barriers or whatever it might be in a really spectacularly effective way so they do clearly have a role around justice and inclusion (SY010 / Local and Regional Government / Growth)

In summary, participants followed conceptualisation and contextualisation of just transition as rooted in economic challenges and 'scarring' for the region to focus on economic aspects of operationalising just transition as a means to achieve assent for change. Procedural justice in decision-making for just transition tended not to be such a concern. Some participants reflected that these views were shaped by their own position in the system, as 'leaders'. Possibilities for action, and institutional change, were shaped by institutional norms and practices which presided against transformation change.

Conclusion

Urban just transition is an unsettled concept being negotiated by different stakeholders with different interests. In our paper we combined conceptualisation of just transition as a politically constructed entity with a novel analytical framing for sensemaking. Through our empirical focus

on South Yorkshire in England we respond to a broader call by Jakobsen et al (2021 p328) for studies that help us "understand more about tensions and dilemmas for policy implementation" in decarbonisation for industrial regions. Our findings have implications for how we understand just transition as concept and in practice. The case study of South Yorkshire is singular but it speaks to wider issues about urban transitions, governance arrangements and sensemaking. We see five implications of our research.

First, as a concept, just transition is not a difficult sell to policy stakeholders. Our research suggests that this is partly because of its vagueness, allowing just transition to act as a boundary object between different worldviews. This could support development of shared understanding and approaches to action or could easily lead to co-option by dominant logics and concepts. Our research involved just one interaction and point of dialogue: it is possible that repeated exposure to the concept and its possible implications could lead to further consideration of potential alternative approaches.

Second, our findings show how policy stakeholders seek to pacify just transition as an unsettled or unstructured problem through reference to (a) existing logics and concepts, leading here to a translation of just transition as (for example) 'inclusive growth plus net zero', (b) spatial context, focusing on historical injustices for an imagined South Yorkshire whole, and (c) operational norms. Our triadic framing was useful in highlighting some disjunction between conceptual and operational views: we saw how some participants conceptualised just transition as requiring transformational democratic change and how this became moderated as they looked to operationalise the concept. There was a process of translation as participants moved from theory to practice, each stage bringing ideas into dialogue with perceived realities and limits to action. Calling into being a regional whole in contextualising just transition was part of this process: by homogenising the region, the perceived need for democratic input becomes more subdued. An avenue for future research would be to reproduce a similar study for differently-sized geographic territories and/or with different population groups to compare views on participation by different sample groups.

Third, the default for conservative approaches to operationalisation highlights risk of just transition being diluted through the sensemaking process. While policymakers might frame it as a realistic way to operationalise within existing parameters and capabilities it might act to undermine the transformative ambition and potential of just transition. But these frames can evolve. For instance, in 2022 a newly elected South Yorkshire mayor (after this research had been completed) pledged to introduce a climate-focused citizens assembly, highlighting possibilities for change through introducing new leaders or influential stakeholders. This also highlights that frames for action are not clearly set for City Regions in England: some of our participants alluded to this in our interviews, noting that SYMCA's actions were often based on what they felt was expected of the organisation rather than what it could do in theory. This challenge is not unique to these organisations and other research has outlined the challenges of developing policy in what remains a fuzzily defined governance context for climate action (Eadson, 2016).

Fourth, these findings also point us towards the cultural politics of decarbonisation and how culture, economy and politics enmesh through regional imaginaries that shape the perceived art of the possible. While our findings might be read as reinforcing literature on path dependency and institutional logics that resist alternative framings and actions, it is also instructive to return to Latour (2003), who notes the necessity of bringing into being such seemingly coherent wholes to achieve change, but also the impossibility of these wholes holding in place. These 'distorted realities' (ibid.) are a necessary function of policymaking and the challenge is to find ways to introduce new frames to adjust these realities. Our sensemaking

approach introduces three points of potential change: through introducing new concepts to open up new conceptual imaginaries; new geographical imaginaries to produce new contextual framings; and new institutional imaginaries to support new operational possibilities.

Fifth, our participants largely conjured a deficit model for understanding the region: they focused on economic injustices as key to the region's identity, which led to narrow focus on 'jobs and skills'. This is partly how the role of City Regions has been framed in England. But it also speaks to need to reconsider how we think about justice and/or just transition. Justice-based conceptions of just transition perhaps automatically lean towards deficit models for change at expense of more positive framings of transition that generate hope and even excitement for thriving futures. These findings suggest a need to think of alternative ways to frame or conceptualise just transition in academic thinking as well as for policy.

Acknowledgements

Many thanks to Richard Crisp for comments on drafts of the article, and to all the people who participated in our research.

Funding

The underpinning research for this article was funded by Sheffield Hallam University and South Yorkshire Mayoral Combined Authority.

References

Aaen, S. B., Kenrdrup, S. & Lyhne, I (2016) Beyond public acceptance of energy infrastructure: How citizens make sense and form reactions by enacting networks of entities in infrastructure development. Energy Policy 96, 576-586

Abraham, J. (2017). Just transitions for the miners: Labor environmentalism in the Ruhr and Appalachian coalfields. *New Political Science*, *39*(2), 218-240.

Béland, D (2009) Ideas, institutions, and policy change, Journal of European Public Policy, 16(5), 701-718, DOI: 10.1080/13501760902983382

Black, J. E., Kopke, K., & O'Mahony, C. (2019). Towards a circular economy: Using stakeholder subjectivity to identify priorities, consensus, and conflict in the Irish EPS/XPS market. *Sustainability*, *11*(23), 6834.

Brown, S. R. (1980). Political subjectivity: Applications of Q methodology in political science. Yale University Press.

Cairney, P. and Kwiatkowski, R. (2017). How to communicate effectively with policymakers: combine insights from psychology and policy studies. *Palgrave communications,* 3 (37) DOI: 10.1057/s41599-017-0046-8

Callon M. (1986) The sociology of an actor-network: The case of the electric vehicle. In Callon M.Law J.Rip A. (Eds.), Mapping the dynamics of science and technology: 19–34. London: Macmillan.

Carr, L.M. (2019) Seeking stakeholder consensus within Ireland's conflicted salmon aquaculture space. *Marine Policy*, *99*, 201–212.

Cha, J. M. (2020). A just transition for whom? politics, contestation, and social identity in the disruption of coal in the powder river basin. *Energy Research and Social Science*, 69 doi:10.1016/j.erss.2020.101657

Clarke, L. and Lipsig Mummé, C. (2020) Future condition: From just transition to radical transformation? *European Journal of Industrial Relations*. 26(4), 351-366.

Laurentis, C (2020) Mediating the form and direction of regional sustainable development: The role of the state in renewable energy deployment in selected regions. https://doi.org/10.1177/0969776420904989

Dobson, J., & Dempsey, N. (2021). Known but not done: How logics of inaction limit the benefits of urban green spaces. Landscape Research, 46(3), 390-402. https://doi.org/10.1080/01426397.2020.1864819

Eadson, W. (2016) State enrolment and energy-carbon transitions: syndromic experimentation and atomisation in England. Environment and Planning C, 34(8), 612-1631. https://doi.org/10.1177/0263774X16629445

Eadson, W. and Foden, M. (2019) State, community and the negotiated construction of energy markets: Community energy policy in England. Geoforum 100, 21-31 https://doi.org/10.1016/j.geoforum.2019.02.006

Garvey, A., Norman, J. B., Büchs, M., & Barrett, J. (2022). A "spatially just" transition? A critical review of regional equity in decarbonisation pathways. Energy Research & Social Science, 88 https://doi.org/10.1016/j.erss.2022.102630

Hoppe, R. (2018). Heuristics for practitioners of policy design: Rules-of-thumb for structuring unstructured problems. Public Policy and Administration, 33(4), 384–408. https://doi.org/10.1177/0952076717709338

Hughes, S., & Hoffmann, M. (2020). Just urban transitions: Toward a research agenda. *Wiley Interdisciplinary Reviews: Climate Change*, *11*(3), https://doi.org/10.1002/wcc.640

Kuzemko, C. (2013). *The energy security-climate nexus: Institutional change in the UK and beyond*. Springer.

Jakobsen et al (2022) Policy action for green restructuring in specialized industrial regions https://doi.org/10.1177/09697764211049116

Latour, B. (2003). What if we talked politics a little?. Contemporary Political Theory, 2, 143-164.

Latour B. (2005) Reassembling the social: An introduction to actor-network-theory. Oxford: Oxford University Press.

Lee, N. (2019). Inclusive growth in cities: A sympathetic critique. Regional Studies, 53(3), 424-434.

Lefebvre, H (1991) The production of space. London: Blackwell

Lockwood, M., Kuzemko, C., Mitchell, C., & Hoggett, R. (2017). Historical institutionalism and the politics of sustainable energy transitions: A research agenda. *Environment and Planning C: Politics and Space*, *35*(2), 312-333.

McCauley, D. and Heffron, R. (2018) Just transition: Integrating climate, energy and environmental justice. Energy Policy 119, 1-17

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *The geographical journal*, *179*(2), 132-140.

Pinker, A. (2020). Just transitions: a comparative perspective. *Report prepared for the Just Transition Commission, 25 August 2020, 74pp.*

Robins, N., Gouldson, A., Irwin, W. and Sudmant, A. (2019) Investing in a just transition in the UK: how investors can integrate social impact and place-based financing into climate strategies. London: London School of Economics. Available at: https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2019/02/Investing-in-a-just-transition-in-the-UK_Full-policy-report_40pp-2.pdf

Sasse, T., Rutter, J., Norris, E., & Shepheard, M. (2020). Net zero: how government can meet its climate change target. https://apo.org.au/sites/default/files/resource-files/2020-09/apo-nid314599.pdf

Thornton PH, Ocasio W, Lounsbury M. 2012. The Institutional Logics Perspective: A New Approach to Culture, Structure, and Process. Oxford, UK: Oxford Univ. Press

Traill, H and Cumbers, A (2022) The state of municipal energy transitions: Multi-scalar constraints and enablers of Europe's post-carbon energy ambitions. European Urban and Regional Studies https://doi.org/10.1177/09697764221101740

UNFCCC. (2016). Just transition of the workforce, and the creation of decent work and quality jobs. Geneva: United Nations Framework Convention on Climate Change.

Weick, K. E. (1995). *Sensemaking in organizations*. Sage.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. Organization science, 16(4), 409-421.

While and Eadson (2019) Households in place: socio-spatial (dis)advantage and energy-carbon restructuring. European Planning Studies, 27(8), 1626-1645. https://doi.org/10.1080/09654313.2019.1595533

While and Eadson (2022) Zero carbon as economic restructuring: spatial divisions of labour and just transition. New Political Economy 27 (3), 385-402

White, D (2020) Just Transitions/Design for Transitions: Preliminary Notes on a Design Politics for a Green New Deal. Capitalism, Nature, Socialism 31(2), 20-39 https://doi.org/10.1080/10455752.2019.1583762

Uneven consumption and the work of being a high consumer

Aimee Ambrose, Alvaro Castano Garcia, Anna Hawkins, Stephen Parkes and Yael Arbell

Introduction

This chapter argues that, to achieve the carbon reductions necessary to secure our future and to achieve a more equitable distribution of the Earth's resources, research attention must focus on some of the most privileged among us. This chapter recognizes that debates around how to secure an inclusive post-carbon society must pay close attention to those who excessively consume resources in order to help halt environmental decline and secure a more equitable distribution of resources across society. This relies on some groups consuming less to enable others to increase their consumption to a level which enables healthy and socially included lives.

It explores why high and escalating consumption is problematic in the context of the climate crisis and equitable and inclusive solutions to it, and includes discussion about how high consumers might be conceptualized and defined. Furthermore, in attempting to advance a research agenda focused on high consumers, reflections are made on the challenges of conducting research which challenges the dominant economic paradigms and social conventions of the developed world.

We draw on a literature review and insights from stakeholder interviews with academics and practitioners within non-governmental organizations (NGOs) and academia, which highlight the need for a greater focus on high consuming households and some of the conceptual and ethical dilemmas this presents. The chapter proceeds to discuss how research with this elusive group might best be approached and how a novel application of institutional ethnography may help to explicate the 'work' of being wealthy. The conclusion reflects on how high consumers fit into debates around rapid decarbonisation,

spatial inequalities and just transition at this critical juncture in the climate crisis. It also outlines the next steps for this vital field of inquiry.

High consumers: what's the problem?

High consumers of energy and resources in domestic settings make a disproportionately large contribution in terms of their greenhouse gas (GHG) emissions and resource use, with the richest 10 per cent of households being responsible for around 49 per cent of carbon emissions globally (Kartha et al, 2020). This issue is firmly on the radar of the International Panel on Climate Change (IPCC, 2022: pp 505–6), who state that 'conspicuous consumption by the wealthy is the cause of a large proportion of emissions in all countries', and that 'vital dimensions of human well-being correlate with consumption, but only up to a threshold'. The concern here is with consumption beyond this threshold, beyond what might be considered 'sufficient' (Darby and Fawcett, 2018). Progress to date on emissions reduction has relied largely on decarbonizing the energy supply through changes to energy sources (such as the shift from gas to wind power in the United Kingdom (UK)) and heating technologies in the home (such as substitution of gas boilers for air source heat pumps), while progress on curbing high (and rapidly escalating) demand for energy, transport, food and consumer goods has been evaded.

The highest consumers also act as trend-setters or aspirational peers, thus driving high consumption more widely within society and normalizing practices such as carbon intensive transport choices and long haul holidays (Cohen et al, 2021). As such, efforts to confine global warming to 1.5°C will be unworkable unless the wealthy change their lifestyles (Gore et al, 2021) and we reign in rising consumption expectations.

The rich have caused climate change (Weidmann et al, 2021) yet there have been limited attempts to define high consumption or what constitutes 'too much'. There also appears

to be no political will to tackle what might be regarded as excess consumption and there is limited direct interest in the issue within research, with attention focused instead on low- or under-consumers and more abstract debates about sustainable consumption across society. Such debates often overlook the fact that low income households are amongst the lowest emitters and should not form the primary target for consumption reduction initiatives.

This chapter is not concerned with households who, for example, due to their health, family structure, location, or the energy performance of their home, are above average consumers. It is not concerned exclusively with the super-rich, but instead focuses on a broader group that are consuming resources beyond what is termed sufficiency, which refers to consumption beyond that required to meet our needs and some of our wants (Fawcett and Darby, 2019). More specifically, this chapter refers to those powering large homes filled with devices, owning multiple vehicles driven often, and flying frequently (Weidmann et al, 2020), eating meat rich diets, owning a wide range of consumer goods, and acquiring new ones regularly (Pieper et al, 2020). The interest here is in those they influence in their roles as aspirational consumers, contributing to the reproduction of a world where individuals and states regard wealth and conspicuous consumption as markers of success.

The widening gulf between rich and poor, and levels of consumption that continue to escalate despite climate and ecological breakdown, leaves unanswered questions about whether high consuming households either do not realise the impact of their actions, think that these messages do not apply to them, do not judge their behaviour to be problematic, and/ or are hostages to compelling social and cultural pressures and influences that instil and perpetuate high consumption. The research on which this chapter is based asks why

it is so hard to consume less, even when the evidence that we need to do so is so compelling.

High consumers: an academic and policy blind spot?

In 2010, the 10 per cent most affluent households emitted 34 per cent of global carbon dioxide emissions, while the 50 per cent of the global population in lower income brackets accounted for just 15 per cent (Hubacek et al, 2017). By 2015, the disparity had stretched to 49 per cent against 7 per cent (Kartha et al, 2020), indicating that resource consumption is becoming increasingly polarized, with low-income households on the opposite trajectory to their affluent counterparts. The disparity of ecological footprints across wealth brackets is seen within, and between, nations and regions of the world, and within towns and cities. At all scales, the wealthy generate more negative environmental impacts than lower income groups (Lynch et al, 2019).

Despite the extent of these inequalities, our literature review on high consuming households found that they have received limited explicit attention in academic studies. There are, however, some exceptions from the fields of energy and transport studies, and from the degrowth literature, including the work of Fawcett (2016), Fawcett and Darby (2019) and Chatterton et al, (2019), who focus, respectively, on questions around excessive energy and transport consumption, and how much consumption is sufficient in the context of planetary limits (Druckman and Jackson, 2010, Gough 2020, Hickel, 2020). Others have experimented with how sufficiency, or greater simplicity, might be achieved in practice (Cherrier et al, 2012; McGoran and Prothero, 2016). These contributions galvanized and informed the research set out here into high consumers, confirming that addressing excessive consumption is one of the most important factors in curbing GHG emissions, andenvironmental destruction and redressing increasingly unfair resource distribution.

While the academic community is waking up to the significance of high consumption, policy communities are yet to acknowledge the urgent need to understand and address extremes of consumption (Mundaca et al, 2019), beyond fleeting consideration of personal carbon budgets and carbon taxes (Schubert, 2019).

In pursuit of status and happiness?

The lack of policy focus on high consumption may stem from political reluctance to back policies apparently at loggerheads with dominant neo-liberal economic paradigms supporting the rights of high earners to consume and pollute without limits. Efforts to curb consumption amongst high earners may also call into question widely accepted cultural beliefs that owning an increasing quantity or range of goods and services is a normal motivation, an acceptable cultural desire, and means of achieving happiness, conveying status, and personal and national success (Cameron and Brown, 2000). However, as alluded to by DiMuzio (2015), consumption can only be effective as a symbol of success and status if intra-class consumption remains uneven and lower socio-economic groups cannot join in. This approach to the pursuit and communication of status and fulfilment not only relies on keeping the majority of the world's population poor but also exposes the world's poorest nations to the worst effects of climate change, a problem to which they have barely contributed (James et al, 2014).

Income is a reliable predictor of a household's consumption and environmental impacts (Büchs and Schnepf, 2013; Zang et al, 2015; Wiedenhofer et al., 2017; Hubacek et al, 2017). For example, it has been demonstrated (in the UK) that CO_2 emissions increase with income (Chatterton et al, 2019) and this trend resonates internationally (Hubacek et al., 2017). Domestic energy use, private transport, and food are the main sources of an individual's environmental impact in developed countries (Peattie and Peattie, 2009) and high consumption at a household level usually appears at the same time across these

different domains (Wiedenhofer et al, 2017; Shackleton and Shackleton, 2006; Chatterton et al, 2016).

Therefore, although there might be difficulties in terms of definition and identification, targeting higher consumers with consumption reduction measures should make a more significant contribution towards reducing emissions across multiple consumption domains than focusing on larger groups of lower consumers. Yet, more evidence is needed to understand what drives and perpetuates high consumption to ensure that these efforts are as effective and enduring in their impact as possible.

What drives and normalises high consumption?

Beyond highlighting links to the expression of status and the pursuit of happiness among the wealthy (Cameron and Brown, 2000), the literature offers a range of perspectives on the drivers of high consumption. It has been linked to psychological weaknesses and certain personality traits that leave people predisposed to high consumption (Humphreys, 2009; Håkansson, 2014). Others, such as Chatterton et al (2019), emphasize personal responsibility, and frame excessive consumption as the result of personal choices driven by ignorance (a lack of awareness of the consequences) or accident (not planned, unexpected, unintended), frivolity (not having any serious purpose or value), or decadence (luxurious self-indulgence). Rucker and Galinsky (2014) characterize the 'desire to acquire' as an attempt to compensate for feelings of feared or actual impotence. Giddens (1984) takes a less individualistic view, presenting consumption as a set of social practices, influenced by social norms primarily governed by the institutions and structures of society.

Charting a middle course, Dubuisson-Quellier (2022) asserts that the success or otherwise of the transition to a more sustainable way of life cannot rest on consumers alone, and

points to a complex interaction between public policies, corporate business models, and consumer practices underpinning what they term 'affluent consumption' as a legitimised and institutionalised norm. They combine a firm belief that high consumption is structurally constituted alongside recognition of personal choice, but arguably neglect the potential role that emotion and coercion might play in consumption choices (March and Olsen, 2013).

Despite these divergent ideas about what drives (high) consumption, the literature points to a complex web of personal, social, cultural and corporate influences. However, there is a degree of consensus that the pursuit of social status, and a desire to demonstrate it, forms a key driver of consumption habits (Ramakrishnan et al, 2020; Bronner and de Hoog, 2018).

Consequences of high consumption for high consumers

Beyond consideration of the drivers of high consumption and the environmental damage wrought, far less attention is paid to the implications of intense consumerism for high consumers themselves. For example, does high consumption represent a successful strategy, in practice, for conveying or asserting social status? Does it bring the lasting sense of happiness that marketeers may espouse? Or, is there great pressure and unhappiness associated with aspiring to ever-increasing consumption expectations, constantly benchmarking yourself against what others have and do, and to keeping up with the latest 'must have' items and experiences? Does adhering to a high consumption lifestyle necessitate long working hours or high-risk investment strategies to maintain and increase spending power? Does it mean that there is a long way to fall if income levels can no longer support our consumption expectations and we fall out of kilter with peers?

In relation to these questions, we are influenced by Kasser and Kanner (2004), who highlight the negative impacts of consumerism and materialism, including the prioritization of money and possessions over activities that promote and sustain happiness. Wide ranging threats associated with consumerism for, inter alia, intimate relationships, child development and identity formation are identified.

Within our research, we conceptualise the potentially deleterious impacts of high consumption on the individual and the family and the labour involved in attaining and maintaining high consuming lifestyles, as potential opportunities to 'release' high consumers from increasing pressure and labour and in doing so, interrupting escalating consumption. In essence, our hypothesis goes that these stresses, strains and fears of being unable (for financial and personal reasons rather than ecological reasons) to sustain high consumption represent intervention points, where high consumers may be receptive to change.

Academic and stakeholder perspectives on drivers and solutions

To better understand the state of the art, academics and practitioners (primarily within NGOs) who lead agendas around sustainable consumption and resource inequality in the UK and Europe, were interviewed. A series of ten semi-structured interviews explored what was already known about the ways in which problematic consumption was characterized in the working practices of participants, the extent to which their work engaged with high consumption, and their suggestions for how more sustainable and equitable consumption might be characterized and attained.

It was notable, and to some extent anticipated, that the work of most respondents focused on energy poverty or what might be termed 'under-consumption'. Indeed, many researchers in the field of sustainable consumption feel a moral imperative to focus on

low consumers and how they might be supported to increase their consumption to levels required to achieve and maintain health and wellbeing (for example, if underheating the home or eating food with poor nutritional content) and economic inclusion (for example, having the means and possessions such as clothing and transport to access employment). This perspective fails to take account of the fact that, within the context of finite resources, the consumption of one social group or region of the world cannot always be increased without consumption reduction on the part of another, so waste exists along with want.

Defining high consumption

There was broad consensus amongst participants that, reflecting the literature, high consumption is closely associated with high levels of personal wealth. Yet, it was acknowledged that there are socio-structural factors that also lock people with modest incomes into patterns of higher consumption, such as transport infrastructure that prioritizes car ownership and poorly insulated homes which necessitate high energy consumption.

Participants were not able to offer any quantitative definitions of high or excess consumption and caution was expressed in relation to the use of average consumption data to identify high consumers, on the basis that this may involve problematizing those who, due to factors beyond their control, are above average consumers. In light of this, some participants felt that high consumption was defined by choosing high emission options when low emission options are accessible and available. Some normative examples of problematic high consumption that emerged from interviews included frequent flying (this was set at more than 5 flights per year) and the ownership of large and second homes.

It was agreed that any definition of high consumption should consider the difference between elite and more common forms of high consumption, for example collective subscription to wasteful but not elitist practices (cultures of car driving) versus elite consumption that is less pervasive yet accounts for far greater emissions per person (such as frequent, long haul flying and exclusive use of multiple homes), with elite consumption being viewed as more problematic.

Participants suggested that future research on high consumption needed to consider the appropriate measurements for different types of consumption, as the way that current consumption research quantifies and reports on consumption often fails to capture both the environmental impact of the activity (as in number of flights taken rather than the amount of carbon emissions generated) and what it achieves (as in units of energy consumed rather than warmth levels achieved). In this context, discussions about how much consumption is necessary to achieve and maintain a good, fulfilling life never reached a firm conclusion but a greater emphasis on outcomes achieved for health, wellbeing and social and economic inclusion was generally advocated over a simplistic focus on quantifying emissions. However, it was noted that a balance must be struck between what is required to maintain health and wellbeing and what is possible within planetary limits. Hirsch (2019) provides a good illustration of how what are regarded as minimum socially and culturally necessary consumption expectations, particularly in the Global North, may be out of kilter with planetary limits, finding that people in the UK see buying birthday presents, alcohol and eating out as minimum necessities (see Chapter 13).

In light of these dilemmas, interviewees suggested that definitions of a good life should not focus on subjective happiness measurements but on universal needs, such as participation in society and maintaining good levels of physical and mental health,

recognizing that while these needs are universal, the way to satisfy them is culturally specific. In this context, several interviewees referred to Max-Neef's (1982) Fundamental Human Needs theory, arguing that high consumption uses material satisfiers when social ones might more effective and sustainable.

Tackling high consumption

Three main approaches to tackling high consumption were identified participants: tax, regulation, cultural change, and political change. Some of these approaches frame consumption as individual choice and others as socio-structurally determined, but all participants felt that consumption reduction should be a just process that reduces inequality, rather than relying on financial mechanisms that the wealthy could withstand and which may penalize lower income groups, such as higher fuel prices or taxes on certain foods.

It was acknowledged that higher taxation or new taxes are unlikely to deter high-income groups and challenge the status quo. Legal limits on consumption rather than regulation by price was seen as a more progressive and effective approach, albeit unlikely due to the radical shift in political ideology and social norms that regulated consumption would require, not to mention development of new legal frameworks. Similarly, the potential for cultural change was acknowledged as relying on a shift away from a free-market capitalist approach, recognizing that voluntary approaches from either producers or consumers would be unlikely to succeed at the scales required to reduce consumption in line with natural resource availability (Brown and Cameron, 2000).

While some participants saw education and awareness raising as important in the move towards more sustainable consumption, others were more sceptical about this approach and referenced research critiquing approaches based upon individualizing behavioural

models, which neglect the normative and social-cultural context in which consumption takes place (Giddens, 1984).

Difficult territory for the researcher

The academics and practitioners interviewed were evidently grappling with the many tensions and potential pitfalls that arise when attempting to identify and target groups that cause environmental harm. Research that seeks to understand the plight of vulnerable under-consumers and improve their circumstances is common and morally safe territory, but rarely do such studies seek to understand the counterpoint – by engaging with those benefiting from dominant, high consuming regimes – and are, therefore, incentivized to sustain and reproduce them (path dependency). There is a perception that to do so would be to blame not just big business and policy regimes but could also involve problematizing conventions and ways of life that are widely considered not only acceptable, but aspirational.

This is difficult territory for the researcher, philosophically and practically. It is difficult to know where the line should be drawn between acceptable/ necessary/ sufficient consumption required for health, wellbeing and social inclusion, and that which is problematic and threatens survival. But researchers must also be transparent – and the very suggestion that someone is being invited to participate in research because their way of life could be considered damaging risks alienating them and blurs the distinction between research and intervention.

We know who we need to speak to in order to build a fuller and more nuanced picture of the forces shaping rising levels of consumption which cause over-use of natural resources and set unsustainable expectations of consumption in wider society. It is abundantly clear that consumption rises with income, so it is the wealthy that we need to target, and those

with sufficient incomes to follow or partially follow the standards and expectations they set. But we need to go deeper still to understand the normative conditions that reproduce inequality and the socio-structural and cultural forces that drive and lock in high consuming lifestyles. Framing high consumption in this way brings it into line with the conceptualization of consumption as driven by structures and norms and not just individuals making (deliberately) bad or immoral choices (Giddens, 1984).

A further reason why the study of high consumers is relatively underdeveloped may stem from the sense of hopelessness that arises when attempting to challenge the fundamental paradigms by which the world is either organized or aspires to be organised, that is the pursuit of perpetual economic growth. We choose, therefore, to frame our research as a deep and probing investigation of why it is so difficult to consume less, thus avoiding alienating the people we need to speak to. This focus acknowledges the forces almost certainly at play that make high consumption, or a desire to participate in it, almost inevitable and not entirely a matter of choice.

The literature speculates, inter alia, that overconsumption of resources may be driven by the pursuit of happiness and the need to tangibly convey social status (Brown and Cameron, 2000). It may offer a material alternative in the absence of socially derived satisfaction (Max-Neef, 1982). Or, it may result from adherence to the ideal life course mapped out by capitalism, which some will attain at the expense of others, and which Giddens (1984) contends infiltrates our discursive consciousness. Personality traits and emotion may also play a role, with some more susceptible to materiality than others (Humphry, 2009; Håkansson, 2014). All are merely hypotheses but point to useful lines of inquiry for empirical investigation.

Towards a better understanding of high consumers

We identify a clear disconnect within the current evidence base between evidence of the impact of high consumption lifestyles on the environment and a limited focus on high consumers within research and policy. In response to this, we have embarked upon a new research agenda dedicated to understanding why it is so hard to consume less: a question emerging as vital to limiting global warming to safe levels.

We conclude that deep qualitative exploration with high consuming households is urgently required and should form a priority within the field of sustainable consumption and allied fields. Institutional ethnography (IE) emerges as our favoured method for doing so because it is deployed when attempts to change or improve a working practice are unsuccessful, making it well suited to exploring escalating consumption in the context of the climate crisis and resource scarcity (Hawkins, forthcoming). Moreover, in contrast to the notion of consumption as a means of achieving personal happiness and satisfaction, IE reveals the maintenance of high-consuming lifestyles as a form of work (Smith, 2005). Framing them as work will be important in the development of a non-judgemental approach which avoids alienating participants.

Within IE, research informants are regarded as the experts in the routinized practices under observation, requiring the researcher to confine themselves to explicating why these practices happen as they do, rather than suggesting how they need to change.IE employs ethnographic research tools, such as observation and interviews to explore working and social practices, to reveal the hidden power dynamics and socio-structural forces shaping them (Smith, 2005). It is particularly useful in situations where an established way of doing things is entrenched but poorly understood, and the status quo is unsustainable (Campbell and Gregor, 2008). The methodology has recently been adapted to explore opportunities for changing consumption practices by identifying

potential intervention points where the status quo is less than satisfactory and opportunities to change course may therefore be more appealing (Hawkins, forthcoming).

As a hypothesis, we suggest that high consuming lifestyles deliver important benefits – such as comfort, clean air, safety, convenience, luxury, health, choice, privacy and so on – but that maintaining and going beyond or extending these benefits creates pressures (financial, social and time related), and represents a form of work that some may crave to escape (whether concerned for the environment or not). We also anticipate finding that, after a certain point, high consumption yields diminishing returns for households, thus establishing the point at which the pursuit of high consumption becomes counterproductive for wellbeing.

Conclusions

Insights into factors fuelling high consumption are emerging from an increasing corpus of work on sufficiency and excess consumption across different domains of consumption (notably transport and energy), but there is no clear thesis or policy pathway. Deepening this programme of work is a priority for the pursuit of post-carbon inclusion, and is of at least equal importance to the study of low or under consumers. Questions regarding how we can prevent wealth going hand in hand with environmental destruction and how we might achieve more even distributions of consumption across spatial scales and social groups are paramount to unlocking post carbon inclusion

Yet, however much we accept the rationale for a greater research and policy focus on high consumers, this will be a challenging programme of research to execute, not least because it breaks with path dependency in the field of consumption research, where the focus is firmly on those deprived of adequate resources in a world where the gap between rich and poor is always widening Moreover, as a research agenda, it also comes into conflict with

dominant concepts of what social mobility and success look like and may therefore struggle to attract political and public support. We are also prepared for self-reflection and uncomfortable encounters with the self, as we face the reality that we are just as much a part of the problem and display many of the same damaging and contradictory practices as we are likely to identify amongst participants.

This research is proceeding into deep qualitative exploration of the drivers, challenges and practical and emotional work of living beyond planetary limits. Itwill need to do so in a manner which avoids blame and judgement in order to achieve access to the lives of high consumers and incentivise their engagement. on the focus will be on unpicking the psychological, social, cultural and structural drivers of rising consumption. Such insights have the potential to inform progressive interventions that do not rely on fiscal measures that the wealthy can withstand and which fail to challenge the dominant ideologies and conceptualisations of success underlying ever greater consumption.

Key research questions will include why it is hard to consume less across the core domains of consumption (material and experiential), how much is perceived as necessary for a good life, and why resource intensive options are pursued when lower impact ones are available. In relation to the latter, which (ostensibly) lower impact choices appeal to high consumers (and why) will be explored. Another priority for exploration is the notion that concerns about climate breakdown may be fuelling a form of compensatory consumption, which involves purchasing products that appear (but may not actually be) environmentally friendly (such as electric vehicles or organic food) in a bid to offset discomfort about carbon fuelled lifestyles, or to shore up a particular image or identity being sought (Kim and Rucker, 2012). A further hypothesis goes that, high consuming households may have limited understanding of what their most environmentally

damaging activities are, and that, for example, they may go to great lengths to source local, organic food but never consider the impact of their financial investments.

Ultimately, the hope is that the deeper socio-structural and cultural understandings of high-consumption s we provide will contribute towards post carbon inclusion through evidence based recommendations for carefully timed and formulated interventions. Such interventions would ideally enable reductions in consumption which are broadly acceptable to high consuming groups without compromising their health, wellbeing and social inclusion but also free up resources to enable greater access to these benefits amongst those currently not accessing sufficient resources.

References

Anantharaman, M. (2018) 'Critical sustainable consumption: a research agenda', *Journal of Environmental Studies and Sciences*, 8(4): 553–61.

Bronner, F. and de Hoog, R. (2018) 'Conspicuous consumption and the rising importance of experiential purchases', *International Journal of Market Research*, 60(1): 88–103.

Brown, P.M and Cameron, L.D. (2000) 'What can be done to reduce overconsumption?', *Ecological Economics*, 32(1), 27–41.

Büchs, M. and Schnepf, S.V. (2013) 'Who emits most? Associations between socio-economic factors and UK households' home energy, transport, indirect and total CO2 emissions', *Ecological Economics*, June, 90: 114–23.

Campbell, M.L. and Gregor F.M. (2008) *Mapping Social Relations: A Primer in Doing Institutional Ethnography*, Toronto: University of Toronto Press.

Castano-Garcia, A., Ambrose, A., Hawkins, A. and Parkes, S. (2021), 'High consumption, an unsustainable habit that needs more attention', *Energy Research & Social Science*, 80: 102241.

Chatterton, T., Anable, J., Buchs, M., Lovelace, R., Lucas, K., Mullen, C. et al (2019) 'Excess? Exploring social, structural and behavioural drivers of energy demand in areas of high combined energy consumption or "how much energy is enough"?', in *Proceedings of the ECEEE [European Council for an Energy Efficient Economy] Summer Study on Energy Efficiency 2019*, Paper 6-019-19 [online], Available from: https://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/ [Accessed 30 May 2023].

Chatterton, T.J., Anable, J., Barnes, J. and Yeboah, G. (2016) 'Mapping household direct energy consumption in the United Kingdom to provide a new perspective on energy justice', *Energy Research and Social Science*, 18: 71–87.

Cherrier, H., Szuba, M. and Özçağlar-Toulouse, N. (2012). Barriers to downward carbon emission: Exploring sustainable consumption in the face of the glass floor. *Journal of Marketing Management*, 28(3–4): 397–419.

Cohen, S.A., Liu, H., Hanna, P., Hopkins, D., Higham, J. and Gössling, S. (2021) The rich kids of Instagram: luxury travel, transport modes, and desire', *Journal of Travel Research*, 61(7): 1479–94.

de Graaf, J., Wann, D. and Naylor, T.H. (2014) *Affluenza: How Overconsumption Is Killing Us, and How to Fight Back*, San Francisco: Berrett-Koehler Publishers.

Fawcett, T. and Darby, S. (2019) 'Energy sufficiency in policy and practice: the question of needs and wants', *Proceedings of the ECEEE [European Council for an Energy Efficient Economy] Summer Study on Energy Efficiency 2019*, pp. 361–370 [online],

Available from: https://www.eceee.org/library/conference_proceedings/eceee_Summer_Studies/ [Accessed 30 May 2023].

DiMuzio, T. (2015) 'The plutonomy of the 1%: dominant ownership and conspicuous consumption in the New Gilded Age, Millennium', *Journal of International Studies*, 43(2): 492–510.

Druckman, A. and Jackson, T. (2010) 'The bare necessities: how much household carbon do we really need?', *Ecological Economics*, 69(9): 1794–1804.

Giddens, A. (1984) *The Constitution of Society – Outline of the Theory of Structuration*, Berkeley/ Los Angeles: University of California Press.

Gore, T. (2021) 'Carbon inequality in 2030: per capita consumption emissions and the 1.5°C goal', Joint agency briefing note (Institute for European Environmental Policy and Oxfam), Oxford: Oxfam GB/ Oxfam International [online], Available at: https://policy-practice.oxfam.org/resources/carbon-inequality-in-2030-per-capita-consumption-emissions-and-the-15c-goal-621305/ [Accessed 30 May 2023].

Gough, I. (2020) 'Defining floors and ceilings: the contribution of human needs theory', *Sustainability: Science, Practice and Policy*, 16(1): 208–19.

Håkansson, A (2014) 'What is overconsumption? – A step towards a common understanding', *International Journal of Consumer Studies,* 38(6): 692–700.

Hawkins, A. (forthcoming) 'Mapping working practices as systems: An analytical model for visualising findings from an Institutional Ethnography', *Qualitative Research.*

Hickel, J. (2020) *Less Is More: How Degrowth Will Save The World*, London: Random House.

Hirsch, D. (2019) *A Minimum Income Standard for the United Kingdom in 2019*, Final Report, Joseph Rowntree Foundation [online], Available from: https://www.jrf.org.uk/report/minimum-income-standard-uk-2019 [Accessed 29 May 2023].

Hubacek, K., Baiocchi, G., Feng, K., Muñoz Castillo, R., Sun, L. and Xue, J. (2017) 'Global carbon inequality', *Energy, Ecology and Environment*, 2(6): 361–9.

Humphry, K. (2009) *Excess: Anti-Consumerism in the West*, Cambridge: Polity Press.

IPCC (2022): *Climate Change 2022: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, (Pörtner, H.-O., Roberts, D.C., Tignor, M., Poloczanska, E.S., Mintenbeck, K., Alegría, A. et al (eds)), Cambridge/ New York: Cambridge University Press.

James, R., Otto, F., Parker, H., Boyd, E., Cornforth, R., Mitchell, D. et al (2014) 'Characterizing loss and damage from climate change', *Nature Climate Change*, 4(11): 938–9.

Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A. and Gore, T. (2020) *The Carbon Inequality Era: An Assessment of the Global Distribution of Consumption Emissions Among Individuals from 1990 to 2015 and Beyond*, Oxfam & Stockholm Environment Institute [online], Available from: https://policy-practice.oxfam.org/resources/the-carbon-inequality-era-an-assessment-of-the-global-distribution-of-consumpti-621049/ [Accessed 30 May 2023].

Kasser, T. and Kanner, A.D. (eds) (2004) *Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World*, Washington DC: American Psychological Association.

Kim, S and Rucker, D. (2012) 'Bracing for the psychological storm: proactive versus reactive compensatory consumption, *Journal of Consumer Research*, 39(4): 815–30.

Lynch, M. J., Long, M. A., Stretesky, P. B. and Barrett, K.L. (2019) 'Measuring the ecological impact of the wealthy: excessive consumption, ecological disorganization, green crime, and justice', *Social Currents*, 6(4), 377–95.

March, J.G. and Olsen, J.P. (2013) 'The logic of appropriateness', in R.Goodin (ed.) *The Oxford Handbook of Political Science*, Oxford University Press pp. 478–97 [online], Available at: https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-024 [Accessed 29 May 2023].

Max-Neef, M. (1982) *From the Outside Looking In: Experiences in Barefoot Economics*, London: Bloomsbury.

Mundaca, L., Ürge-Vorsatz, D. and Wilson, C. (2019) 'Demand-side approaches for limiting global warming to 1.5°C', *Energy Efficiency*, 12(2): 343–62.

Oswald, Y., Owen, A. and Steinberger, J.K. (2020) 'Large inequality in international and intranational energy footprints between income groups and across consumption categories', *Nature Energy*, 5(3), 231–39.

Peattie, K. and Peattie, S. (2009) 'Social marketing: a pathway to consumption reduction?' *Journal of Business Research* , 62(2), 260–68.

Ramakrishnan, A., Kalkuhl, M., Ahmad, S. and Creutzig, F. (2020) 'Keeping up with the Patels: Conspicuous consumption drives the adoption of cars and appliances in India', *Energy Research & Social Science*, 70: 101742.

Rucker, D. D. and Galinsky, A. D. (2008).'Desire to acquire: powerlessness and compensatory consumption', *Journal of Consumer Research*, 35(2), 257–67.

Schubert, E. (2019) Carbon Taxation: The French Experience 2014–2019, presentation to Coalition of Finance Ministers for Climate Action Workshop on Carbon Taxation 3–4 October, [online] Available at: https://www.financeministersforclimate.org/sites/cape/files/inline-files/Carbon%20Taxation%20in%20France.pdf [Accessed 29 May 2023].

Shackleton, C.M and Shackleton, S.E (2006) Household wealth status and natural resource use in the Kat River valley, South Africa', *Ecological Economics* 57(2): 306–17.

Smith, D. (2005) *Institutional Ethnography: A Sociology for People*, Oxford: AltaMira Press.

Wiedenhofer, D., Guan, D., Liu, Z. Meng, J., Zhang, N. and Wei, Y.M. (2017) 'Unequal household carbon footprints in China', *Nature Climate Change*, 7(1), 75–80.

Alternatives to justice for a thriving transition

Aimee Ambrose, Alvaro Castano Garcia, Yael Arbell

Introduction

The moral discourse around low carbon transitions currently favours justice as its main virtue, often highlighting injustice within the current system and ways to avoid it. When we aim for justice, our focus is on what is lacking rather than what might be possible. Low carbon transitions represent an opportunity to reinvent our systems and ways of life but also the associated virtues and values that guide and shape them. The transition must exclude no-one and must prioritise those most in need and most disadvantaged by the current system. In this context, the concept of justice (i.e transitioning away from fossil fuels in a way which promotes a fairer world) is a useful guide. But is justice all we should be aiming for?

In this chapter, we experiment with positioning alternative or complementary virtues as guiding principles for the transition and reflect on the implications of these alternative philosophies, particularly for inclusion. Ultimately, we put forward the beginnings of an alternative framework, which does not ignore justice but promotes the virtues of generosity and care as foundations of justice or complements to it. In concert, these virtues have the potential to bridge communities (Castro, 2021) and the alternative values they uphold can shape transitions and justice from the starting point of genuine concern for the wellbeing of others.

We begin by taking a critical look at the specific concept of just transition that has come to dominate the academic and policy rhetoric around the shift to a lower carbon society. We go on to explore two key concepts based around alternative virtues, namely: a generous transition and a caring transition. We reflect on what sort of policies might

emerge under each framework, or combination of frameworks, and the inclusion dynamics that may be fostered under these different scenarios.

Unpicking justice

Justice is a broad concept with many different interpretations and applications including, in the context of low carbon transitions, environmental justice, climate justice and energy justice. Each of these concepts has a different genesis, emphasis and objective. Environmental justice can be traced back to the Civil Rights Movement in the United States in the 1950s and 60s. The movement strives for the fair treatment of all people regardless of race, colour, origin or income in the context of environmental quality and governance (Client Earth, 2021). Climate justice focusses on human rights and social inequality and in particular the injustice that emissions generated by developed nations in pursuit of growing their wealth are driving the climate crisis, the effects of which are felt most acutely by poorer, developing nations. The movement contends that developed nations should take responsibility for emissions reductions and should compensate the developing world for the impacts they are suffering. Energy justice is a newer research agenda seeking to apply justice principles to energy policy, practice and research, challenging us to view energy provision not just as a technical challenge but a question of equity and calling for greater inclusion of citizens in energy related decision making.

There are examples of where each of these concepts have penetrated policy and political discourse. For example: several federal governments of the United States, including the current Biden-Harris administration have used the language of and committed to deliver environmental justice. Moreover, climate justice has been a guiding concept within climate negotiations since the 1990s, including the recently concluded 27th meeting of the Conference of the Parties (COP). Despite these promising examples, justice has arguably

not come to dominate environmental policy discourse in any meaningful way. The related concept of 'just transition', however, has.

The just transition concept is favoured for its apparent ability to promote greater justice for people and planet without calling into question the dominant economic paradigm of perpetual economic growth (Newell & Mulvaney, 2013; Pinker, 2020). It has gained considerable traction becoming pervasive within flagship (often Global North focussed) policy frameworks and national transition policies across many countries. For example, the International Labour Organisation and the United Nations have both adopted the language of just transition and released guidance on how countries might operationalise the concept. The European Commission has also heavily subscribed to the concept, as exemplified by their Green Deal (2019) and Just Transition Mechanism. The concept is now percolating down to individual countries that are adopting the philosophy of just transition within policy in an attempt to ensuring that the prioritisation and compensation of those most affected by and vulnerable to transition forms a prominent consideration in policies relating to economy, energy, transport, housing and so forth. In some countries, initiatives aimed at a just transition have a very specific focus on particularly vulnerable sectors, such as the Canadian coal industry (Government of Canada, 2019). In others, for example Scotland, the concept is used in a more generalised way but with an economic leaning, espousing the ambition to create a fairer, more climate resilient economy (Scottish Government, 2021).

This economic focus reflects the origins of the just transition movement in the United States during the 1980s and 1990s, as an attempt by workers within threatened industries to demand fair treatment in the dismantling of their sectors (Pinker, 2020). As environmental regulations threatened jobs dependent on fossil fuels, unions tried to

achieve a ‘just transition’ for their workers through programmes that guaranteed new jobs or early retirement for those affected (McCauley and Heffron, 2018).

Although there is no single definition of just transition, there is a degree of international consensus that it reflects an intention to combine environmental protection with the creation of decent, high-quality work for all (UFCCC, 2020). The emphasis on universality of access to decent, less environmentally damaging work suggests that inclusion is central to notions of a just transition. Yet this focus on universality also has the clear potential to undermine a nuanced understandings of who is most vulnerable and must, therefore, be protected and prioritised for support and compensation, a vital prerequisite of inclusion.

Bare minimums versus opportunity

The tone of the discourse within policies inspired by just transition suggests that a just transition, as operationalised within policy, is not aiming at a reversal of fortunes for those disadvantaged by a high carbon society, offering them the opportunity to thrive and perhaps, to borrow from the language of degrowth, to redefine what represents a ‘good life’ to them (D’Alisa et al., 2015). Instead, the aims relate to the avoidance of stranding amongst communities on the frontline of high carbon economies (Di Chiro, 2016), thought to be assured via compensation for the impact of the transition on the economic aspects of their lives and efforts to find them a place in the new economy. This narrow focus recompense for economic disruption overlooks the wide ranging pressures placed by a fossil fuelled society on health, wellbeing, enjoyment, quality of life and hope for our children’s futures.

Surely the low carbon transition, a necessarily colossal reorganisation of the way we live and how we organise societies and economies, provides the best opportunity in at least

500 years (the point at which Trentmann (2016) argues that our obsession with growth and global trade began in earnest) to emancipate the 'worker bees' that have kept our 'empire of things' functioning (pp.76) and afford them an opportunity to thrive through transition, rather than merely survive.

Critiques of just transition as interpreted in a policy context are well established within the academic literature. Some point to the top-down nature of policies aimed at a just transition whereby bureaucrats and industry leaders determine who is most vulnerable and how they should be compensated (Banerjee and Schuitema, 2022). This de-historicizes the concept, distancing it from the 'grass roots' origins of the movement, spearheaded by workers on the verge of obsolescence (Castano-Garcia, forthcoming). Top-down solutions, it is logical to argue, run greater risk of misunderstanding or underestimating the impacts associated with transition, misidentifying and mis-prioritising those most affected and compensating them in the wrong ways. Other critiques include the risk of misappropriation and exploitation of the concept for greenwashing, the lack of an agreed definition posing a barrier to joined up international efforts to realising it, a skewed focus on the economic aspects of transition and a focus on addressing or offsetting the symptoms of injustice rather than their structural causes (McCauley and Heffron, 2018).

Considering these wide-ranging critiques, we might legitimately question whether it is the right concept to adopt in guiding us equitably through the transition and securing the best possible outcomes for those most affected by the climate crisis and the transition away from fossil fuels.

Exploring alternatives to justice

A key objective of this chapter from the outset has been to challenge and explore alternatives to concepts, such as just transition, that can be seen to set low expectations

or aspirations for the transition. Where adherence to the principles of a just transition can ameliorate some of the huge potential for new or deepened injustice associated with energy transitions, other virtues such as generosity (with its emphasis on thriving and wellbeing) and care (with its emphasis on nurturing and reciprocity) emphasise the opportunities presented by the transition for transformation and a better life. In the following sections, we focus first on generosity, then care, as alternative or complementary virtues, and the potential implications they have for the form and fate of the transition.

A generous or altruistic transition

What if the emphasis of the policy and academic rhetoric around the transition to a low carbon society centred around a generous or altruistic, rather than (or in addition to) a just transition?

Aristotle argues that those who suffer from generosity deficiency are either more frugal with their resources than they ought to be, or greedy because they take too much. Here we explore the notion that generosity can be located at the beginning of an alternative 'ethical chain' (Castro, 2021) which could play an important role in driving just transitions. Generosity could guide action towards what Aristotle defined as the noble and appropriate mean between the two opposing extremes of stinginess and wastefulness (Aristotle, 1908). Generosity is also a 'productive virtue' (Castro, 2021) with the potential to bridge people and communities with different interests. From this perspective, it could also broaden the field of those who are considered part of a community.

Aristotle argues that those who suffer from generosity deficiency are either more frugal with their resources than they ought to be, or greedy because they take too much. When distinguishing generosity from extravagance or wastefulness, Aristotle highlights that extravagance is characteristically self-destructive since it wastes resources essential for

living. In an international development context, Global North nations can be seen to exemplify the characteristics of extravagance that will ultimately, if left unchecked, become self-destructive as the Earth is rendered uninhabitable. Generosity deficiency is also evident in the inadequacy of gestures towards Global South countries who experience some of the most intense impacts of climate change, driven by high carbon lifestyles in the Global North (James, *et al.*, 2014).

In relation to this point about the self-destructive nature of extravagance, this may be where generosity is misunderstood and perhaps rejected as a virtue, in the sense that it should not omit self-interest. Generosity does not demand selflessness but instead requires that one gives to others to the degree that giving does not damage one's own material health (Allen, 2018). This is where generosity can be seen as distinct from altruism which involves acting to promote someone else's wellbeing even at cost to ourselves (Allen, 2018). As we will go on to discuss, recent gestures on the part of Global North countries towards Global South nations have not been without their benefits for the giver, suggesting they are closer to acts of generosity than altruism. In this context, Singer (2015) suggests that effective altruism should be focused on donating resources only after careful reasoning to decide how best to provide support and to which causes. Singer's arguments remind us that both generosity and altruism can be ineffective if they are not carefully considered, effectively targeted and aligned with the needs of beneficiaries. Understand the needs of the intended beneficiaries has the potential to transform an act of apparent generosity from one that is done to the recipients to one that is inclusive of them.

In this vein, commentators such as Gabriel (2017) rail against the notion that altruism could represent the key to increased global justice, highlighting the risks associated with donor-centrism and how a reliance on altruism reinforces existing tendencies for the

decision-making power to reside with the wealthy who are out of touch with the complex injustices faced by those they seek to help. In essence, under this model, the very structures that created the injustice in the first place are relied on to address it.

In this section, we are careful to distinguish between the more conditional and perhaps less habitual nature of generosity and the more fundamental nature of altruism as a philosophy or way of life, whilst mindful of its potential shortcomings. As will be discussed, generosity might represent a more viable and realistic first step towards justice in the context of low carbon transitions than true altruism and one which is already being enacted to some degree.

Loss and damage: an act of generosity?

In the context of a world where Global North countries collectively produce a carbon footprint 100 times higher than that of Global South countries (IEA, 2021) and the imperative for global society to meet all of its needs within the resources provided by one Earth, Global North countries will need to reduce resource consumption considerably to enable more even consumption across the globe. Although vital for our collective survival, such a reduction in resource consumption could be considered an act of generosity or even altruism towards citizens elsewhere and future generations everywhere, given the absence of any legal obligations to redress resource inequality. In this context, distinctions between generosity and justice can be subtle and blurred. However, the key contention of our argument concerns how acts of generosity or altruism could be seen as a pre-requisite or enabler of greater justice. For example, once everyone benefits from a fair share of the Earth's resources in perpetuity, then justice has arguably been achieved. But what is necessary to trigger this is greater generosity on the part of Global North countries, especially the most privileged amongst them, who must compromise their existing lifestyles to enable others to thrive (both within their own

unequal societies and those of the Global South). Generosity will result in limited compromises, whereas altruism might lead to much greater concessions on the part of the Global North.

We currently see an example of what might arguably constitute generosity at the state level in the form of Denmark's commitment to paying 'loss and damage' to the most climate-vulnerable areas of the world. In announcing the intention, the Danish Development Minister used the language of justice and fairness, stating that "It is grossly unfair that the world's poorest should suffer the most from the consequences of climate change, to which they have contributed the least." (Reuters, 20th September, 2022). Given that there is currently no obligation placed on Global North countries to offer such compensation, this act can be understood as a generous act undertaken in pursuit of greater justice for the world's poorest, worst affected regions. Justice is the motivation, generosity is the action.

The example from Denmark is useful in highlighting how when justice feels idealistic and a remote prospect that would involve seismic shifts in the current world order, an act of apparent generosity can feel like a tangible starting point. However, as Castro (2021) points out, generosity can only lead to justice if we give the right amounts to the right people at the right time. The idea of giving the right amount feels fundamentally at loggerheads with the concept of generosity which involves giving only what you can.

A gesture such as that undertaken by Denmark, although symbolically important, is not likely to be significant enough (in its scale and monetary value) to represent a significant step along the path to justice. However, as an example of 'productive generosity' (Huffington, 2014) it does fulfil important functions in the sense that giving (to a point where it doesn't harm the giver but does help the receiver) arguably boosts wellbeing, strengthens relationships/builds bridges (in this case between countries and regions),

promotes a sense of global community, supporting countries producing many of our everyday goods and quietening consciences through a practical act (Huffington, 2014). Yet, to return to the title of this chapter, this act on the part of Denmark is undertaken at a high level by way of apology and reparation, to help with the struggles faced by the most affected regions, not to enable communities within them to thrive and determine their own future. The amount given is unlikely to impact the abundance enjoyed by countries like Denmark, nor will it move recipient nations towards abundance, with research identifying that countries in receipt of such payments spend it all on adaptation (James *et al.*, 2014). Certainly Denmark's actions appear to echo the critiques advanced by Gabriel (2017) by reinforcing the dominance of developed nations and the reliance of Global South nations on their charity which is likely to be based on a flawed understanding of their needs.

This act alone does not amount to justice across global society and remained an isolated act of charity until recently when, during COP 27, a historic deal was struck to compensate developing nations for their vulnerability within a climate crisis driven by developed nations and to help them adapt. It is intended that those most vulnerable in the context of the climate crisis will be prioritised yet definitions of vulnerability in this context remain moot. This agreement secured at the international conference can arguably be viewed as less of an act of generosity and more of a response to the pressure to act that results from sitting around a table with representatives of those nations deeply affected by the current and historic actions (or inaction) of the developed world. The adequacy and effectiveness of this agreement, which is not legally binding, will hinge on whether the amount available is determined by how much contributing nations are willing to provide or what affected nations really need. Moreover, the inclusivity of the agreement will be

determined by the extent to which the beneficiaries are permitted to define the extent of their own vulnerability and what they need from the fund.

Generosity as prerequisite to justice

As a virtue, generosity has never been systemically adopted and enshrined in legislation in the same way as justice is, possibly because justice is viewed as a basic minimum expectation whereas generosity remains something that is 'nice to have' across many modern cultures. However, the arguments we put forward here propose that these virtues might be more interrelated and interdependent than they might first appear in the sense that routinised generosity, which is correctly targeted and built around nuanced understandings of the needs of recipients, could perhaps take us closer to the attainment of justice, over time. Yet, in the context of low carbon transitions, there is no time left for cultures of generosity to slowly develop, which may further underline why justice remains our 'back stop' virtue under crisis conditions. Altruism, in our view, remains a more distant prospect given that it involves giving in a more unbridled way that would, for example, in a global context, involve giving Global South nations all they need regardless of our own needs. The impact of such a philosophy would be seismic, if undertaken sensitively and democratically, but feels a distant prospect despite the promising developments associated with COP 27.

A caring transition

Generosity can be seen as driven, in part, by care. A small number of scholars have begun examining where care and caring sit in relation to justice, in much the same way as we have considered the concept of generosity and altruism in this context. In this section we focus specifically on ethics of care, which has been the focus of the academic debate surrounding the notion of a caring transition. Ethics of care is a theory that prioritises

inter-personal relationships and our interdependence on one another and overlaps with generosity and altruism through an emphasis on benevolence.

Where generosity suggests that we should only give where it will not be to the detriment of our own material health, ethics of care promotes the idea that our primary duty is to the community and others (Damgaard et al, 2022), a notion closely allied to altruism. Approaches informed by ethics of care are considered to weaken individualistic and consumerist impulses, putting communities at the centre of economic life as opposed to corporations and individuals (Grubby, 2019).

Prioritisation and contextual specificity

There is an important emphasis within ethics of care on prioritisation and identifying who is most affected by the consequences of our choices. In addition, the philosophy promotes the prioritisation of individuals and groups according to their level of vulnerability. Within this approach, there is no scope for 'blanket policies', with responses and solutions instead situated in a deep and nuanced understanding of context.

Implicit within this philosophy is a focus on fairness or justice achieved through treating everyone differently in order to achieve greater equality. This manifests as an emphasis on understanding the needs of and caring for those most affected and also most in need. There is arguably a 'bare minimum' tone to the philosophy through its emphasis on safeguarding. The language of opportunity and thriving is not explicit within ethics of care and is also very different to that of justice, focussing on relationships and community as opposed to individuals and rights. Damgaard et al (2022) find that the language of care, relationships and community better reflect people's ethical feelings about low carbon transitions than the language of justice and individual rights. Ethics of care is also distinct from generosity in the sense that it assumes a routinised prioritisation of and care for the

most vulnerable, rather than potentially limited, isolated or periodic acts of generosity or poorly targeted altruism.

To start to understand how ethics of care might operate in the context of climate change and low carbon transitions, we return to the example of loss and damage funding. We do not draw on this example as a demonstration of an ethic of care, but more as a means of illustrating how a caring transition would need to operate quite differently to a financial payment.

Calling once more on this example enables us to see how the virtues of justice, generosity and care might coexist and interact within one climate policy. Certainly, this policy can be seen as being motivated, at least in part, by ethics of care. This is apparent in the recognition, within the policy, of our global interconnectedness in the context of environmental damage and climate change, by prioritisation (or at least greater recognition) of and attempts at safeguarding the most vulnerable at a global scale. It can also be interpreted as an attempt at promoting friendship through repairing or building better relationships between Global North and South. It will not, however, achieve the contextual sensitivity and lasting impact espoused by ethics of care if it relies on limited financial payments determined by the donor without consultation with the recipient nations on the form and amount of compensation. The likely financial limitations of the policy place it more in the realms of an act of generosity while the official discourse around it is one of improving fairness (justice).

Leaving no one behind or deciding who is brought along first

The emphasis within ethics of care on safeguarding may not perfectly complement the idea reflected in the title of this chapter that transition can present an opportunity to promote thriving where currently there is struggle. However, as a guiding philosophy, it

can make an important contribution to securing better outcomes for everyone by ensuring care for the most affected and vulnerable (where correctly identified) through its emphasis on prioritisation. Whilst the notion of leaving nobody behind has been widely espoused in connection with the concept of just transition, an ethics of care perspective reminds us that we need to consider who should be brought along first, otherwise we are left with the established convention that those who can pay benefit first.

An extensive review of existing evidence conducted by Sovacool (2021) identified 24 distinct groups as vulnerable in the context of climate mitigation, with non-human species, farmers, the rural poor, laborers, indigenous communities and future generations receiving the greatest proportion of coverage within the literature and disabled people, modern slaves, coastal home owners, prostitutes, children, local businesses, refugees, alcoholics and suburban home owners amongst those receiving the lowest proportion of coverage. This suggests that we have some understanding about who is most vulnerable in relation to low carbon transitions and who needs our care because their lives are being made more difficult or even ruined by the transition. We at least have some idea whose lives we should be aiming to turn around at this moment of great change.

Sovacool also highlights how, perhaps unexpectedly, some of those most vulnerable in the context of the transition are also those heavily embroiled in delivering the transition, for example: those manufacturing technology for the transition (i.e. photovoltaic panels) and enduring slavery and poor health as a consequence, communities hosting wind farms or those sacrificing land for bio-fuel production. In essence, many of those whose work might be construed as care or sacrifice for the environment (whether by choice or not) are left uncared for by the transition they are helping to facilitate.

Of course, our impression of who is most vulnerable will depend greatly on whose plight has been highlighted through research, journalism or made an example of by politicians

or other influential figures. The work of Pijuan Gonzalez (forthcoming) provides an example of a highly vulnerable groups (children) who are known to be disadvantaged by the status quo but are not being recognised or prioritised within transition policy with the potential to improve their circumstances. She highlights ample existing evidence of the ways that children are impacted heavily and in distinct ways by unaffordable heating and poorly insulated homes (energy poverty), resulting in poor physical and mental health and reduced educational attainment, yet energy policies aimed at decarbonisation and the resolution of energy poverty across Europe fail to recognise their needs, instead making broad and vague references to 'families' and focussing explicit attention on groups that the evidence suggests are less vulnerable in this context, such as older people or large families.

These examples highlight some of the difficulties in accurately identifying who is most vulnerable and who is most in need of safeguarding and care, as would be required by a transition guided by ethics of care. They also underline the need for the philosophy of ethics of care to extent the research community encouraging the prioritisation of the most vulnerable and careful consideration of whose plight is spotlighted through research and publication, but also reminding us to avoid elevating the plight of specific groups without recognising how they are connected to that of others.

Care, justice and thriving

Prioritisation and understanding who is most vulnerable is a fundamental principle of ethics of care and is also vital to the attainment of justice, in the sense that we cannot pursue justice is we do not know who we are seeking it for. We therefore see complementarity between the concepts of care and justice. Moreover, care and greater responsiveness to differential needs can also be argued to provide a foundation for a better life and in this sense, adopting ethics of care as a guiding principle in the context of low

carbon transitions can be seen to transcend justice in its ability to promote thriving over merely surviving.

Conclusion

Does it really matter what virtues or philosophies drive or are implicit within acts or policies associated with the climate crisis and low carbon transitions? It is entirely possible that those designing low carbon transitions or other responses to the climate crisis are not even aware of which virtues they are promoting or channelling through their work. However, we argue that the virtues associated with low carbon transitions are important because they can produce very different sorts of policies and actions that impact heavily on the lives of billions of citizens and non-human stakeholders and whether the transition reflects their needs and priorities. Commitments such as the European Commission's pledge to 'leave no-one behind' in the move away from fossil fuels (European Commission, 2019) may seem difficult to find fault with yet blanket statements can be seen to discourage consideration of who should be prioritised. For this reason, it seems beneficial for transition policies to be informed by multiple perspectives and philosophies to avoid a myopic focus on justice and missed opportunities to promote greater wellbeing and abundance for victims of the high carbon world order through transition.

We reach the conclusion that there is complementarity and interdependency between the different perspectives explored here and value in using them in combination. In this sense, the chapter lends support to the argument put forward by Castro (2021) that generosity may sit at the start of an ethical chain which leads to justice. Consideration of the principles of ethics of care within this context introduces important new dimensions to the debate, reminding us, *inter alia*, that detailed consideration of needs and the importance of determining who is most in need are vital in terms of designing more contextually sensitive policies that are more likely to be fair. Combining notions of

generosity or altruism with ethics of care can help to negate some of the risks associated with donor-centrism (Gabriel, 2017). The decision to act generously must be followed by efforts to prioritise and to understand the needs and perspectives of beneficiaries to ensure that the potential benefits associated with that generosity are maximised and well placed.

It is not proposed that we dispense with the concept of a just transition in the context of low carbon transitions but that instead we see it as one of a number of useful concepts that together might produce transition policies which promote the best possible outcomes for human and non-human stakeholders.

As Damgaard et al (2022) alludes to, the language we use in connection with transitions is important and will impact both the level of public support for transition policies and the extent of our ambitions for them. Discourse focussed on justice leads us to feel we are striving to avoid making anyone's situation worse through transition and fighting for rights and recognition. The language of generosity conjures visions of benevolence, magnanimity, and grand gestures whilst the language of care feels supportive, nurturing and reciprocal. Despite arguing for these concepts to be considered in combination in the context of low carbon transitions, it feels equally important that we upgrade our language around transition to adopt a more aspirational tone and in doing so raise our ambitions and expectations around what the transition should do for us and our non-human counterparts. In this sense, the language of generosity and care feel more fitting and advantageous than the language of rights and fairness.

References

Allen, S. (2018). *The science of generosity*. A white paper prepared for the John Templeton Foundation by the Greater Good Science Center at UC Berkeley.

Aristotle (1908). *Nicomachean Ethics*. [online] Available at: <http://classics.mit.edu/Aristotle/nicomachaen.4.iv.html> [Accessed 6 January 2022].

Banerjee, A., & Schuitema, G. (2022). How just are just transition plans? Perceptions of decarbonisation and low-carbon energy transitions among peat workers in Ireland. *Energy Research & Social Science*, *88*, 102616.

Castano-Garcia, A. (forthcoming), Transitions for zero carbon futures: from just to generous, *Futures*

Castro, E. (2021) IV Encuentro De Filosofía Intercultura. Ernesto Castro. Retrieved 2 September 2021, from https://www.youtube.com/watch?v=FjNwR1n1eSY

Damgaard, C. S., McCauley, D., & Reid, L. (2022). Towards energy care ethics: Exploring ethical implications of relationality within energy systems in transition. *Energy Research & Social Science*, *84*, 102356.

Di Chiro, G. (2016). Environmental justice. *Keywords for Environmental Studies*, 100-105.

European Commission (2019), The European Green Deal. Available at: European Green Deal (europa.eu) [Accessed 7th October 2022]

Gabriel, I., 2017. Effective altruism and its critics. *Journal of Applied Philosophy*, *34*(4), pp.457-473.

Grubby, E. C. (2019). Responsible Generation: How Care Ethics Can Activate a Just Energy Transition.

Gonzalez- Pijuan, I., Ambrose, A., Middlemiss, L., Tirado-Herrero, S., Tatham, C. (forthcoming), Overcoming energy poverty in childhood from a policy perspective, *Energy Policy*

Government of Canada, (2019).Task Force: Just Transition for Canadian Coal Power Workers and Communities. Available at: Task Force: Just Transition for Canadian Coal Power Workers and Communities - Canada.ca [Accessed on: 7th October 2022]

Huffington, A. (2014). *Thrive: The third metric to redefining success and creating a life of well-being, wisdom, and wonder*. Harmony.

International Energy Agency (IEA), (2021). Global Energy Review, Co2 emissions in 2020. Available at: Global Energy Review: CO2 Emissions in 2020 – Analysis - IEA. [Accessed on 7th October 2022]

Iwińska, K., Lis, A., & Mączka, K. (2021). From framework to boundary object? Reviewing gaps and critical trends in global energy justice research. *Energy Research & Social Science*, *79*, 102191.

James, R., Otto, F., Parker, H., Boyd, E., Cornforth, R., Mitchell, D., & Allen, M. (2014). Characterizing loss and damage from climate change. *Nature Climate Change*, *4*(11), 938-939.

McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. Energy Policy, 119, 1-7.

Muraca, B., 2012. Towards a fair degrowth-society: Justice and the right to a 'good life'beyond growth. *Futures*, *44*(6), pp.535-545.

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *The Geographical Journal*, *179*(2), 132-140.

Pinker, A. (2020) Just Transitions: a comparative perspective. https://www.gov.scot/publications/transitions-comparative-perspective/

Reuters, (2022). Denmark becomes first to offer 'loss and damage' climate funding. Available at: Denmark becomes first to offer 'loss and damage' climate funding | Reuters. [Accessed on: 7th October 2022].

Scottish Government (2021). Just Transition- A Fairer, Greener Scotland. Available at: Just Transition - A Fairer, Greener Scotland: Scottish Government response - gov.scot (www.gov.scot). [Accessed on: 7th October 2022]

Singer, P. (2015). The most good you can do. In *The Most Good You Can Do*. Yale University Press.

Sovacool, B.K., 2021. Who are the victims of low-carbon transitions? Towards a political ecology of climate change mitigation. *Energy Research & Social Science*, *73*, p.101916.

Trentmann, F. (2016). *Empire of things: How we became a world of consumers, from the fifteenth century to the twenty-first*. Penguin UK.

United Nations Climate Change Conference (UNFCC) (2020) Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs. Available at: https://unfccc.int/sites/default/files/resource/Just%20transition.pdf. [Accessed on: 7th October 2022]

High consumers of energy and resources and the work of being wealthy: towards a research agenda

Anna Hawkins
The Department of Natural and Built Environment
Sheffield Hallam University
S1 1WB
Email: a.hawkins@shu.ac.uk

Professor Aimee Ambrose
The Centre for Regional Economic and Social Research (CRESR)
Sheffield Hallam University
S1 1WB
Email: a.ambrose@shu.ac.uk

Dr Yael Arbell (CRESR)
Email: Y.Arbell@shu.ac.uk

Alvaro Castano Garcia (CRESR)
Email: Alvaro.CastanoGarcia@student.shu.ac.uk

Dr Stephen Parkes (CRESR)
Email: S.Parkes@shu.ac.uk

Mia Rafalowicz-Campbell (CRESR)
Email: Mia.Y.Rafalowicz-Campbell@student.shu.ac.uk

Abstract

High consumers of energy and resources in domestic settings make a disproportionately greater impact in terms of their greenhouse gas (GHG) emissions and resource use, with the richest 10% being responsible for around 49% of carbon emissions (Kartha et al, 2020). Moreover, the highest consumers also act as trend-setters and aspirational peers, thus driving high consumption more widely within society. As such, efforts to confine global warming to 1.5 degrees Celsius will be unworkable unless the wealthy change their lifestyles (Gore *et al,* 2021). We know that the rich have caused climate change (Weidmann et al, 2021) yet there have been limited attempts to define high consumption or what constitutes too much. There also appears to be very limited political will to tackle what might be regarded as excessive consumption and we also find limited direct interest in the issue within research and academia, with attention focussed instead on low or under consumers and more abstracted debates about sustainable consumption. Our work seeks to help address the research gap around high consumption chiefly through the development of deep qualitative methodologies that seek to understand the socio-cultural and structural factors that sustain high consumption. Focussing on the question of: 'why is it so hard to consume less?', our paper reports upon a state-of-the-art review of literature, spatial mapping of consumption data and stakeholder interviews (in the UK) which highlight the need for a greater focus on high consuming households. We also discuss how this work has informed the development of an innovative methodology for exploring the lived experiences of this elusive and hard to reach group, which utilises institutional ethnography to explore and explicate the 'work of being wealthy'.

Introduction

In 2010, the 10% most affluent households emitted 34% of global C02, while the 50% of the global population in lower income brackets accounted for just 15% (Hubacek *et al*., 2017). By 2015 the disparity had stretched to 49% against 7% (Kartha *et al*., 2020). Beyond carbon footprints, high consumers pose a second challenge: they also set social and material aspirations within society. The disparity of ecological

footprints across wealth brackets is also seen among nations and regions of the world: at all scales, the wealthy generate more negative environmental impacts than lower income groups (Lynch *et al*, 2019), something Lynch et al conceptualise as a 'green crime' in light of impending environmental collapse.

Despite the extent of the inequalities laid bare by these statistics, our literature review on high consuming households finds that they have received insufficient explicit attention in academic studies. There are, however, notable exceptions to this general trend, including the work of Fawcett, (2016) Fawcett and Darby (2019) and Chatterton et al., (2019), who have focussed, respectively, on questions around excessive energy and transport consumption and how much consumption is sufficient in the context of planetary limits (Druckman and Jackson, 2010, Gough 2020). Others have experimented with how sufficiency or greater simplicity might be achieved in practice (see, for example, Cherrier et al, 2012, McGoran and Prothero, 2016). These contributions have galvanised and informed our research into high consumers, recognising that addressing excessive and unequal consumption is arguably one of the most important things we can do to curb GHG emissions and environmental destruction.

Whilst the academic community is waking up to the significance of high consumption as a key concern, policy communities across the world are yet to recognise the urgent need to understand and address extremes of consumption (Mundaca *et al*, 2019). Beyond fleeting consideration of personal carbon budgets in some countries and emerging ideas about carbon taxes for the wealthy in France, high consumers are not a priority for policy makers (Mundaca *et al*, 2019).

In this paper, we focus on those who might be considered to over consume and who, in doing so, disproportionately contribute to GHG emissions and environmental degradation through excess energy consumption to power large homes and multiple devices, fuel consumption to power multiple vehicles driven more often, frequent flying (Weidmann *et al*, 2020), meat rich diets and the embodied carbon associated with consumer goods (Pieper *et al*, 2020). But because they are not clearly defined and are poorly understood, we do not yet know what contribution it might make to urgent GHG reduction efforts were policy to target high consuming households, their behaviour and influence. Knowledge is also lacking regarding the most effective policy responses and intervention points, a significant research gap that we intend to help address.

This paper is not concerned with households who, due to their health, family structure, location, or the energy performance of their home, are above average consumers. It is also not concerned exclusively with the super-rich, but instead focuses on a broader group of what we have termed 'high consumers' that are consuming resources beyond a level that is sufficient to meet their needs and some of their wants (Fawcett and Darby, 2019). We are also interested in those they influence in their role as aspirational consumers or role models in a world where individuals and states regard wealth and conspicuous consumption as markers of success.

The ever-widening gulf between rich and poor and levels of consumption that continue to escalate despite widespread warnings of impending climate and ecological breakdown, leaves unanswered questions about whether the highest consuming households either think that these messages do not apply to them; do not judge their behaviour to be problematic and/or are locked into high consuming lifestyles where expectations are always rising. Within this project, we do not seek to make normative judgements of high consumers. Instead, we prioritise the question of why it's so hard to consume less, even when the evidence that we need to do so is so compelling.

This paper is comprised of four sections in addition to this one; a literature review adapted from the more extensive publication (Castano-Garcia et al, 2021); a methodology giving an overview of the four-stage process we are following, a discussion of emerging findings and finally a conclusion outlining the rationale and plans for the next stage of our project.

Literature review

High consumption: invisible resources and the pursuit of happiness

The difficulty in defining 'high-consumers' or even in determining what constitutes 'too much' may be one of the reasons why there has been insufficient discussion around the role that such households might play in reducing our collective environmental impact.

Brown and Cameron (2000) explored definitions of overconsumption and identified the field of social theory as a key location in the discourse around this topic. Much of this work focuses on critiquing the idea that consumption leads to happiness. From this perspective, overconsumption is the excessive use of goods and services which stems from a belief that owning and using an increasing quantity of a range of

goods and services is a normal motivation and an acceptable cultural desire, as a means of achieving personal happiness, status, and national success.

They go on to highlight a problem, which might be termed 'resource invisibility', which they contend must be overcome in order to progress towards sustainable consumption. In this context, they define overconsumption as "a large, unique form of common pool resource dilemma in which: (a) the size of the pool of resources is often unknown; (b) people differ in their access to resources and their preferences for resources; and (c) people must make their decisions about the use of goods and services without a clear under-standing of the types and quantities of the resources used in their production". Although both terms are likely to overlap in many cases, using the term 'high consumers' instead of 'over consumers' enables a focus on impacts of consumption beyond resource depletion, as well as comparing consumption patterns within and between different populations.

Consumption inequality

Despite their focus on sustainable consumption and production, the United Nations Sustainable Development Goals do not adequately account for the need to address intra-country differences in consumption, and what it means for the pursuit of sustainable consumption. In relation to this, Anantharaman (2018) draws on critical social theory and argues that questions of power, legitimacy, authority, and justice are underexplored in the context of uneven levels of consumption within society. Di Muzio (2015), similarly contends that the wealthiest people have the greatest ability to act on desires for enhancing their perceived social status through un-equal intraclass consumption. Such actions, he argues, contribute towards the unsustainable quest for perpetual economic growth around the globe. This growth project militates against the pursuit of fairness between humans and threatens vulnerable populations with the worst effects of environmental collapse. De Graaf et al. (2014) adopt a similar position but with a focus on wider social dynamics, identifying cultural changes and technological progress as drivers of increasing demand.

The links between wealth and high consumption seem clear. Income has often been used as a predictor of a household's consumption and environmental impacts (Büchs and Schnepf, 2013; Zang et al., 2015; Wiedenhofer et al., 2017; Hubacek et al., 2017). For example, it has been demonstrated (in the UK) that CO2 emissions increase with income (Chatterton, et al., 2019) and this trend resonates internationally (Hubacek et al. 2017). There are some exceptions to this, for example high income households who aspire to reduce their consumption (and therefore, emissions) (Hüttel et al., 2018). Domestic energy use, private transport and food are the main sources of individuals' environmental impact (specifically in developed countries) (Peattie and Peattie, 2009) and high consumption at a household level often appears at the same time across these different domains (Wiedenhofer et al., 2017; Shackleton and Shackleton, 2006; Chatterton et al., 2016). These are also likely to be the domains of consumption where high consumers could achieve more significant reductions.

Therefore, although there might be difficulties in terms of definition and identification, targeting higher consumers with consumption reduction measures should make a more significant contribution towards reducing emissions across multiple consumption domains than focussing on larger groups of lower consumers. More evidence is needed to understand what drives and perpetuates high consumption to ensure these efforts are effective.

What drives high consumption

Beyond the clear links to wealth and income, the literature offers differing views on drivers of high consumption. We have previously discussed potential links to the pursuit of happiness and a review by Håkansson (2014) linked high consumption to psychological factors and certain personality traits, specifically those with 'psychological weaknesses' regarding consumption. This was echoed by Humphery (2009), who, perhaps controversially, argued that that problematic, or high, consumption is often described as a behaviour of weak individuals rather than being an effect of deeper, underlying structures of society and economic systems. There is also strong allusion to individual choice and responsibility in Chatterton et al.'s (2019) categorisation of different drivers of excess, such as 'ignorance' (a lack of awareness of the energy consequences) or 'accidental' (not planned, unexpected, unintended), 'frivolous' (not having any serious purpose or value) or 'decadent' (luxuriously self-indulgent).

Giddens (1984) charts a middle ground between individual and structural factors, presenting consumption as a set of social practices, influenced by social norms and lifestyle choices, and by the institutions and structures of society. These insights are important to consider when developing interventions or policies

to alter habitual behaviours, such as sustained high consumption. Morton et al. (2018) explored this through their application of the Theory of Planned Behaviour to air travel, highlighting the role of attitudes, normative beliefs, and self-identity as predictors of behaviour and therefore factors that could be targeted to help reduce air travel. March and Olsen (2004) provide more of an overview of the multitude of factors that could be shaping our consumption, acknowledging great diversity in human motivations for consumption such as habit, emotion, coercion, and calculated expected utility.

Societal status, and people's perceptions of how they demonstrate this is highly influential for consumption habits (Ramakrishnan et al., 2020; Bronner and de Hoog, 2018]. Kasser & Kanner state that consumerism and the culture that surrounds this promote a set of values that encourages an unsustainable relationship with the rest of nature, and negatively impact personal, social, and ecological well-being (Kasser & Kanner, 2004). Schwartz (2007) lends support to this view by showing how more market driven, competitive societies have a cultural preference for self-assertive, mastery of human and natural resources. Whilst limited attention has been given to this in the literature, the role of the wealthy as aspirational peers and trend-setters is also important to consider. It is suggested that such actors can contribute to the normalisation in society of carbon intensive transport choices and holiday destinations (Cohen et al., 2021).

Energy consumption

Looking specifically at energy, consumption varies significantly between households, including those of similar demographics, as the physical characteristics of the home, its location and the energy sources available to the household interact with household routines and values to influence consumption. Income inequality is clearly a key factor at work. For example, the lowest earning 50% of households are responsible for 20% of the final energy footprints, which is less than the top 5% earning households (Oswald et al., 2020).

Evidence suggests that factors such as household size and composition, home ownership, education level and rural location also play important roles in determining energy consumption (Büchs and Schnepf, 2013; Frederiks et al., 2015). The situation is more complex, however, when the effects of those factors are mixed. Brounen et al. (2012) analysed a sample of more than 300,000 Dutch homes. Whilst gas consumption was mainly determined by the characteristics of the building, for example, age, building type and materials used, electricity consumption varied more directly in line with household characteristics, in particular income and family composition. It was estimated that an ageing population with increasing wealth was likely to offset any energy-efficient improvements of the building stock (resulting from policy interventions and refurbishments) through increasing electricity demand (Brounen et al., 2012). Chatterton et al. (2019) explored the spatial distribution of domestic energy use combined with demand for energy through vehicle use and showed how households in more rural locations were more likely to be high consumers of both vehicle related and domestic energy. This contrasts with more urban locations where lower levels of combined consumption were found. According to Aune, energy cultures involve everyday practices, but also interpretations of energy, energy-related artifacts, and energy policies (Aune, 2007). Therefore, private energy consumption is a result of a combination of activities, preferences, values, technologies and material structures, with domestication (understood as the conglomeration of the house, its artifacts and activities) at its core. She contends that initiatives to change behaviour and the integration of new technologies, must address the different images and practical constructions of what home is.

Building on Aune's insights, Stephenson et al. (2010) developed the Energy Cultures framework, which states that consumer energy behaviour can be understood by looking at the interactions between cognitive norms, material culture and energy practices. A shift towards a sustainable society will require significant cultural changes alongside material and behavioural changes at different levels (in households, businesses, etc.) (Stephenson, 2018). Energy policy still relies heavily on a 'top-to-bottom' approach and often understands implementation of technology in a linear way. A different understanding of the interactions which shape consumer behaviour might facilitate a move towards more sustainable practices. For instance, Eksin et al. (2014) developed a simulation which shows that communication about consumption between neighbouring energy users improves welfare and that power providers could lower consumption by adjusting their target profits.

Transport patterns

In terms of transport, evidence from the UK has shown that households with high incomes, higher educational attainment, and with children are more likely to have higher levels of CO2 emissions (Büchs

and Schnepf, 2013). Furthermore, areas where the higher levels of consumption of gas and electricity occurred, also saw the highest levels of private transport use (Chatterton et al., 2016). Chatterton et al. (2019) also showed a clear positive correlation with domestic energy use and energy consumed through use of private vehicles.

A US study showed that the top 10% earning households in the US are responsible for approximately 12 metric tons of CO2 per year from fuel. This compares to the bottom 10% earning households emitting 3.6 metric tons of CO2 per year from their private transport (Sager, 2019). Addressing such inequalities is challenging, however. In Sweden, Andersson (2020) examined moral factors that might influence motives to reduce private car use and showed that males, those in middle-age, people with lower educational attainment, and rural residents are less open to decreasing private car use.

Flying is an area where particular tensions can exist, particularly as flying is the most polluting mode by passenger kilometres (DfT, 2021). Cohen et al. (2011) explored binge flying as a behavioural addiction, although they did not focus on income as a predictor. The role of high-profile (and high consuming) individuals in influencing the intentions and attitudes of others was examined by Westlake (2017). He concluded that leading by example, these individuals could contribute to a shift away from excessive flying. In the last few decades UK air travel has become more affordable but this has not resulted in a higher proportion of the population flying (Banister, 2018). Instead, lower fares have enabled those who were already flying to fly more frequently. The suggestion that a small proportion of consumers are responsible for much of the demand for aviation (and therefore the environmental impacts of this) is also supported by recent evidence (Gössling and Humpe, 2020; Hopkinson and Cairns, 2020) showing that, globally (prior to Covid-19), the proportion of the population flying at least once a year in most countries is less than 50%, and, in many cases, much lower than this. The 1% of the world's population who flies most often accounted for more than half of the emissions from passenger aviation (Gössling and Humpe, 2020).

Responding to the literature

Overall, this literature review demonstrates that although the issue of high consumption (and allied issues of over consumption, excess and inequality) and those responsible for it are engaged with at a philosophical level within social and psychological theory and energy studies, the debate across forums concerned with sustainability (including within the energy and transport fields) has struggled to move beyond rhetoric. Whilst conceptual consideration of what constitutes 'enough', 'too much' or a 'safe' level of consumption has provided useful frameworks through which to define and consider high consumption, explicit empirical investigation into why it is difficult to consumer less has been more limited, appearing more as a sub-theme within experiments relating to the implementation of sufficiency practices or confined to a single domain of consumption (i.e. flying, fast fashion, transport). However, the potential for escalating consumption and deepening resource inequality to thwart urgent GHG reduction efforts mean that empirical investigation into why it is hard to consume less now requires deep and explicit empirical investigation, utilising the concept of sufficiency to frame our understanding of how much is too much and to encourage a critical view of the concept of 'need' (Cherrier et al, 2012).The next section of this paper sets out the practical steps we have taken and plan to take to better understand the factors underlying high consumption.

Methods

This paper discusses an ongoing four-stage research project, three stages of which have been completed and the fourth is in development.

Literature Review

We carried out a targeted literature review to identify empirical and theoretical studies using the terms "high consumers", "high consumption" and "overconsumption". The purpose of the literature review was to assess the breadth and depth of research into the phenomenon and identify key gaps for further investigation. The review found a contradiction between the impact of high consumption lifestyles and the limited coverage of this group within research and policy initiatives, making a strong case for further research and the mainstreaming of this agenda (Castano-Garcia et al, 2021).

Consumption data: mapping and analysis

The second stage of the project involved analysing existing datasets to better understand the nature and extent of high consumption, using the UK as a case study. Secondary data sources linked to the three key domains of consumption (energy, transport, food) were explored to examine existing patterns of high consumption. The scope was limited to the UK to enable easier comparison across datasets, while offering an illustrative example of the nature and dynamics of high consumption. Six geographical areas were chosen as case studies: Sheffield, London, Edinburgh, County Durham in England, and Powys in Wales. These were selected because preliminary analysis of gas and electricity consumption pointed to notably high levels of consumption. These areas also provide a diverse geographical spread. Data examined included domestic energy (gas and electricity) consumption, residual fuel, road transport, household expenditure, and the National Travel Survey.

Descriptive analysis was performed to establish consumption patterns, including mean consumption, and to identify any spatial patterns of consumption. Following this, geographical mapping was undertaken where possible (using QGIS) to explore differences in the selected areas of interest. These maps were compared with maps of the Index of Multiple Deprivation (IMD) to look for correlations.

A limitation of using secondary data is that the data collection was not designed to answer the specific research questions of this study, although it did include indicators directly related to the research questions. The geographic areas for which consumption data is available is offers insufficient granularity to provide detailed insights in terms of where high consumers are located or how high consumption is distributed. This conditioned the analysis, as the data available in some cases does not account for consumption differences within regions, LSOAs or local authorities. As such, the transport and food analysis are unable to address the five geographical case studies nor speak to spatial patterns of consumption beyond the regional level. However, this analysis provided valuable exploratory insights to help guide the next stages of data collection.

Interviews

We conducted interviews with seven academic and NGO practitioners who work in the field of resource consumption. The interviews took place via secure video link and were semi-structured to retain a focus on a consistent set of themes whilst also allowing for new and unanticipated themes to emerge (King et al, 2019) Detailed notes were taken during in interviews which were then analysed thematically.

We explored the ways in which problematic consumption was characterised and quantified in the working practices of participants, how their work addressed consumption behaviour, their suggestions for targeting high consumption, and whether they had any working definitions or suggestions for how sustainable and desirable levels of consumption could be described and attained.

Participants were selected purposively due to their known interest in the field of sustainable and equitable consumption. There was some snowball sampling where participants suggested other people to interview. Participants' views were anonymised.

Institutional Ethnography

To address the identified gap in the qualitative understanding of high-consumption lifestyles, we intend to carry out an Institutional Ethnography into the lived experiences of high consumers and the 'work' of maintaining a high-consumption lifestyle. Institutional Ethnography (IE) is a qualitative research approach developed by Sociologist Dorothy Smith that uses ethnographic research tools such as observation and interviews to explore working and social practices to reveal the hidden power dynamics and socio-structural forces that shape those practices (Smith, 2005). It is useful in situations where an established way of doing things is poorly understood, and where the status quo is seen as problematic or unsustainable (Campbell & Gregor 2008). The methodology has recently been adapted to explore opportunities for changing consumption practices by mapping the findings from ethnographic research to show the practice as a complex system and identifying potential intervention points within that system.

One of the strengths of IE is the deep qualitative focus on lived experience, but this also represents a challenge in terms of identifying participants who self-identify as high-consumers and are willing to welcome researchers into their homes and social settings and are comfortable discussing their consumption behaviours. To mitigate this challenge the research design will take a non-judgemental approach to exploring consumption lock-in, focussing on the challenges of consuming less.

Findings

Exploratory secondary data analysis of consumption data

Analysis of the secondary data linked to energy consumption showed that in 2019, 15% of LSOAs (Lower-layer Super Output Areas) in Great Britain, which have an average of 650 households each, had an above average consumption of gas. In contrast, just 0.5% of LSOAs exhibited above average electricity consumption.

The spatial analysis of the selected case-study locations, outlined above, allowed for contextual and place-specific differences in energy consumption to be explored. This analysis included cross-referencing with the IMD to establish any links to levels of deprivation. In Sheffield, a city often described as one of two halves, the South-West area of the city – where deprivation is considerably lower than the North-East side of the city – has significantly higher levels of gas consumption. Electricity consumption was also much higher on the wealthier side of the city and within the city centre. Inner London, with the exception of some areas including the City, the South-West and part of the North-West, has higher levels of gas and electricity consumption compared to Outer London. Consumption appears to be negatively correlated with deprivation.

There were high levels of total energy consumption across County Durham, with the highest consumption within the city of Durham and in the North-West of the region. Lower average consumption exists in Spennymoor and Bishop Auckland, to the south of Durham. The patterns observed showed similar links to deprivation, with more deprived areas consuming less. In Edinburgh, higher levels of gas consumption exist in the North and South of the city, and to a lesser degree in the West. A band of lower gas consumption splits the city in two; electricity consumption follows a similar pattern but is less spatially correlated. This area of lower consumption correlates with higher levels of deprivation.

Exploratory analysis of transport consumption data also shows links between household income and both car ownership and air travel. Higher levels of multiple car ownership are concentrated in London and the South-East of England. Numbers of vehicles are also correlated with higher incomes. Around two-thirds of households in the highest income bracket (over £50,000) have two or more vehicles. This compares to only 15% of those in the lowest income bracket (less than £25,000). Furthermore, households with two or more vehicles travel on average more miles per person per year (8507 miles) than those with one vehicle (5866 miles). They also spend more time travelling and make more trips. The frequency of flying also increases with income. Those in the lowest income quintiles averaged fewer than one flight annually. Those in the third and fourth quintiles on average take more flights (1 and 1.6 flights annually). The highest earners take far more flights however, with those in the fifth quintile flying on average 3.3 flights per year.

Practitioner Interviews

We interviewed seven academics and NGO practitioners who work in the field of resource consumption, it is notable, and anticipated, that the majority of practitioners' work focused on energy poverty or what might be termed under-consumers rather than addressing high consumption. Academic participants' work was drawn more broadly from the fields of sustainable consumption and environmental philosophy.

There was broad consensus amongst participants that high consumption is linked to high levels of personal wealth whilst recognising that there are also socio-structural factors that lock people of more modest incomes into patterns of higher consumption such as transport infrastructure that prioritises car ownership and poorly insulated homes.

Definitions of high consumption

Participants were not able to offer any quantitative definitions of high or excessive consumption from their working knowledge and this in itself is crucial to understanding why high consumption remains low profile within academic research and policy. Caution was expressed in relation to the use of average consumption data to identify high consumers, on the basis that this may involve problematising those, who due to their location, the energy efficiency of their dwelling, their family structure or health status, are above average consumers of resources. In light of this, some participants felt that high consumption was defined by choosing high energy options when low energy options are accessible and available, and some normative descriptions of problematic high consumption that emerged from interviews included frequent flying (this was set at more than 5 flights per year) and the ownership of large and second homes.

There was a strong belief that definitions of high consumption needed to be nuanced and contextually specific, and to enable differentiation between consumption that was driven by poor infrastructure, consumption that was driven by necessity or limited choice, and consumption that was driven by choice and lifestyles that might be considered luxurious and considerably beyond sufficient and sustainable levels. It was agreed that any definition of high consumption should consider the difference between elite and more common forms of high consumption: collective subscription to wasteful but not elitist practices (culture of car driving) vs elite consumption that takes up a lot more emissions per person (private jets, second homes).

Participants also suggested that future research on high consumption needed to think about the appropriate unit of measurement for different types of consumption as there is inconsistency in the way that current consumption research quantifies and reports on consumption levels (e.g. number of flights taken rather than carbon emissions from flights taken, energy units consumed rather than warmth levels in the home).

A lot of the discussion focused on the concept of need or necessity, and how this could be equitably calculated to take into consideration the range of socio-cultural normative factors that shape what consumers consider necessary for a good life.

Tackling high consumption.

Four distinct approaches to tackling high consumption were suggested by research participants: tax; regulation; cultural change, and political change. Some of these framed consumption as individual choice and others as more socio-structural in nature, and all participants felt that consumption reduction should be a just process that reduces inequality, rather than being dominated by financial mechanisms that would disproportionately affect lower income groups.

It was suggested that taxation and regulation approaches should be progressive and accompanied by measures to improve access to more sustainable technologies and infrastructure for lower income groups. It was acknowledged that taxation is unlikely to deter very high-income groups and would not challenge the ideological status quo. Legal limits on consumption rather than regulation by price was seen as a more progressive and effective approach, recognising that a just transition to regulated consumption would require significant infrastructural investment as well as a radical shift in political ideology and social norms. Cultural change was recognised as fundamental to long-term consumption reduction, but it wasn't clear whether participants saw cultural change as a driver of consumption reduction approaches, or an outcome of them.

The potential for cultural change was linked to a shift in political ideology away from a free-market capitalist approach to resource consumption, recognising that voluntary approaches from either producers or consumers would be unlikely to succeed at the scales required to reduce consumption in line with natural resource availability (Brown & Cameron, 2000).

Becoming the 'ideal' consumer.

The majority of conceptual discussions with participants focused upon the complexities of quantifying acceptable and unacceptable levels of consumption. Interestingly none of these discussions explored an approach set by planetary limits on production, but instead considered how to benchmark sufficiency and excess from a human needs perspective. Several interviewees referred to Max-Neef's Fundamental Human Needs theory (Max-Neef, 1982), arguing that high consumption is using material satisfiers where social ones would be better and more sustainable. Interviewees suggested that satisfaction analysis should not focus on subjective happiness measurements but on universal needs, such as participation in society and maintaining good levels of physical and mental health, recognising that while these needs are universal, the way to satisfy them is culturally specific.

It was recognised that the individualistic and moralising discourse surrounding the 'ideal consumer' can be problematic and limiting where it fails to acknowledge the structural barriers to becoming 'ideal'. Consumption reduction approaches that fail to differentiate between the very distinct circumstances of high and low consumers also have the undesirable effect of encouraging some people to consume less than they need to maintain health, wellbeing and social inclusion.

Whilst some participants saw education and awareness raising as important in the move towards more sustainable levels of consumption, others were more sceptical about this approach and referenced research critiquing approaches based upon individualising behavioural models which neglect the normative/social-environmental context in which consumption takes place (Giddens, 1984).

Discussion

The academics and practitioners interviewed were evidently grappling with the many tensions and potential pitfalls that arise when attempting to identify groups that do harm. Research that seeks to understand the plight of vulnerable under-consumers and improve their circumstances is common and morally safe territory, but rarely do such studies seek to understand the counterpoint to the perspective of the under consumer by engaging with those who benefit from the conditions created by dominant regimes and are therefore tacitly incentivised to sustain and reproduce them. There is a perception that to do so would be to blame not just big business and policy regimes but could involve problematising conventions and ways of life that are widely considered not only acceptable, but aspirational. This is difficult territory for the researcher philosophically and practically. Not only is it difficult to know where the line should be drawn between acceptable/necessary/sufficient consumption required for health, wellbeing and social inclusion, and that which is problematic and threatens survival, but researchers must also be transparent and the mere suggestion that someone is being invited to participate in research because their way of life could be considered damaging risks alienating potential participants and blurs the distinction between research and intervention.

We know who we need to speak to in order to build a fuller and more nuanced picture of the forces shaping rising levels of consumption which over-use natural resources and set unsustainable expectations of consumption in wider society. Our secondary data analysis and other sources make clear that consumption (certainly of energy and transport) rises with income, so it is the wealthy that we need to target and those with sufficient incomes to follow or partially follow the standards and expectations they set. But we need to go deeper still and seek to understand the normative conditions which reproduce inequality and the socio-structural forces which lock high consumers into these lifestyles. Framing high consumption in this way brings it into line with the conceptual framing of consumption as driven by structures and norms and not just individuals making bad or immoral choices (Giddens, 1984).

A further reason why the study of high consumers is relatively underdeveloped may stem from the sense of hopelessness that arises when attempting to challenge the fundamental principles by which the world is organised, i.e. the pursuit of perpetual economic growth. We choose, therefore, to frame our onward research as a deep and probing investigation of why it is so difficult to consume less, thus avoiding alienating the people we need to speak to in order to disentangle the complex dynamics of unsustainable levels of consumption. This focus also acknowledges the more fundamental structural and cultural factors almost certainly at play that make high levels of consumption or an aspiration to achieve them almost inevitable and not entirely a matter of choice.

The literature speculates, *inter alia*, that overconsumption of resources may be driven by the pursuit of happiness, status, power and the drive to assert superiority by displaying the physical symbols of success (Brown and Cameron, 2000). It may offer a material alternative in the absence of socially derived satisfaction (Max-Neef, 1982). Or it may simply result from adherence to the ideal life course mapped out by capitalism, which some will attain at the expense of others and which Giddens (1984) contends infiltrates our discursive consciousness which in turn dictates our practice. Personality traits and emotion may also play a role, with some of us more susceptible to materiality and convention than others (Humphry, 2009; Håkansson, 2014). In this vein, the work of Brown and Cameron (2000) and Kasser and Kanner (2004) prompts us to consider how high consuming households conceptualise of their relationship with nature and how high consumption interacts with their personal, social and ecological wellbeing. All are merely hypotheses but point to useful lines of inquiry to be pursued through further empirical investigation.

The ideas emerging from the Energy Cultures thesis (Stephenson *et al*, 2010) that norms, culture and practice coalesce to determine consumption patterns, perhaps provide the most comprehensive framework through which to understand consumption. This thesis has not yet been expressly applied to the study of high or over consumption and has largely been confined to the energy domain. The testing and elaboration of the Energy Cultures model through the planned research is something we will consider and could be usefully teamed with the concept of sufficiency to guide us through the difficult territory of determining how much is too much, where need ends and want begins and indeed, how want is shaped and constructed.

Conclusions and next steps

Ideas about why it is so hard to consume less are emerging from an increasing corpus of work concerned with sufficiency and excess in consumption across a number of different domains of consumption but there is a no clear thesis. Addressing this question must form a priority for the field of sustainable consumptions and allied fields philosophically, methodologically, and empirically. We will proceed with an open mind into our deep qualitative exploration of the drivers, challenges and practical and emotional work of living beyond planetary limits. The framework initiated by Chatterton *et al* (2019) which categorises different types of high consumer, from the ignorant to the decadent, may provide a useful means of acknowledging and summarising the heterogeneity that exists amongst high consumers and drivers of high consumption, but we plan to approach this in a manner which avoids blame and judgement. Similarly, we will not aim to quantify or even estimate the environmental impact of our respondents, instead focusing on unpicking the psychological, social, cultural and structural drivers of rising consumption and the interrelationships between them. More significantly, such insights have the potential to help inform progressive interventions that don't rely on fiscal measures that the wealthy can withstand and which fail to challenge the dominant ideologies underlying our unsustainable quest for ever greater consumption.

Key research questions, explored initially through UK based case studies, will include why it's hard to consume less across the main domains of consumption (material and experiential) and how much is perceived as necessary for a good life (material versus social satisfiers- this will need to be explored with higher and lower consumers) and why resource intensive options are pursued when lower impact ones are available. In relation to the latter, we will also explore which (ostensibly) low impact choices appeal to high consumers and why, assessing the hypothesis that messages about climate breakdown may be fuelling compensatory consumption (i.e. purchase of electric vehicles, organic food) amongst high consumers to offset discomfort about carbon fuelled lifestyles whilst unaware of the true scale of their impact. In relation to the notion of a good life, we will aim to re-constitute such debates by tempering a focus on human needs with considerations of planetary limits.

As signalled by our secondary data analysis, a longer-term aspiration is to engage with the spatial dimensions of the problem, seeking to understand where consumption happens and where its impacts are felt and the associated inequities- a line of inquiry that is in its infancy, but which is important in terms of developing the rationale for tackling high consumption.

This will be a challenging programme of research to execute. There is significant scope for skewing of our sample as, while the focus on why it's hard to consume less may help us secure participants, it may also attract higher consumers who are receptive to change. It is likely that this cohort will represent an important 'entry point' into a hard-to-reach cultural space. Such households will provide vital insights into factors that unlock change or a desire for it, and whilst they will not represent the toughest scenarios for policies seeking to reign in unsustainable consumption, snowballing techniques may lead us to such households. We must also be prepared for self-reflection and uncomfortable encounters with the self as we face the reality that as relatively highly paid individuals, we are just as much a part of the problem and display many of the same damaging and contradictory practices as we are likely to identify amongst participants. As such, opportunities for auto-ethnography should be explored. Institutional ethnography treats research informants as the experts in the routinised practices under observation, asking that the researcher confine themselves to explicating why these practices happen as they do, rather than suggesting how they need to change. This approach reduces the risk of negative judgement or alienation. Armed with a deeper socio-structural understanding of high-consumption practices, the hope is that we will be able to make meaningful recommendations for interventions that will reshape consumption practices based on a thorough understanding of the lived experience of a high consuming lifestyle thus improving political acceptability and, ultimately, effectiveness.

References

Anantharaman, M.(2018) Critical sustainable consumption: a research agenda, J. Environ. Stud. Sci. 8(4), 553–561,

Aune, M. (2007) Energy comes home, Energy Policy 35 (11), 5457–5465.

Banister, D. (2018) Who Travels by Air? Available at: https://www.inequalityintran sport.org.uk/exploring-transport-inequality/who-travels-air.

Bronner, F. and de Hoog, R. (2018) Conspicuous consumption and the rising importance of experiential purchases, Int. J. Market Res. 60 (1), 88–103.

Brown, P.M and Cameron, L.D. (2000) What can be done to reduce overconsumption? Ecol. Econ. 32 (1), 27–41.

Büchs, M. and Schnepf, S.V. (2013) Who emits most? Associations between socio-economic factors and UK households' home energy, transport, indirect and total CO2 emissions, Ecol. Econ. 90, 114–123.

Campbell, Marie L. & Gregor F. M. (2008), Mapping social relations: A primer in doing institutional ethnography Toronto: UTP, 2008.

Castano Garcia, A., Ambrose, A., Hawkins, A., & Parkes, S. (2021), High consumption, an unsustainable habit that needs more attention. Energy Research & Social Science, 80, 102241.

Chatterton, T., Anable, J., Mullen, C., Lucas, K, Buchs, M. and Lovelace, R. 2019. Excess? Exploring social, structural and behavioural drivers of energy demand in areas of high combined energy consumption. In: Proceedings of the eceee 2019 Summer Study on energy efficiency, Paper 6-019-19. Hyères, France, 03–07 June 2019

Chatterton, T.J., Anable, J., Barnes, J., Yeboah, G. (2016) Mapping household direct energy consumption in the United Kingdom to provide a new perspective on energy justice, Energy Res. Social Sci. 18, 71–87.

Cherrier, H., Szuba, M., & Özçağlar-Toulouse, N. (2012). Barriers to downward carbon emission: Exploring sustainable consumption in the face of the glass floor. *Journal of Marketing Management*, *28*(3-4), 397-419.

Cohen, S.A., Higham, J.E.S., Cavaliere, C.T. (2011) Binge flying: Behavioural addiction and climate change, Ann. Tour. Res. 38 (3), 1070–1089.

Cohen, S.A., Liu, H., Hanna, P., Hopkins, D., Higham, J., Gössling, S. (2021) The Rich Kids of Instagram: Luxury Travel, Transport Modes, and Desire. Journal of Travel Research, 1-16.

de Graaf, J., Wann, D., Naylor, T.H. (2014) Affluenza: How Overconsumption Is Killing Us, and How to Fight Back, Berrett-Koehler Publishers.

Fawcett, T., & Darby, S. (2019, June). Energy sufficiency in policy and practice: the question of needs and wants. European Council for an Energy Efficient Economy.

DfT (2021) Transport and Environment Statistics: 2021 Annual Report. Department for Transport. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/984685/transport-and-environment-statistics-2021.pdf

Di Muzio, T. (2015) The Plutonomy of the 1%: dominant ownership and conspicuous consumption in the New Gilded Age, Millennium: J. Int. Stud. 43 (2), 492–510.

Druckman, A., & Jackson, T. (2010). The bare necessities: how much household carbon do we really need?. *Ecological Economics*, *69*(9), 1794-1804.

Dutta, M. (2017) Consumption, climate change and human security: targeting consumer groups for the mitigation of climate change in India, in: M. Behnassi, K. McGlade (Eds.), Environmental Change and Human Security in Africa and the Middle East, Springer, Cham, 159–177.

Eksin, C., Deliç, H., Ribeiro, A. (2014) Distributed demand side management of heterogeneous rational consumers in smart grids with renewable sources, in: 2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), IEEE, 1100–1104.

Frederiks, E., Stenner, K., Hobman, E. (2015) The socio-demographic and psychological predictors of residential energy consumption: a comprehensive review, Energies. MDPI AG 8 (1), 573–609, https://doi.org/10.3390/en8010573.

Hüttel, A., Ziesemer, F., Peyer, M., Balderjahn, I. (2018) To purchase or not? Why consumers make economically (non-)sustainable consumption choices. Journal of Cleaner Production, 174, 827-836.

Giddens, A. (1984) The Constitution of Society – Outline of the Theory of Structuration, University of California Press, Berkeley and Los Angeles.

Gore, T., Ghosh, E., Nazareth, A., Kartha, S., & Dabi, N. (2021). Carbon inequality in 2030: Per capita consumption emissions and the 1.5 ºC goal.

Gössling, S. and Humpe, A. (2020) The global scale, distribution and growth of aviation: implications for climate change, Global Environ. Change,

Gough, I. (2020). Defining floors and ceilings: the contribution of human needs theory. *Sustainability: Science, Practice and Policy*, *16*(1), 208-219.

Håkansson, A (2014) What is overconsumption? – A step towards a common understanding, Int. J. Consum. Stud. 38 (6), 692–700.

Hopkinson, L. and Cairns, S. (2020) Elite Status: global inequalities in flying. Report for Possible, March 2021.

Hubacek, K., Baiocchi, G., Feng, K., Muñoz Castillo, R., Sun, L., Xue, J. (2017) Global carbon inequality, Energy, Ecol. Environ. 2 (6), 361–369.

Humphery, K. (2009) Excess: Anti-Consumerism in the West, Polity Press, Cambridge.

Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A., & Gore, T. (2020). The Carbon Inequality Era: An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond.

Kasser, T. and Kanner, A.D. (2004) Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World, American Psychological Association, https://doi.org/10.1037/10658-000.

King, N., Horrocks, C., & Brookes, J. (2019), Interviews in qualitative research (2nd edition.). SAGE Publications.

Kolokotsa, D., & Santamouris, M. (2015). Review of the indoor environmental quality and energy consumption studies for low income households in Europe. *Science of the Total Environment*, *536*, 316-330.

Litman, T. (2011) Mobility as a positional good: Implications for transport policy and planning. Victoria: Victoria Transport Policy Institute.

Lynch, M. J., Long, M. A., Stretesky, P. B., & Barrett, K. L. (2019). Measuring the ecological impact of the wealthy: Excessive consumption, ecological disorganization, green crime, and justice. *Social Currents*, *6*(4), 377-395.

McGouran, C., & Prothero, A. (2016). Enacted voluntary simplicity–Exploring the consequences of requesting consumers to intentionally consume less. *European Journal of Marketing*.

March, J.G. and Olsen, J.P. (2004) The logic of appropriateness, in The Oxford handbook of political science. Available at: https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-024.

Max-Neef, M. (1982) From the Outside Looking In: Experiences in Barefoot Economics, London Bloomsbury.

Morton, A., Gatersleben, B., Jessop, D.C. (2018) Staying grounded? Applying the theory of planned behaviour to explore motivations to reduce air travel. Transportation Research Part F: Traffic Psychology and Behaviour, 55, 297-305.

Mundaca, L., Ürge-Vorsatz, D., & Wilson, C. (2019). Demand-side approaches for limiting global warming to 1.5 C. *Energy Efficiency*, *12*(2), 343-362.

Oswald, Y., Owen, A., Steinberger, J.K. (2020) Large inequality in international and intranational energy footprints between income groups and across consumption categories, Nat. Energy 5 (3), 231–239,

Oxfam (2018), Reward Work, Not Wealth, Oxfam. Accessed at: Reward work, not wealth | Oxfam International

Paulley, N., Balcombe, R., Mackett, R., Titheridge, H., Preston, J., Wardman, M., Shires, J., White, P. (2006) The demand for public transport: The effects of fares, quality of service, income and car ownership, Transp. Policy 13 (4), 295–306.

Peattie, K. and Peattie, S. (2009) Social marketing: a pathway to consumption reduction? J. Bus. Res. 62 (2), 260–268.

Ramakrishnan, A., Kalkuhl, M., Ahmad, S., Creutzig, F. (2020) Keeping up with the Patels: Conspicuous consumption drives the adoption of cars and appliances in India, Energy Res. Social Sci. 70. 101742.

Sager, L. (2019) Income inequality and carbon consumption: evidence from environmental engel curves, Energy Econ. 84, 104507.

Schwartz, S.H. (2007) Cultural and individual value correlates of capitalism: a comparative analysis, Psychol. Inq. 18 (1), 52–57,.

Shackleton, C.M and Shackleton, S.E (2006) Household wealth status and natural resource use in the Kat River Valley, South Africa. Available at: https://doi.org/10.1016/j.ecolecon.2005.04.011.

Smith, D. (2005) Institutional Ethnography: A Sociology for People, Oxford, AltaMira Press

Stephenson, J. (2018) Sustainability cultures and energy research: an actor-centred interpretation of cultural theory, Energy Res. Social Sci. 44, 242–249.

Stephenson, J., Barton, B., Carrington, G., Gnoth, D., Lawson, R., Thorsnes, P. (2010) Energy cultures: a framework for understanding energy behaviours, Energy Policy 38 (10), 6120–6129.

Westlake, S. (2017) A Counter-Narrative to Carbon Supremacy: Do Leaders Who Give Up Flying Because of Climate Change Influence the Attitudes and Behaviour of Others? Retrieved from SSRN 3283157..

Wiedenhofer, D., Guan, D., Liu, Z. Meng, J., Zhang, N., Wei, Y.M. (2017) Unequal household carbon footprints in China, Nat. Clim. Change. 7 (1), 75–80,

Wiedmann, T., Lenzen, M., Keyßer, L. T., & Steinberger, J. K. (2020). Scientists' warning on affluence. *Nature communications*, *11*(1), 1-10.

Woetzel, J., Pinner, D., & Samandari, H. (2020). *Climate Risk and response*. McKinsey Global Institute.

Zhang, X. Luo, L., Skitmore, M. (2015) Household carbon emission research: an analytical review of measurement, influencing factors and mitigation prospects, J. Cleaner Prod. 103, 873–883.

High consumption in the UK: an exploration of secondary data

Short report for SYSC

Author(s):

Alvaro Castano Garcia
Mia Rafalowicz-Campbell
Aimee Ambrose
Anna Hawkins
Stephen Parkes

March 2023

Contents

Overview

Inequality in resource consumption keeps getting worse, but those with higher energy consumption and a more significant contribution to lifestyle carbon emissions are, to a large extent, excluded from academic enquiry and policy initiatives. This paper provides a review ofexisting data which helps us better understand high consumers in the UK through five diversecase study locations: Sheffield, London, and County Durham in England, Edinburgh in Scotland, and Powys in Wales. It focuses on three areas of consumption: energy, transport and food, which are the main sources of individuals' environmental impact in developed countries and reflect two of the three main themes around which SYSC is organised. Buildingon the analysis of quantitative data, the article explores how high consumers can be classified,the spatial distribution of high consumption across the UK, and how high consumers disproportionally contribute to environmental impacts. This work provides useful information for policymakers and argues for prioritising high consumers when designing consumption reduction initiatives. The analysis conducted across the five case study areas featured in thisreport an be replicated for any given geographical area in the UK, down to Lower Super Output level.

1 Introduction

As set out in our previous publications on this topic (Castano Garcia *et al.*, 2021; Hawkins *et al.*, 2022), households contribute to more than 60 per cent of global greenhouse gas (GHG) emissions and between 50 per cent and 80 per cent of total land, material, and water use, with those in wealthier countries having the most significant impact (Ivanova et al., 2016). Although the spending of British households has declined during the COVID-19 crisis, consumption inequality and income inequality have increased, with the most economically vulnerable groups experiencing the largest income reductions (Hacioglu *et al.*, 2020). High consuming households arestill poorly understood, which limits our understanding of what contribution reducing high consumption (especially in wealthier countries) might make to urgent carbon reduction efforts. As Dubois et al. (2019) explain, households should be a higher priority in climate policy strategies given their contribution to global emissions. The study of high consumers is bound up with issues of energy justice, as data suggests that lower income households have fewer negative impacts on the environment, and are also more likely to make changes to their consumption in order to conserve resources, potentially further compromising their health and wellbeing (Kartha *et al.*, 2020; Kolokotsa and Santamouris, 2015; Department for Business, Energy & Industrial Strategy, 2017).

This paper provides a review of existing data regarding high consumers in the UK. It focuses on three primary areas of consumption: energy, transport and food, as the main sources of individuals' environmental impact in developed countries (Peattie and Peattie, 2009). The main aim of this output is to identify who and where high consumers are, and what impacts they are having. Primarily we are looking to establish how high consumption plays out spatially and socio-economically within cities across the UK.

We are motivated to conduct this analysis because inequality in resource consumptionis getting worse, with a clear and worsening trend towards the most affluent households having disproportionately high energy consumption and carbon footprints (Hubacek *et al.*, 2017). Beyond massive carbon footprints, high consumers pose a second challenge: they also set social and material aspirations for people who want tobe perceived as successful (Hawkins *et al.*, 2022). By better understanding high consumers, their drivers and impacts, we provide a foundation for further research and improve recognition of high consumption as an issue requiring specific policy attentionin our region as well as every other.

The analysis conducted across the five case study areas featured in this report an bereplicated for any given geographical area in the UK, down to Lower Super Output level and we would be glad to undertake further analysis focused on South

Yorkshire, identifying the spatial distribution of high consumption across the region, to support SYSC partners in better understanding this issue of huge significance to the attainment of net zero and to greater equity of access to resources across the region.

The rest of this paper consists of five sections. The next section very briefly summarises key points emerging from a literature review on high consumption within the three primary areas of consumption, which is published in full as Castano Garcia *et al*., 2021.The methodology section outlines the methods employed for this study and the data sources identified. The findings section presents the results of the analysis. The importance and relevance of these results is explained in the discussion section and the final section outlines the conclusions of this study and its policy implications.

Literature Review

2

There is a significant gap in the sustainable consumption literature in relation to high consumption (in terms of definition, classification, characteristics and motivations). Forthis study, we focus on addressing some of the key research gaps, specifically:

- Consumption inequalities increase with income inequalities, and consumption varies greatly between different geographical areas. As high consumers are responsible for more emissions and more use of resources, there might be scopefor mitigating their impact through policy interventions. This could be morefeasible through space-based solutions. However, the spatial distribution ofincome levels, consumption and emissions (as interrelated issues) hasn't been widely investigated.
- Different dimensions of consumption are interrelated, which creates specific barriers for mitigating the negative impacts of high consumers. Looking at available secondary data is a way to both (1) better understand high consumptionthrough available studies, and (2) find out what other data is needed to investigatethis phenomenon more in-depth. The visualisation of high consumption as related to geographic and economic factors could help overcome some of those barriers.
- Policy initiatives to reduce the impacts of consumption have not explicitly targeted high consumers as a group yet, and many countries do not recognise high consumption as an issue, perhaps due in part to the lack of clear, widely accepted definitions on the topic, but also for ideological and political reasons. This study aims at bringing this subject to the fore, particularly in the UK, while also focusingon the diversity within the UK in terms of consumption by offering some evidenceabout the existence of significant differences within the UK regarding consumption.

3 Methodology

A range of secondary data sources linked to the three areas of interest in high

consumption (energy, transport, food) were identified and explored to enable a relatively quick identification of existing patterns of high consumption across these areas. Secondary analysis was chosen for what is essentially a scoping exercise before undertaking further research. Attention was paid to the publication date of the data as well as the level of spatial granularity provided (such as the Lower Super Output Area (LSOA)) in order to appraise the suitability of the datasets for providing insights into current spatial variation in consumption. The research scope was limited to the UK as this allows for easier comparison across datasets, while offering an illustrative example of the nature and dynamics of high consumption.

The datasets in Table 1 were selected, and specific indicators of interest were highlighted in terms of their ability to answer questions surrounding the potential identification and classification of high consumers, as well as the extent of high consumption across the UK.

Table 1: Data sources

Dataset	Published (latest available data)	Lowest spatial granularity
National Travel Survey	DfT (2019)	Region
Sub-national total final energy consumption	BEIS (2018)	Region
Lower and Middle Super Output Areasdomestic gas consumption	BEIS (2019)	LSOA
Lower and Middle Super Output Areasdomestic electricity consumption	BEIS (2019)	LSOA
Road transport energy consumption	BEIS (2018)	Local authority
Sub-national residual fuel consumption	BEIS (2018)	Local authority
Detailed household expenditure by countries and region	ONS (2018)	Region

Descriptive analysis was conducted for each of the datasets in order to understand

the broad range of consumption patterns, including mean consumption, and to identify geographical areas with notable patterns of consumption (either high or low). Analysiswas carried out in Microsoft Excel with the exception of the National Travel Survey which was analysed in SPSS given the size and complexity of its datasets.

Five geographical areas were chosen as case studies: Sheffield, London, and CountyDurham in England, Edinburgh in Scotland, and Powys in Wales. These were selectedbased on initial exploratory analysis of gas consumption data that showed high consumption in County Durham and Powys, as well as a desire to have a good geographical spread across the UK.

Following data scoping, charts were produced in Excel focusing on the key identified variables, and geographical mapping of the data was carried out in QGIS. These mapswere compared with maps of the Index of Multiple Deprivation[1] to look for correlations.

3.1. Limitations

A limitation of using secondary data is that the data collection was not designed to answer the specific research questions of this study, and therefore was not always able to provide variables and insights that could answer the research questions. The geographic areas for which consumption data is available are largely insufficiently granular to provide detailed insights in terms of where high consumers are located orhow high consumption is distributed. This conditioned the analysis, as the data available in some cases does not account for consumption differences within regions,LSOAs or local authorities. As such, the transport and food analysis is unable to address the five geographical case studies nor speak to spatial patterns of consumption beyond the regional level.

[1] https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019

4

Findings

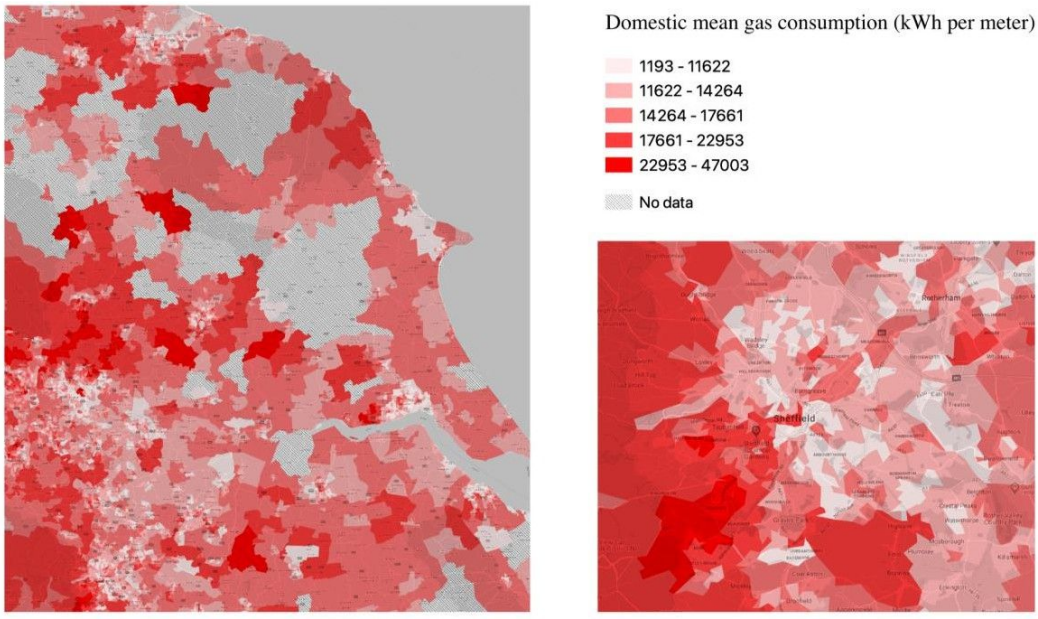
4.1. Energy consumption

In 2019, 15 per cent of areas (LSOAs) in Great Britain were found to have above average gas consumption (17,000 kWh per meter), while just 0.5 per cent exhibit above average electricity consumption (7,100 kWh per meter).

Figures 1 to 8 show the spatial patterns of domestic gas and electricity consumption over the five case study areas. These have been cross-referenced with maps of the Index of Multiple Deprivation to explore connections between deprivation and consumption.

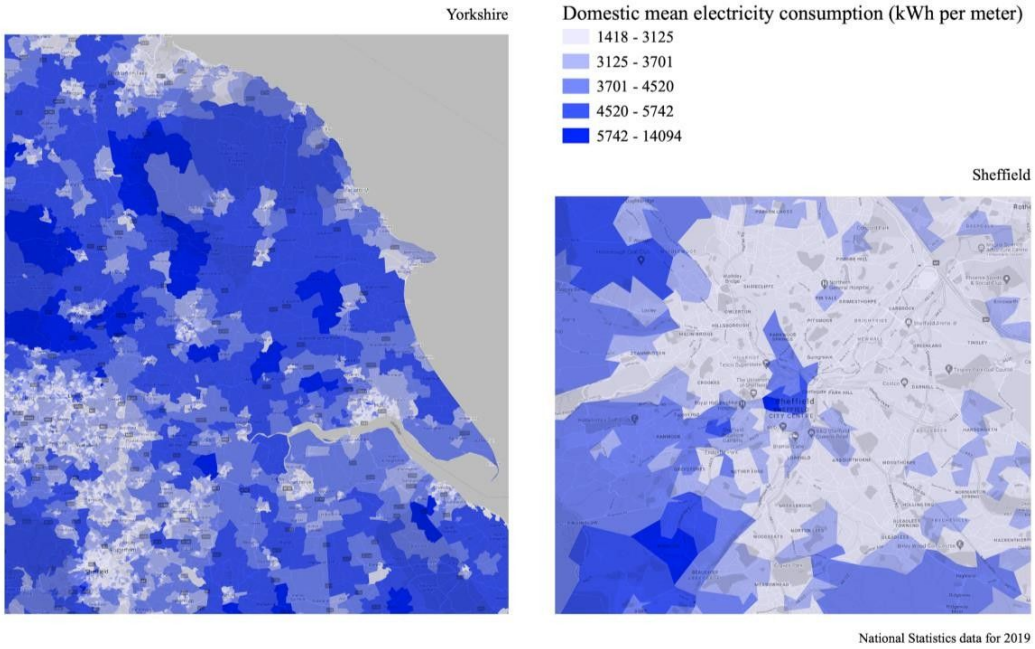
South and West Sheffield, where deprivation is much lower, have significantly higher gas consumption than North and East; electricity consumption is higher in a small part of the centre and the South West outskirts of Sheffield.

Figure 1: Domestic mean gas consumption by LSOA: Yorkshire and Sheffield



National Statistics for 2019

Figure 2: Domestic mean electricity consumption by LSOA: Yorkshire and Sheffield



Inner London has higher gas and electricity consumption than Outer London (exceptions in the City, South West and parts of North West); consumption appears to be negatively correlated with deprivation.

Figure 3: Domestic mean gas consumption by LSOA: England and London

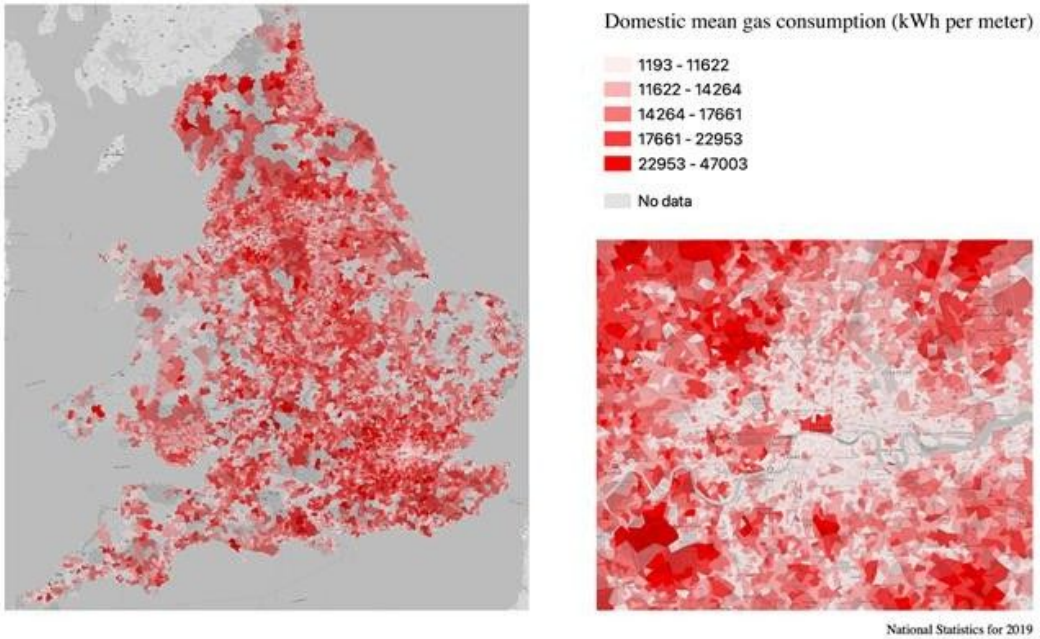
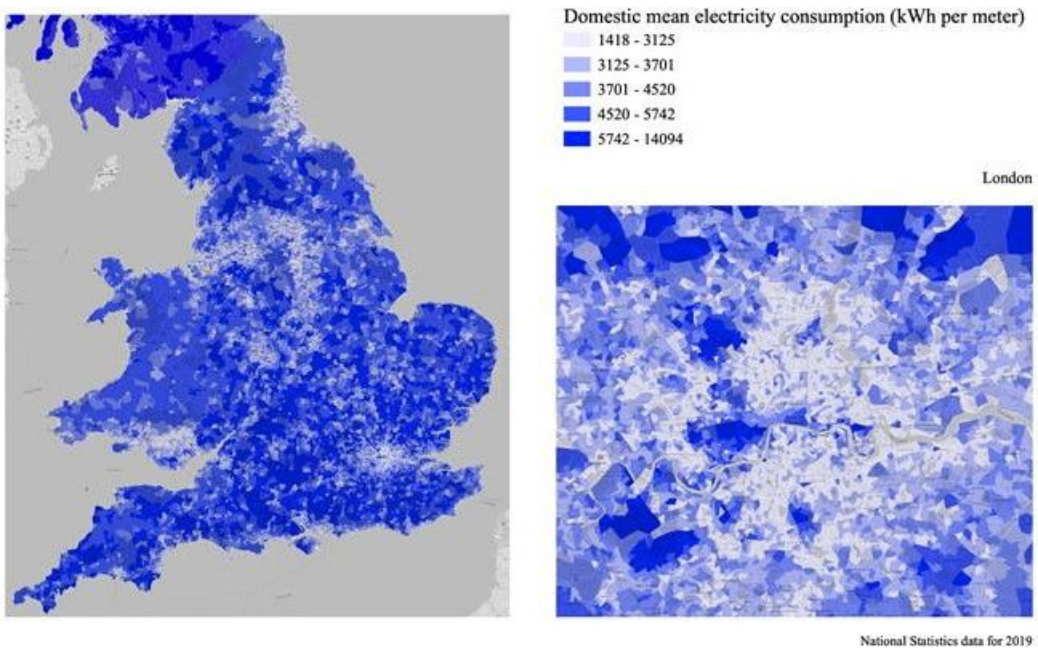


Figure 4: Domestic mean electricity consumption by LSOA: England & Wales and London



In County Durham, which is notable for its high level of total energy consumption, thereis higher energy consumption in the city of Durham as well as in the North West, with pockets of lower consumption south of Durham in Spennymoor and Bishop Auckland; these patterns demonstrate the same negative correlation between higher energy consumption and deprivation.

Figure 5: Domestic mean gas consumption by LSOA: County Durham

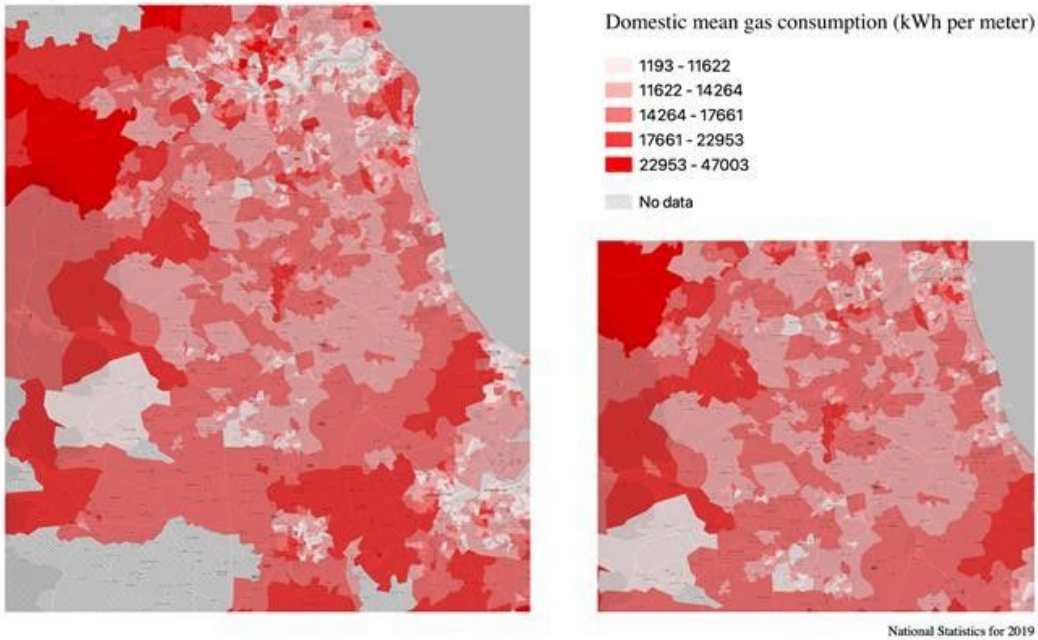
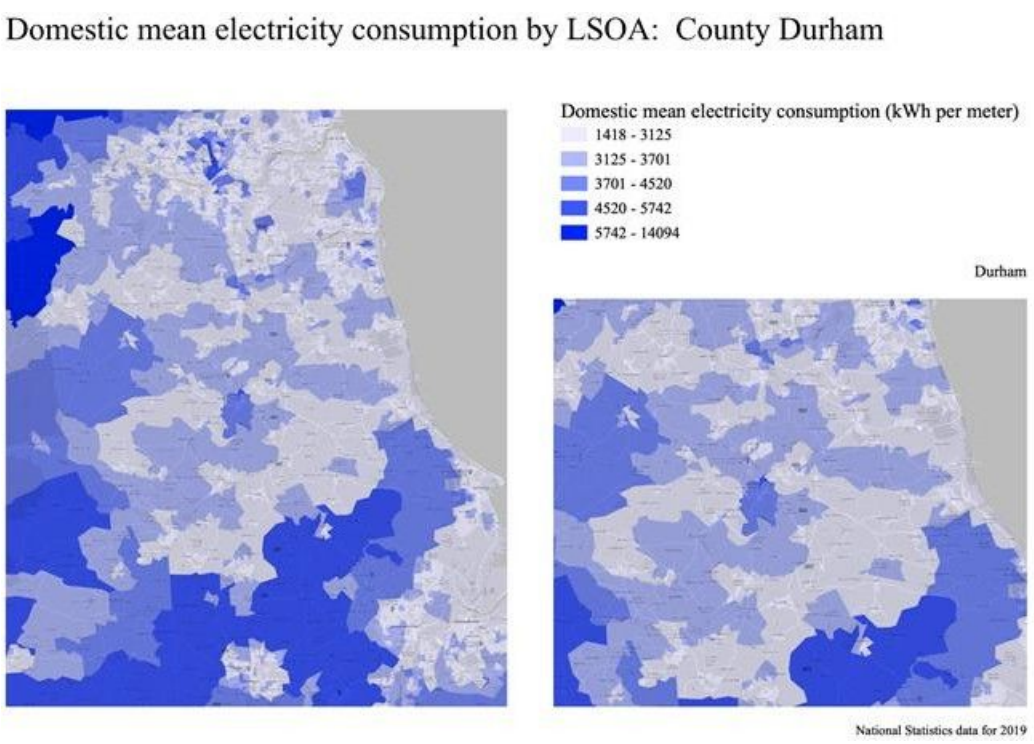


Figure 6: Domestic mean electricity consumption by LSOA: County Durham



In Edinburgh, there is higher gas consumption in parts of the North and South as wellas to the west of the city, with a band of lower consumption splitting the city in two; electricity consumption is less spatially correlated, albeit with a similar band of lower consumption--this band also features areas of higher deprivation.

Figure 7: Domestic mean gas consumption by LSOA: Scotland and Edinburgh

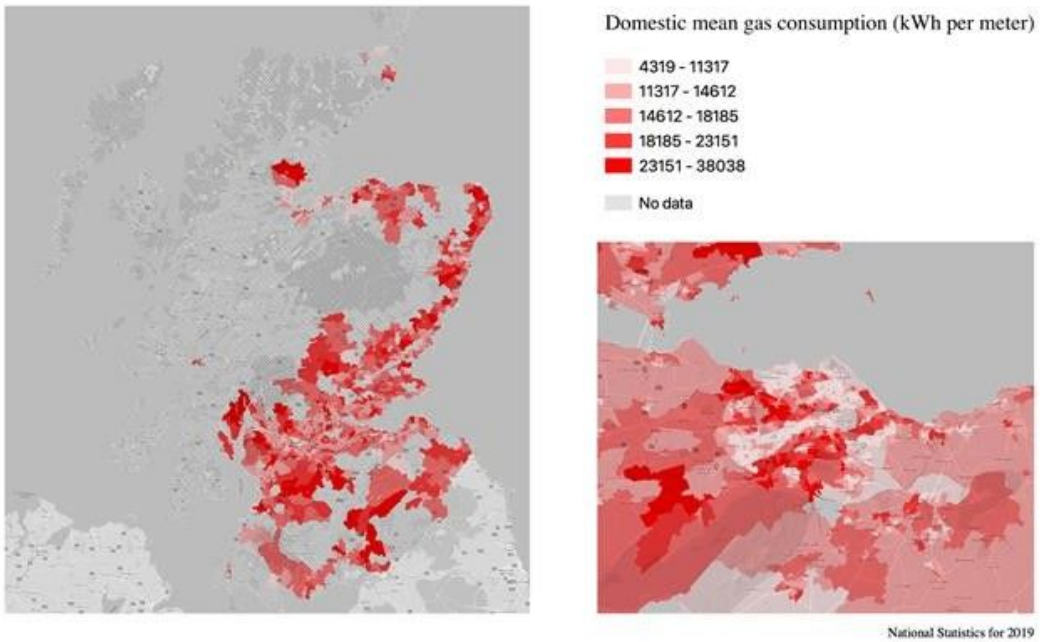
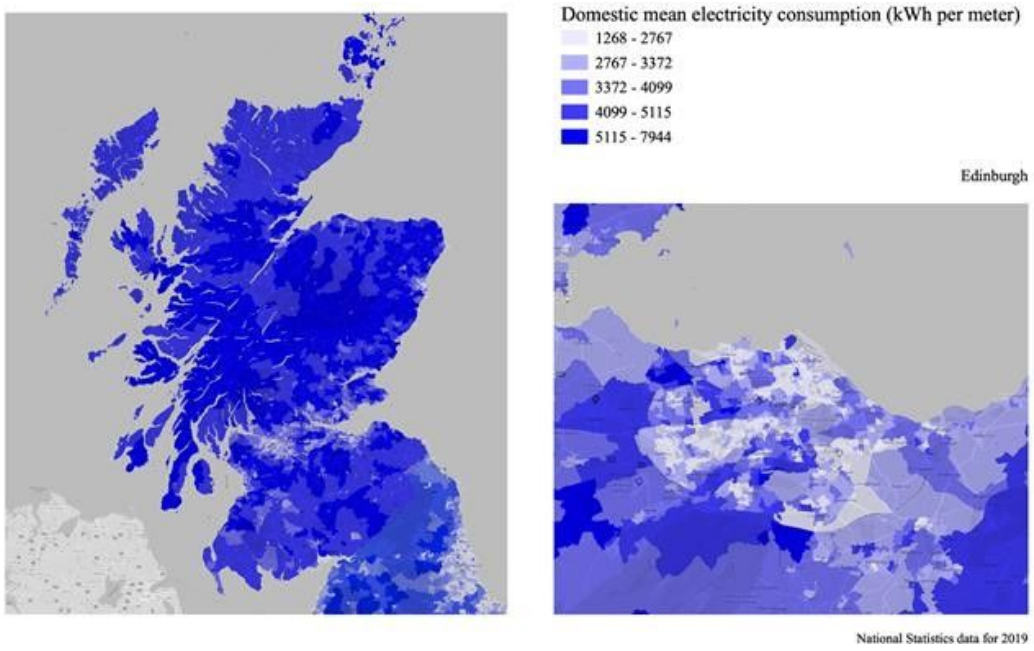


Figure 8: Domestic mean electricity consumption by LSOA: Scotland and Edinburgh

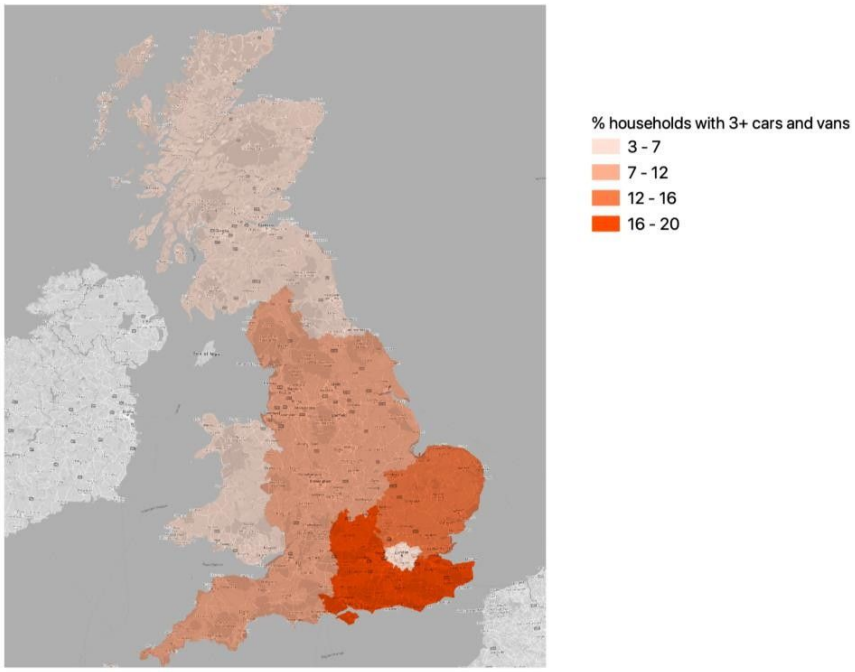


We also looked at patterns in Powys, based on the high level of domestic gas consumption, however missing data severely limited the possibility of discerning wider patterns or correlations.

4.2. Travel consumption

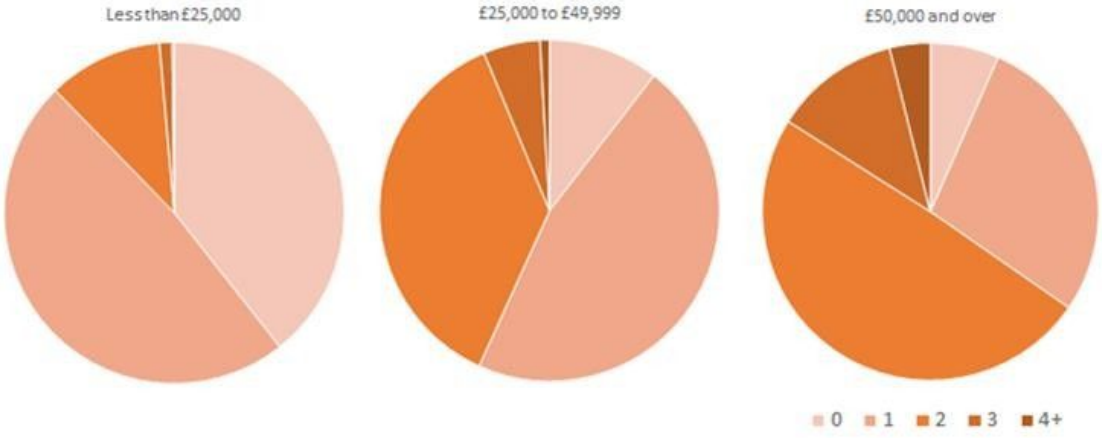
Links have been found between household income and both car ownership and air travel. Figure 9 shows that high car ownership, here represented by households owning three or more cars and vans, are concentrated in the South East.

Figure 9: Households with three or more cars and vans, by region



Data from National Travel Survey 2019

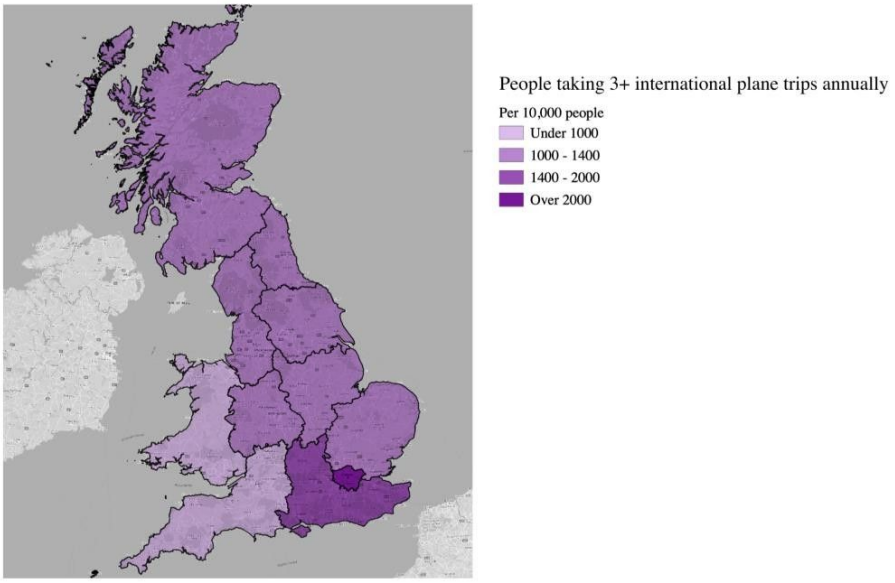
Figure 10: Number of household cars or light vans in the UK by income



The number of vehicles per household rises with income, as shown in Figure 10, where approximately two-thirds of households in the highest income bracket (over £50,000) have two or more vehicles, whereas that proportion is approximately 40 per cent and 15 per cent for the middle and lower brackets respectively.

According to data from the National Travel Survey, almost six per cent of householdshave three or more cars, vans and 4x4s. Of all household vehicles in England, 16.6 per cent are owned by only 5.9 per cent of households. Of those households with 3+ cars, vans and 4x4s, 39.3 per cent have only one or two people with a driving licence, pointing to what could be considered excessive consumption.

Figure 11: People taking three or more annual international plane trips, by region



Data from National Travel Survey 2019

In 2019, over a fifth of Londoners took three or more international plane trips per year.

The number of flights taken increases with income. First and second income quintiles average fewer than one flight per year, with the third at just over one, fourth at 1.6, andthe fifth quintile taking over double the fourth at an average of 3.3 flights per year.

Figure 12: Number of annual international flights by income in 2019

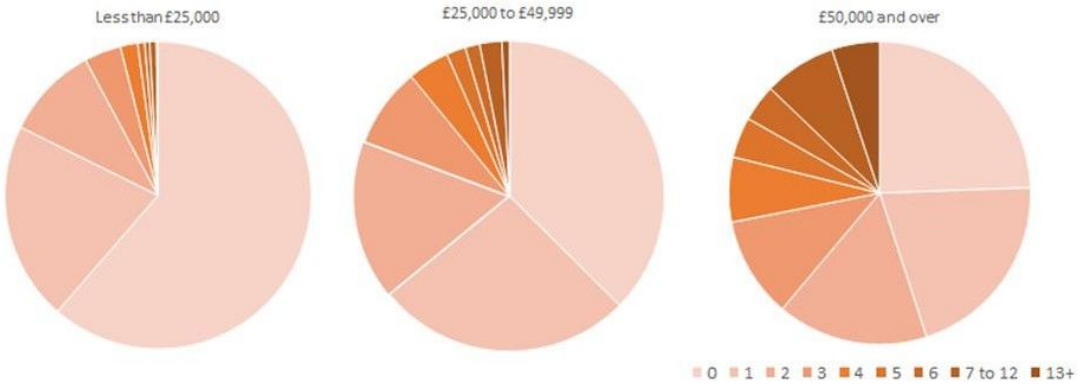
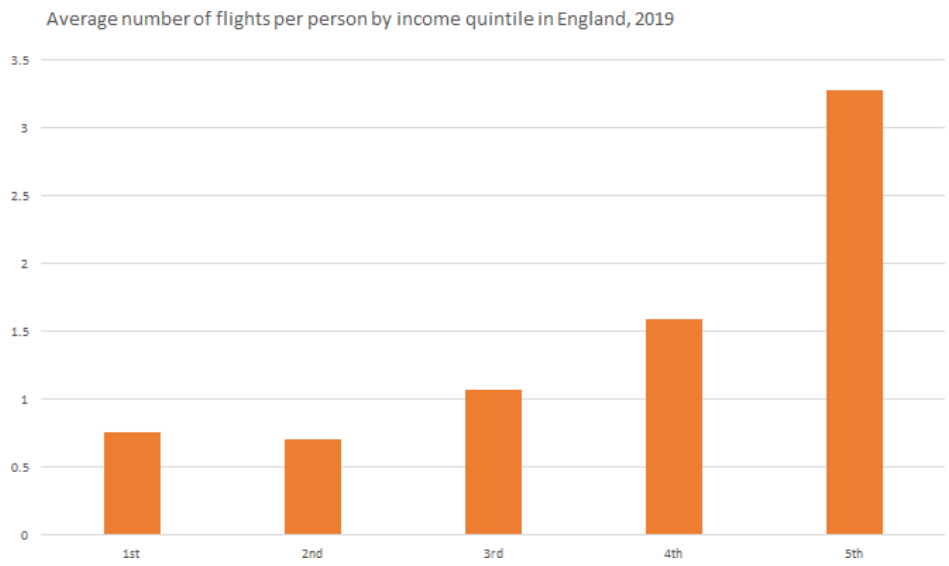


Figure 13: Average number of flights per person by income quintile in England in 2019



4.3. Food consumption

There is regional variation across the UK in average weekly household expenditure infood and non-alcoholic drinks (highest in the South East, London and Northern Ireland;lowest in Yorkshire and the North East) but this could be related to price differences between areas, rather than showing different levels of consumption.

There is limited data on food consumption patterns between different populations/regions. Much of this data may reside with supermarkets.

5 Discussion

This study offers some insights into possible classifications of high consumers, the identification of spatial differences in high consumption, and the distinct impact high consumers are having.

The results indicate that, as anticipated by previous studies, there is a link between higher household income and high consumption in energy and transport. This link is unclear in the domain of food, with limited data available for different regions of the UK.

In the case of energy, there is a negative correlation between high energy consumption and deprivation. As low levels of energy consumption are linked to poor indoor environmental conditions for low-income households (Kolokotsa and Santamouris, 2015), energy-saving initiatives that focus on reducing the energy consumption of high-income households where possible and retrofitting to improve their environmental performance would be more equitable than blanket measures.

In line with previous research, this study also shows that a relatively small proportion of households with high incomes have a disproportionate impact through the emissions related to their consumption, which is particularly apparent in air travel and the use of cars.

6

Conclusion and policy implications

The analysis of available consumption data offers some insight into the geographical differences and consumption rates within the UK. High consumers defy easy identification, due to the absence of a widely accepted definition of high consumption.However, there are some characteristics of high consumption that might help provide an initial classification system.

Type of consumption: There are differences between high consumption of energy, transport and food. The environmental impact of consumption is also related to all the stages of the life cycle of products and/or services that made that consumption possible (e.g., in the UK, eating strawberries from one's garden has arguably less impact than eating strawberries imported from Egypt, even if the food consumption is similar in terms of nutrients).

The geographical area where consumption is analysed: Different geographical perspectives are likely to affect the location of a 'normal consumption' threshold and the recognition of environmental impacts (e.g., a national perspective does not account for the environmental and social impact of some imported goods and only allows a comparison with other people living in a particular country).

Cultural considerations: Although there are physical limits for comfort and health linked to minimum levels of consumption, what is desirable or acceptable is not always connected to easily identifiable material thresholds (e.g., alcoholic drinks are not necessary, but are part of common experiences for people in many cultures around the world).

This analysis of consumption levels has some implications policymakers should take into account:

- Targeting geographical areas or population groups where consumption is higheris a more efficient and fairer approach to lifestyle emissions reduction than aimingat the general population.
- Consumption reduction initiatives could help in tackling extreme inequality and the climate crisis at the same time, curbing the excessive emissions of the richest (i.e., through taxes) and investing in poor and vulnerable communities.

7

References

Castano Garcia, A., Ambrose, A., Hawkins, A. and Parkes, S. (2021) High consumption, an unsustainable habit that needs more attention. *Energy Research & Social Science*, 80, 102241.

Department for Business, Energy & Industrial Strategy (2017) *Smart Meter Customer Experience Study 2017.* Available from: https://www.gov.uk/government/publications/ smart-meter-customer-experience-study-2016-18

Dubois, G., Sovacool, B., Aall, C., Nilsson, M., Barbier, C., Herrmann, A., ... and Sauerborn, R. (2019) It starts at home? Climate policies targeting household consumption and behavioral decisions are key to low-carbon futures. *Energy Research & Social Science*, 52, pp. 144-158.

Hacioglu, S., Känzig, D. R. and Surico, P. (2020) *Consumption in the time of COVID-19: evidence from UK transaction data (No. 14733).* CEPR Discussion Papers.

Hawkins, A., Ambrose, A., Parkes, S., Arbell, Y., Garcia, A. C. and Rafalowicz-Campbell, M. (2022) *High consumers of energy and resources and the work of beingwealthy: towards a research agenda.* ECEEE.

Hubacek, K., Baiocchi, G., Feng, K., Muñoz Castillo, R., Sun, L. and Xue, J. (2017) Global carbon inequality. *Energy, Ecology and Environment*, 2 (6), pp. 361–369.

Ivanova, D., Stadler, K., Steen-Olsen, K., Wood, R., Vita, G., Tukker, A. and Hertwich, E. G. (2016) Environmental impact assessment of household consumption. *Journal of Industrial Ecology*, 20 (3), pp. 526-536.

Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A. and Gore, T. (2020) *The Carbon Inequality Era: An assessment of the global distribution of consumptionemissions among individuals from 1990 to 2015 and beyond.* Oxfam.

Kolokotsa, D. and Santamouris, M. (2015) Review of the indoor environmental qualityand energy consumption studies for low income households in Europe. *Science of TheTotal Environment*, 536, pp. 316–330.

Peattie, K. and Peattie, S. (2009) Social marketing: A pathway to consumption reduction? *Journal of Business Research*, 62 (2), pp. 260-268.

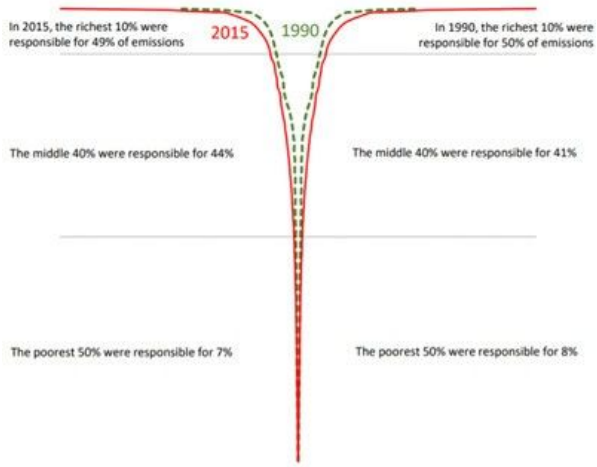
It's high time to talk about the climate impacts of high consumers

March 2022

As the dust settles on COP26 and the climate crisis deepens, it's a good time to have a serious look at a topic that arises whenever such events trigger a concentration wealthy people traveling via private jets. Compared with the average person, high net-worth individuals (HNWIs – or simply 'high consumers' in this article) use more energy and having bigger carbon footprints. And the gap is growing.

On all counts, 'more' and 'bigger' can be measured exponentially. In 2010, the ten per cent most affluent households emitted 34 per cent of global CO2, while the 50 per cent of global population in lower income brackets accounted for just 15 per cent (Hubacek *et al*., 2017). By 2015 – just five years later – the disparity had stretched to 49 per cent against seven per cent (Figure 1) (Kartha *et al.*, 2020). Tracked back to 1990, those data – with income arranged vertically and corresponding shares of CO2 emissions shown horizontally – neatly trace a telling silhouette, i.e. 'the champagne glass of carbon inequality' (Kartha *et al.*, 2020).

Figure 1: The 'champagne glass' of global carbon inequality in 1990 and 2015 (Kartha et al, 2020)



Beyond massive carbon footprints, high consumers pose a second challenge: they also set social and material aspirations for people who want to be perceived as successful. The disparity of ecological footprints across social classes is also seen among nations: at both scales, the wealthy generate more negative environmental impacts than lower income groups (Lynch *et al*., 2019). And that suggests the environment is in for a solid trampling as both population and income levels increase.

For these reasons, we believe it's time for serious action to understand high consumers: who they are, what drives them and what makes them hard to reach? In turn, we need to ask how policy might trigger change.

What makes high consumers high emitters?

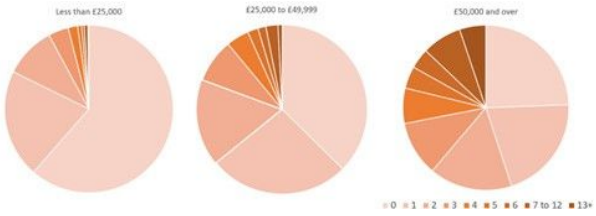
In developed countries, domestic energy use and private transport are the main sources of individual environmental impacts (Peattie and Peattie, 2009).

The physical aspects of the home, along with the knowledge, routines and values of the occupants, drive domestic energy use. High consumers tend to 'go big' to 'go home' (Gram-Hanssen, 2010).
In this slice of energy data, the bottom half of
the population accounts for <20 per cent of final demand, less than the top five per cent consumes (Oswald *et al*., 2020). While their homes may be more energy efficient, high consumers have more space to heat. They also own and use more luxury items and more gadgets – including multiples of some (e.g. entertainment centres, fridges) (Sovacool, 2011).

High use of energy for private transport is directly linked to social practices that high consumers also engage in more often, including commuting further to work, shopping, educational activities, leisure, etc. In the US, for example, the ten per cent of households with the highest incomes emit
~12 MtCO2/yr from using gasoline, against just 3.6 MtCO2/yr for the ten per cent with the lowest income (Sager, 2019).

Flying too far or too often has garnered condemnation in recent years. And while one might assume that low-cost airlines opened the world to more adventurers, it is more the case that it enabled seasoned travellers to do it more often for less cost (Fig. 2). Before Covid-19 grounded everyone, in most countries less than half of people reported flying at least once per year while more than 50 per cent of emissions from passenger aviation were linked to the one per cent of people who fly most often (Gössling and Humpe, 2020; Hopkinson and Cairns, 2020).

Figure 2: Number of international flights in 2019 by income (UK) (Department for Transport, 2021)



What drives high consumption?

Desire to demonstrate social status (Di Muzio, 2015) and the internalisation of societal expectations have been linked to high consumption, as have things like habit, emotion, coercion, (March and Olsen, 2004) and psychological aspects or personality traits (Håkansson, 2014).

But putting the blame on individuals misses the heavy influence of the culture of consumerism and all that feeds into it – advertising, materialism and the capitalist economic system – to promote a set of lifestyle values that overlook (or consciously disregard) how excess consumption negatively impacts personal, social and ecological well-being (Kasser and Kanner, 2004).

These two elements – personal and societal influences – suggest that to change behaviour, it may be necessary to challenge existing habits and break societal norms, confronting the idea that having things is the path to happiness.

Hard to reach, but for very different reasons

As part of efforts to achieve a 'just, clean energy transition', much research has focused on ways to engage with 'hard-to-reach consumers' – typically considered those who under-consume because the combination of low incomes, poor-quality homes and energy pricing makes it difficult to afford what would be considered 'sufficient' energy supply for health and well-being.

In reality, high consumers represent the biggest opportunity to reduce emissions from energy and transportation. But convincing them to change comes requires overcoming substantial challenges. Some may be completely disconnected from the reality of the climate crisis; others may not engage with information about sustainable consumption (perhaps because such messaging rarely targets this audience). They may also 'feel' the consequences of climate change less, as it is easier for them to absorb the costs associated with climate adaptation. In fact, even having to pay environmental taxes may have a negligible effect. The bottom line is that high consumers can afford to keep polluting (Peattie and Peattie, 2009; Kenner, 2015).

Who decides what is excessive?

The notion that this segment of the population 'overconsumes' raises the loaded question of what represents an adequate standard of living. In the UK, even average consumers consider that buying birthday presents, consuming alcohol and eating out are minimum necessities – a finding that likely applies to most developed countries (Hirsch, 2019).

To date, there is no widely accepted, clear definition of overconsumption in academic literature. Some studies identify quantitative classifications or look at specific resources, and most recognise that it is context-dependent and often linked to psychological traits. Some suggest that a certain consumption level becomes 'overconsumption' only if the quest for material goods and services does not lead to happiness.

Arguably, those in the lowest income groups would have the most to gain in well-being from increased consumption. This can be linked to the concept of welfare, especially the well-being of others (whether current peers or future generations), such that the decision to shift to sustainable consumption practices would be guided by certain moral choices, reflecting how people experience the world now and how they wish it to be in future.

Policy making to reshape consumption practices

Bearing in mind we live on a finite Planet, policy- makers and economists who seek to address environmental and social issues while arguing for sustained perpetual quantitative growth (measured in GNP or GDP) are, in our opinion, acting without engaging in necessary debates. At the opposite end of the spectrum, degrowth proponents emphasise meeting basic human needs and ensuring a 'good life' (Rosa and Henning, 2017), while reducing impacts on the environment to a sustainable level and building a fair system for all. This approach involves valuing well-being, sustainability and equity indicators over GDP when assessing progress, noting that the consequent decrease in material and energy consumption would likely drive GDP down (Kallis, 2011). We would argue that sufficiency, rather than development or degrowth, should inform policy-making (McMichael, 2016). The concept
of energy sufficiency is based on the idea that everyone has access to the quantity and quality of energy services they need and to a 'fair share' of the energy services while ensuring the impacts of energy systems do not exceed environmental limits (Darby and Fawcett, 2018).

Clearly, households with higher incomes have greater potential to achieve positive impacts through lifestyle changes, reducing their use of resources associated emissions with minimal consequences for their well-being. But most people do not want to embrace voluntary simplicity or scale down access to goods and services they consider enrich their lives (Bookchin, 1989).

To date, most countries do not recognise high consumption as an issue requiring specific policy initiatives, whether due to oversight, lack of understanding or an explicit decision for ideological and political reasons (including the constant drive for economic growth). Many cities have set net- zero targets, with a strong focus on technology and infrastructure policies, but few efforts directly tackle behavioural factors and none explicitly address high-income households (Mundaca et al, 2019. As high consumption and large carbon footprints are spatially concentrated in high-income cities and suburbs – while their negative effects (i.e. displaced air pollution) typically spill over into less affluent areas – this may be the most important arena for policy action (Moran *et al.*, 2017).

But current efforts are missing the mark. In fact, some are shown to negatively impact vulnerable households while having little influence on middle and high-income households (Brons *et al.*, 2002; Labandeira *et al.*, 2017; Schulte and Heindl, 2017). Price mechanisms may force low-income households to cut back consumption to dangerous levels, while those in higher income brackets
benefit from more efficient equipment (Lutzenhiser, 1993). Similarly, roll-out of in-house displays (IHDs) to track energy consumption and costs seem unlikely to change the behaviour of high-income households but may prompt 'hyper-consciousness' among low-income households. These examples raise the question of whether more sensitised energy policy instruments are needed for different households.

Shifting towards a sustainable society will require significant cultural, material and behavioural changes at different levels (in households, businesses, etc.). Ultimately, effective policy measures would require 'cracking' the false belief that owning and using an ever-growing range of goods and services is the path to achieving personal happiness, status and national success, as well as a normal motivation and an acceptable cultural desire. Going forward, it may be helpful to distinguish among 'citizens' as people willing to serve the common good, 'consumers' who prioritise seeking pleasure, and 'consumer-citizens' who engage with political issues through conscientious consumption (Mol, 2009).

Authors

- **Aimee Ambrose**, Professor of Energy Policy, The Centre for Regional Economic and Social Research, Sheffield Hallam University, UK
- **Alvaro Castano Garcia**, PhD candidate, The Centre for Regional Economic and Social Research, Sheffield Hallam University, UK
- **Anna Hawkins**, Senior Lecturer in Environmental Social Science, Department of Natural and Built Environment, Sheffield Hallam University, UK
- **Stephen Parkes**, Research Fellow, The Centre for Regional Economic and Social Research, Sheffield Hallam University, UK
- **Mia Rafalowicz-Campbell**, PhD candidate, The Centre for Regional Economic and Social Research, Sheffield Hallam University, UK
- **Marilyn Smith**, Executive Director, The Energy Action Project (EnAct) and ORENDA Communications

References

Bookchin, M. (1989) Death of a small planet. *The Progressive*, 53 (8), pp. 19-23.

Brons, M., Pels, E., Nijkamp, P. and Rietveld, P. (2002) Price elasticities of demand for passenger air travel: a meta-analysis. J*ournal of Air Transport Management*, 8 (3), pp. 165-175.

Darby, S. and Fawcett, L. (2018) Sufficiency- introduction-Final (energysufficiency.org). European Council for an Energy Efficient Economy.

Department for Transport (2021) *National Travel Survey 2002-2019*. Available from: http://doi.org/10.5255/UKDA-SN-7559-6

Di Muzio, T. (2015) The Plutonomy of the 1%: Dominant Ownership and Conspicuous Consumption in the New Gilded Age. Millennium: *Journal of International Studies*, 43 (2), pp. 492–510.

Gössling, S. and Humpe, A. (2020) *The global scale, distribution and growth of aviation: Implications for climate change*. Available from: https://doi.org/10.1016/j.gloenvcha.2020.102194

Gram-Hanssen, K. (2010) Residential heat comfort practices: understanding users. *Building Research and Information*, 38 (2), pp. 175-186.

Håkansson, A. (2014) What is overconsumption?–A step towards a common understanding. *International journal of consumer studies*, 38 (6), pp. 692-700.

Hopkinson, L. and Cairns, S. (2020) *Elite Status: global inequalities in flying*. Report for Possible, March 2021.

Hirsch, D. (2019) *A Minimum Income Standard for the United Kingdom in 2019.* Available from: https:// www.jrf.org.uk/report/minimum-income-standard- uk-2019

Hubacek, K., Baiocchi, G., Feng, K., Castillo, R.M., Sun, L. and Xue, J. (2017) Global carbon inequality. *Energy, Ecology and Environment*, 2 (6), pp. 361-369.

Kallis, G. (2011) In defence of degrowth. *Ecological Economics*, 70 (5), pp. 873–880. Available from: https://doi.org/10.1016/j.ecolecon.2010.12.007

Kartha, S., Kemp-Benedict, E., Ghosh, E., Nazareth, A. and Gore, T. (2020) *The Carbon Inequality Era: An assessment of the global distribution of consumption emissions among individuals from 1990 to 2015 and beyond.*

Kasser, T. and Kanner, A.D. (Eds.) (2004) *Psychology and consumer culture: The struggle for a good life in a materialistic world.* American Psychological Association. Available from: https://doi.org/10.1037/10658-000

Kenner, D. (2015) *Inequality of overconsumption: The ecological footprint of the richest.* Cambridge: Global Sustainability Institute, Anglia Ruskin University.

Labandeira, X., Labeaga, J.M. and López-Otero, X. (2017) A meta-analysis on the price elasticity of energy demand. *Energy Policy*, 102, pp. 549-568.

Lutzenhiser, L. (1993) Social and behavioral aspects of energy use. *Annual Review of Energy and Environment*, 18, pp. 247–289.

Lynch, M. J., Long, M.A., Stretesky, P.B. and Barrett, K.L. (2019) Measuring the ecological impact of the wealthy: excessive consumption, ecological disorganization, green crime, and justice. *Social Currents*, 6 (4), pp. 377-395.

March, J. G. and Olsen, J.P. (2004) *The logic of appropriateness*. In The Oxford handbook of political science. Available from: https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199604456.001.0001/oxfordhb-9780199604456-e-024

McMichael, P. (2016) *Development and social change: A global perspective.* London: Sage.

Mol, A. (2009) Good taste: The embodied normativity of the consumer-citizen. *Journal of Cultural Economy*, 2 (3), pp. 269-283.

Moran, D.D., Kanemoto, K., Jiborn, M., Wood, R. and Seto, K.C. (2017) *Carbon Footprints Concentrated in Few Global Cities*. Available from: https://ssrn.com/abstract=2984473 / http://dx.doi.org/10.2139/ssrn.2984473

Mundaca, L., Sonnenschein, J., Steg, L., Höhne, N. and Ürge-Vorsatz, D. (2019) The global expansion of climate mitigation policy interventions, the Talanoa Dialogue and the role of behavioural insights. *Environmental Research Communications*, 1 (6), 061001.

Oswald, Y., Owen, A. and Steinberger, J.K. (2020) Large inequality in international and intranational energy footprints between income groups and across consumption categories. *Nature Energy*, 5 (3), pp. 231-239. doi:10.1038/s41560-020-0579-8.

Peattie, K. and Peattie, S. (2009) Social marketing: A pathway to consumption reduction? *Journal of Business Research*, 62 (2), pp. 260-268.

Rosa, H. and Henning, C. (2017) *The good life beyond growth: New perspectives*. Routledge.

Sager, L. (2019) Income inequality and carbon consumption: Evidence from Environmental Engel curves. *Energy Economics*, 104507.

Schulte, I. and Heindl, P. (2017) Price and income elasticities of residential energy demand in Germany. *Energy Policy*, 102, pp. 512-528.

Sovacool, Benjamin K. (2011). Conceptualizing urban household energy use: climbing the "Energy Services Ladder". *Energy Policy*, 39 (3). pp. 1659-1668. ISSN 0301-4215.

Further information

CRESR, Sheffield Hallam University, Olympic Legacy Park, 2 Old Hall Road, Sheffield, S9 3TU.

0114 225 3073 / cresr@shu.ac.uk
www.shu.ac.uk/cresr
@CRESR_SHU

Sheffield Hallam University | Centre for Regional Economic and Social Research

Chapter 4. Discussion and Conclusion

4.1 Introduction

This chapter serves to illuminate the integrative essence of this thesis, showcasing how its collective findings transcend the sum of its individual papers. A distinctive and paramount contribution to knowledge arises from the cross-cutting analysis undertaken across the different publications.

At its core, this body of work introduces a fresh conceptual perspective into the domain of low carbon transitions. By reconsidering the established paradigm of applying justice as the guiding virtue, a new dimension emerges. This dimension, characterised by the guiding principle of generosity, presents a compelling framework for addressing the intersections of environmental sustainability and social justice concerns. The significance of this contribution is not confined to any single publication but is a result of the nuanced insights drawn from the synthesis and interplay of multiple studies.

While justice remains pivotal in addressing equitable distribution and ensuring a fair transition, this thesis introduces generosity as a guiding principle, acknowledging its role as either preceding or complementing justice for an approach better aligned with the objectives of sustainability and social justice championed by the environmental and labour movements.

4.1.1 The Role of Generosity in Shaping the Transition to a Low-Carbon Future

Generosity embodies a multifaceted approach to ethical behaviour within the context of environmental sustainability. Inspired by Aristotle's virtue ethics, Descartes' philosophical inquiries, and the tenets of ethics of care, my understanding of generosity is rooted in a multidimensional framework that transcends traditional boundaries. This framework resonates with the pursuit of moral excellence, rational inquiry, and compassionate interconnectedness.

From Aristotle (1908), I draw the notion of generosity as a virtue—one that resides at the crossroads of ethical conduct and personal growth. Aristotle believed in cultivating virtues to achieve eudaimonia, the flourishing of one's fullest potential. Generosity offers a pathway towards a richer, more meaningful existence. It becomes a moral compass guiding actions that ameliorate the self.

For Descartes (1989), generosity starts as an emotion linked to thinking of our free will and recognising its impact on our choices. This emotion becomes a virtue (‘true

generosity') through repetition. This habit has an intellectual part, when we realise our only true possession is the freedom to control our choices; and a volitional part, when we commit to always using this freedom well, striving to do what we believe is best. Generosity is not just about oneself, Descartes believes generous people also recognise the intrinsic worth in others, which creates a universal respect for everyone's free will.

Ethics of care, with its emphasis on relationships, empathy, and contextual sensitivity, weaves a vital thread into my conception of generosity. Ethics of care highlights the importance of considering individual circumstances, attuned to the intricate web of human interactions. It acknowledges that the act of giving is not an isolated event, but a relational exchange that carries the potential to ripple through communities, binding us in shared humanity. This moral theory includes conceptions of dependence, interconnection, anti-individualism, and responsibility (Baier, 1995). This not only fosters empathy and understanding between people but also reinforces the moral equality of all individuals. Such principles resonate with universalism and benevolence in Schwartz's model (Schwartz & Cieciuch, 2021), accentuating the importance of recognising diversity and promoting well-being in human interactions. By acknowledging the potential for human improvement as well as the context-specific aspects of moral behaviour, an adaptable framework that goes beyond a narrow focus on justice alone can emerge.

Importantly, generosity can be linked to the issue of high consumption. Those individuals who have the capacity to reduce their environmental impact by curbing consumption, without significantly compromising their quality of life, play a pivotal role in enhancing both environmental protection and social justice. By embracing a more modest lifestyle, these individuals could contribute to a reduction in resource consumption, which in turn would mitigate environmental degradation. Simultaneously, this reduction in consumption would contribute to the broader social justice agenda by freeing up resources and opportunities for those who are more vulnerable and less capable of making such choices.

The emphasis on generosity not only opens avenues for high consumers to initiate individual changes but also holds the potential for policy makers to orchestrate a transformative shift within a cultural context that often overlooks their environmental impact. High consumers, often perceived as successful and occupying influential positions due to their extensive access to resources, are presented with a unique opportunity to effect meaningful change. By electing to moderate their consumption

behaviours without imposing substantial sacrifices upon their quality of life, these individuals could assume a pivotal role in fortifying environmental preservation and advancing the cause of social justice. As high consumers begin to make conscious choices aimed at reducing their ecological footprint, it is likely that the combined effect of their actions will send ripples through the complex web of consumption patterns. This, in turn, has the potential to contribute to a shared effort in diminishing the depletion of resources and alleviating the burden on the environment. In parallel, the act of curbing consumption among high consumers resonates deeply within the broader realm of social justice advocacy. By relinquishing excessive resource utilisation, these individuals could effectively free up valuable resources and opportunities that could be redirected towards those who find themselves in more vulnerable and disadvantaged positions. The redirection of these resources would serve as a tangible step towards mitigating the systemic disparities perpetuated by unequal access to resources, thereby fostering a more equitable societal landscape.

Guiding high consumers towards an ethos of generosity not only addresses the imperative of environmental sustainability, but also sparks a transformative change in perspective. In this transformation, policymakers emerge as facilitators of change, responsible for reshaping cultural norms and institutional frameworks that have long sustained overconsumption. Recognising the latent potential within high consumers to drive change, but also the psychological and social barriers that may impede their transition towards more sustainable behaviours, policy makers possess the opportunity to devise focused interventions. These interventions can effectively address the identified barriers while also promoting and rewarding more responsible, sustainable consumption practices. Ultimately, this proactive approach has the potential to foster a more balanced and fair coexistence both within human societies and between these societies and their environment.

The synthesis of these ideas offers a valuable conceptual contribution that challenges the dominance of justice as the sole guiding principle in low carbon transitions. By introducing generosity as an alternative framework, this thesis promotes a more holistic and adaptable approach to ethical conduct in the context of sustainability and social justice. Generosity's emphasis on individual agency, empathy, and contextual sensitivity, along with its potential to influence high consumption patterns, underscores its relevance

and potential to enrich the ongoing discourse on creating a more sustainable and just future.

4.1.2 Ethical Contradictions in a Capitalist Just Transition

The tension between a desire for personal advancement and social welfare can give rise to a social dilemma undermining just transition efforts. Despite the noble intention that just transition initiatives have been aiming to achieve, actors trying to enact just transition principles have been unable to, partly because they are also bound to prioritise economic growth (see publication 4). Power and achievement are favoured by ideologies which have free markets, deregulation, and most importantly the need to fulfil self-interest at their core. Widespread neoliberal economic arguments about cost-effectiveness, competition and innovation have resulted in the privatisation of basic public goods, which has already been having disastrous impacts on the human rights of the extremely poor (UN, 2018). Additionally, dependence on the market forces of supply and demand to dictate the energy transition as if those markets were neutral and infallible slows down the transition, as producers and manufacturers are incentivised to influence a demand for high carbon-emitting fuels and prolong their supply.

A market-driven approach relies on private investments, competition, and profits, not government policies, to spur energy transitions (Newell & Phillips, 2016). Even when governments sometimes try to take the lead in promoting just transition initiatives, it is important to note that the role of the state in a just transition might involve not only securing appropriate funding, but also making sure that the funds come from the right sources. This entails a spirit of generosity to facilitate a transition that genuinely benefits all stakeholders. As Heffron & McCauley (2022) noted, the way the EU is funding just transition initiatives is effectively protecting fossil fuel from market dynamics, as more Green Recovery packages have been supporting fossil fuel than renewable energy. This public funding of fossil fuel is not only environmentally unsustainable, it also unfairly shifts the burden of financing the transition to the workers, who are the taxpayers, instead of the fossil fuel producers. Privatisation and deregulation of the energy markets has been effectively promoting cost reduction and profit maximisation over ensuring positive social and environmental outcomes. This approach has led to excessive profits for gas producers and energy generators in the UK, while exacerbating the challenges faced by low-income and vulnerable energy consumers (Maximov *et al.*, 2023).

A just transition would represent a shift in cultural values, which calls for a comprehensive multisectoral effort that includes advocacy and the involvement of policymakers, labour unions, affected communities, workers, and civil societies (ILO, 2015). A fairer and more generous transition needs to put into consideration the varying needs for energy and the vulnerable groups that could be affected by the energy transition. Historically, some nations, companies and individuals have exerted a disproportionate influence on GHG emissions and resource consumption, contributing significantly to environmental degradation. In addressing environmental problems, it is crucial to recognise the unequal distribution of responsibility and emphasise the need for these entities to share resources.

4.2 Aims, Objectives and Research Questions Revisited

The primary aim of this research was to conduct a nuanced exploration of the social justice implications of low carbon transitions, with a specific focus on both the concept of a just transition and the consideration of high consumption within a holistic approach to just transition. To achieve this overarching goal, the study was carefully structured around the following objectives.

The initial objective was investigating how high consumption practices reflect and contribute to social and environmental inequalities during the transition to a low-carbon future. Employing a combination of methods, this research discerns the far-reaching implications of high consumption and identify high consumption patterns in the UK.

The second objective sought to understand the just transition concept at a localised level, in the specific geographic context of South Yorkshire. This objective was met by conducting a detailed case study to illuminate localised interpretations of the just transition concept by key stakeholders, contributing to a richer understanding of its dynamics.

The third objective involved a critical evaluation of the adequacy of justice as the guiding virtue for low carbon transitions. By synthesising findings from various sources, I assessed the limitations of justice-based approaches and explored possibilities for a more comprehensive framework. This led to propose the generous transition concept. This involves introducing a novel perspective that complements justice-based approaches, aiming for a more holistic understanding of the moral dimensions of the transition to a low-carbon future, while honouring the historical roots of just transition.

Through these interconnected aims and objectives, this thesis makes a substantial contribution to the discourse surrounding social justice in low-carbon transitions. The investigation fosters a deeper understanding of the intricate dynamics at play, offering insights that can inform policies and practices for a more equitable and sustainable future.

Through my research, I aimed to address the following research questions, which underpinned the core objectives of this study:

- RQ1: How does high consumption reflect and contribute to social and environmental inequalities in the context of transitioning to low carbon futures, and what are the social justice implications? (see publications 1, 5, 6, 8 and 9).
- RQ2: What does just transition mean and how is it interpreted in context in a specific place in relation to the process of transitioning to a low carbon future? (see publication 4).
- RQ3: How adequate is justice as the guiding virtue for low carbon transitions? How might the concept of a just transition be usefully expanded to encompass a broader range of considerations? (see publications 2, 3 and 7)

These research questions provided a framework for addressing some of the multifaceted social dimensions of low carbon transitions. By exploring the role of high consumption, critiquing the just transition concept, and analysing what just transition means in South Yorkshire, I expanded the current knowledge on social justice issues in the context of transitioning to a more environmentally sustainable future. Also, I proposed the generous transition concept which could complement purely justice-based perspectives on the transition to a low-carbon future.

In the following sections, I will delve into each research question, discussing relevant theoretical frameworks, empirical findings, and some policy implications. Through this analysis, I provide a comprehensive understanding of some of the social justice implications of transitioning to a low-carbon future, shedding light on the complexities and opportunities for creating a more equitable and sustainable society.

A. RQ1

The first question that my research addressed was how high consumption contributes to social and environmental inequalities in the context of transitioning to low carbon futures, and represents a key challenge for a just transition. The excessive consumption patterns prevalent amongst the wealthiest in society today are closely intertwined with the unequal

distribution of resources, opportunities, and power. By investigating this connection, I explored the mechanisms through which high consumption exacerbates existing disparities and threatens sustainability. Additionally, I highlighted the need for effective measures to alleviate the negative consequences of high consumption.

Consumption inequalities and environmental impacts

The literature review on high consumption (see publication 1) was an examination of consumption inequality and the issue of high consumption. This review highlighted the need for high consumption of energy, transport, and food to be brought to the forefront in policy and research. Recognising that high consumers are well positioned to reduce their environmental impact while maintaining good living standards, the review shed light on the relative lack of research around this issue, as well as the value of targeting this population group with consumption reduction policy initiatives. The insights gained from this initial exploration served as a foundation for subsequent investigations: Secondary data analysis (see publication 8), practitioner interviews (see publication 7) and institutional ethnography (Hawkins, forthcoming).

The literature review (see publication 1) shows that consumption, closely correlated with income, plays a pivotal role in driving global environmental impacts. Income inequalities give rise to consumption inequalities, and high consumption exacerbates environmental degradation. The concentration of consumption among the wealthiest individuals is related to their disproportionate contribution to significant global environmental impacts, and further complicated by power dynamics in consumption inequalities. These findings highlight the urgent need to address consumption inequalities to achieve environmental sustainability and social justice.

The review also reveals the problematic nature of the prevailing linear economic model, where resources are extracted, transformed into products, used, and discarded. This is the cause of affluence being positively associated with resource consumption, which exerts pressures on the planet's life-support systems. To counter these challenges, the review suggests the necessity of not only greening consumption but also reducing it in the case of high consumers, enabling a more even distribution of resources across regions and social groups. By integrating social justice principles into sustainability approaches, opportunities for waste reduction, needs reassessment, and product innovation can be identified. Such initiatives are crucial for reducing existing inequalities while working towards a more sustainable future.

Publication 8 provides insights into potential classifications of high consumers, considering both the type of consumption and geographical factors. It confirms previous findings by suggesting a correlation between higher household income and increased consumption in energy and transport sectors. However, this correlation is less evident in the realm of food, primarily due to limited data availability across various regions of the UK. Additionally, the study highlights that although households with high incomes account for a relatively small portion of the population, their consumption patterns contribute significantly to emissions. This disparity is particularly notable in the frequency of air travel and the prevalence of multiple cars per household.

Psychological and Social Factors

Looking at the drivers and influences behind high consumption, Håkansson's research emphasises that overconsumption is often associated with psychological aspects and personality traits (Håkansson, 2014). However, it is important to note that this perspective sometimes stigmatises overconsumption as a behaviour of certain minorities or psychologically 'weak' individuals (Humphery, 2009), perhaps underestimating the important role of systemic factors. Giddens' view on consumption as social practices influenced by social norms, lifestyle choices, and institutional structures provides a broader understanding of the interactions between social and individual factors in shaping consumption behaviours (Giddens, 1984). This perspective suggests that high consumption is not solely a result of individual characteristics but is also influenced by societal and environmental structures and norms. Bhaskar's perspective adds a temporal dimension to this (Bhaskar, 1998). The transformational model of social activity highlights the role of agency as it reproduces or transforms structures, but it also acknowledges the weight of the past and pre-structuration in shaping society.

Psychological factors and human agency are then determinant in reproducing social structures which facilitate high consumption. People's desire to demonstrate a certain status and identity within society affects their consumption habits (Kasser & Kanner, 2004). Consumerism, with its emphasis on materialism and self-enhancement, promotes a set of values that encourage an unsustainable relationship with nature (Kasser & Kanner, 2004). This cultural preference for self-assertion and the mastery of resources, as opposed to relating harmoniously with them, aligns with self-enhancement values in Schwartz's theory of basic values (Schwartz, 2012). The pursuit of self-enhancement values in consumer-driven societies is negatively correlated with pro-environmental attitudes and behaviours. In contrast, self-transcendence values, such as benevolence and universalism,

are more aligned with pro-environmental attitudes and behaviours (Schwartz, 2012). Moral values play a significant role in shaping behaviours related to the environment, and individuals' environmental values serve as moral reference points for their interactions with their surroundings, which in turn can influence culture. This highlights the complex interrelationships between values, attitudes, behaviours, and social structures, mediated by norms, self-identity and perceived social consequences (Stern, 2000; Schwartz, 2012).

Social Justice implications

From an international perspective, high-consuming countries often benefit from unequal exchanges, where they extract resources at low cost and export waste and pollution to developing nations (Kothari *et al*., 2020). I argue that this way of understanding international relations is based on valuing power and achievement over self-transcendence values like benevolence and universalism in Schwartz's model. As well as contributing to a stormy geopolitical landscape, the pursuit of economic success as the main national goal, driven by self-enhancement values, can lead to higher levels of environmental damage (Kasser, 2011). Studies have shown a correlation between less regulated, free-market forms of capitalism and higher endorsement of values related to wealth and competition (Kasser, 2011; Clénet & Maréchal, 2016). This suggests that economic practices, such as advertising, commodification, and planned obsolescence, are rooted in and perpetuate cultural values that promote high consumption. Consequently, high-income individuals and countries often contribute more to pollution and resource depletion (OECD, 2002; Kasser, 2011). This highlights the social and environmental inequities associated with high consumption and the need for addressing complex cultural issues and systemic inequalities in the transition to low carbon futures.

Consumption patterns are deeply intertwined with social, economic, and environmental disparities. High consumption not only exacerbates social inequalities but also has adverse impacts on the environment and the well-being of future generations (Kasser & Kanner, 2004; Kothari *et al*., 2020). Achieving social justice requires comprehensive strategies that tackle structural inequalities and promote sustainable behaviours. Interventions aimed at transitioning to low carbon futures must consider the intersecting dimensions of social justice, including economic equity, distribution of resources, access to basic needs, and environmental sustainability (Fraser, 2009). This involves addressing power imbalances, ensuring fair distribution of benefits and burdens, and promoting inclusive decision-making processes (Schlosberg, 2013). Although my research has not found the answers to achieve this, challenging the dominant cultural values that prioritise

self-enhancement over self-transcendence is a necessary step if we are to reorient societal norms toward sustainability and collective well-being.

B. RQ2

To answer this question, I explored the implications of just transition as a policy frame in the process of moving towards a low carbon future. I investigated what just transition means for decision-makers in South Yorkshire (England). By examining a real-world example and drawing upon theoretical frameworks, I offered insights into how the concept of just transition was being interpreted in context.

South Yorkshire and the meaning of Just Transition

By delving into the practical manifestations of just transition within the region, this study served as a bridge between abstract theoretical constructs and their tangible real-world implementations. Embedded within the notion of urban just transition are negotiations among diverse stakeholders, each with their unique perspectives and interests. In this research, the fusion of the conceptual understanding of just transition as a construct shaped by political dynamics and the innovative analytical approach of sensemaking provides a platform to address a broader call for insights into the multifaceted challenges of policy implementation within decarbonisation efforts. This resonates with calls for a deeper exploration of the complexities inherent in industrial regions transitioning toward decarbonisation (Jakobsen *et al.*, 2022).

The study unravels the strategies harnessed by stakeholders to navigate the complex landscape surrounding just transition. These strategies involve tapping into established logics, pre-existing concepts, spatial nuances, and operational norms. Our analytical approach accentuates the nuanced process of translating theoretical ideals into concrete actions, underscoring the dynamic interplay between conceptual aspirations and practical implementations. The allure of the just transition concept for policy stakeholders is rooted in its adaptable nature, which facilitates a common ground for dialogue and alignment across divergent viewpoints. However, this inherent adaptability also brings forth potential risks, as the concept's ambiguity can be exploited to align with dominant ideologies, possibly diluting its transformative potential.

An essential undercurrent in this exploration is the potential for conservative approaches to influence the operationalisation of just transition, inadvertently tempering its overarching transformative essence. Moreover, the adaptive nature of operational frames

introduces a dimension of evolution, potentially aligning with shifting agendas or perspectives over time.

The interplay of cultural politics within decarbonisation initiatives is a prevailing theme. Here, culture, economy, and politics converge, shaping regional imaginaries that, in turn, influence the very boundaries of what is perceived as possible. This interplay adds layers of complexity to the discourse surrounding decarbonisation, influencing how the concept of just transition is both framed and enacted within this landscape.

Another factor complicating discussions on just transition and decarbonisation is the region's historical legacy of high pollution and emissions from its industrial past, contrasted with its current limited capacity to address these responsibilities. This limitation is primarily influenced by the area's diminished economic resources and the reduced scale of industrial activity compared to its historical levels.

Ultimately, the study's spotlight on economic injustices and deficit models prompts a critical reconsideration of justice-based conceptions of just transition. While these conceptions are rooted in noble intentions, the study reveals how they might inadvertently reinforce deficit narratives that fail to capture the potential for positive framings of transition. Here I call for an expansion of the conceptual boundaries of just transition, not only within the realm of academic discourse but also within the realm of policy, inviting alternative perspectives that transcend conventional paradigms.

C. RQ3

Building upon my exploration of the impact of high consumption on social and environmental inequalities, and the limitations of just transition I address the third question of my research: in what ways can the concept of a just transition be expanded to encompass a broader range of social justice considerations beyond the traditional distributive justice dimensions? Just transition scholarship often focuses on how to finance the required activities for a shift to a low emissions economy (Robins *et al*., 2020). However, just transition encompasses a multitude of dimensions that extend beyond mere economic factors and the interest of workers, although these are important as well (Eadson, *et al*. 2023). By broadening the understanding of social justice in the context of a just transition and incorporating alternative principles, I aim to capture the diverse social, cultural, and political aspects that must be considered to ensure an equitable and inclusive path towards sustainability.

Just Transition as a Generous Transition

In my exploration of how various types of justice can be applied when thinking of a just transition (see publication 2), I focused specifically on the lessons learned from the coronavirus pandemic. The pandemic made social inequalities more visible, and highlighted the need for participatory processes to mitigate the negative impacts of energy and health crises on vulnerable populations. Additionally, it provided lessons into the implementation of policies during crises, which might exemplify possible responses to ecological disruptions. The widespread use of the just transition concept has led to challenges in defining its priorities and has diluted its strength as a unifying framework for labour and environmental demands. I argue that by positioning generosity as the moral underpinning of low-carbon transitions, we can foster a transition that is not only just but also takes into account interconnectedness, dependence, and the broader well-being of humanity.

For the concept of a just transition to be transformative, it requires a clear vision and definition of what is considered just and the direction of the transition. The incorporation of generosity as a guiding principle can broaden the discourse on just transition and foster a more inclusive and holistic approach towards justice. Generosity can reshape the concept of just transition by expanding its scope. This would mean ensuring the inclusion of more people and more aspects of the environment when thinking about what we are aiming to transition towards, and how to achieve it. By placing generosity at the centre, I shift the focus from mere survival to expanding well-being and flourishing.

Generosity encourages a transition that is not only fair but also responsive to the changing needs of individuals and communities. It promotes the idea that a sustainable future is not just about addressing environmental and labour concerns but also about nurturing human interdependence and care. Furthermore, the ethos of generosity not only enhances the collective journey but also provides individual pathways for self-improvement in alignment with the principles of social justice. Both individuals and organisations can actively contribute to creating a more sustainable and equitable future by fostering compassion, collaboration, and understanding. This not only advances the aspirations of a just transition but also contributes to a more fulfilling life. In this dual role, generosity emerges as a guiding principle for societal transformation and a self-empowerment strategy, bringing depth and breadth to the pursuit of justice in the transition process.

Additionally, generosity as a moral virtue lays a sturdy foundation for various dimensions of justice within the context of a just transition. It transcends the conventional boundaries of justice by fostering a spirit of collective responsibility and shared well-being. By integrating generosity into the essence of a just transition, more dimensions of justice are unearthed and fortified. Generosity introduces a positive relational element, emphasising the quality of interpersonal relationships and the interconnectedness of communities. It propels the transition beyond transactional fairness, infusing it with a sense of empathy, cooperation, and mutual support. In doing so, generosity not only addresses some of the structural imbalances in the transition process but also nurtures the social fabric essential for a sustainable and equitable societal transformation.

Generosity offers a perspective that underscores the significance of justice dimensions frequently overlooked by conservative, status quo-protecting notions of justice. When just transition is confined to mere structural and economic reforms, it risks neglecting the deeper dimensions of justice. While these reforms may address some tangible aspects of the transition process, such as job creation or industry restructuring, they may overlook the fundamental need for recognition and validation of marginalised communities. Recognition justice, with its emphasis on inclusion and the acknowledgment of both historical and ongoing injustices faced by these communities, is a manifestation of generosity in the pursuit of a better future.

Generosity in the context of recognition justice involves actively recognising and affirming the identities, experiences, and contributions of marginalised groups. It requires going beyond superficial changes and engaging in meaningful dialogue and collaboration with these communities. By incorporating generosity into the just transition framework, we can create opportunities for marginalised voices to be heard, valued, and actively involved in decision-making processes. This recognition and validation foster a sense of empowerment and agency, ultimately contributing to a more equitable and inclusive transition.

The principle of generosity is obviously vital in the realm of distributive justice. A just transition must not only address structural and economic inequalities but also ensure the fair distribution of benefits and burdens throughout society. Generosity in distributive justice means actively working towards a more equal distribution of resources, opportunities, and power, particularly for those who have historically been

disadvantaged. It involves prioritising the well-being and needs of vulnerable populations to ensure they are not left behind in the transition process.

In essence, a generous transition requires a transformative and radical shift in how justice is understood and applied. It necessitates going beyond surface-level reforms and addressing the underlying structural and systemic issues that perpetuate injustice. By incorporating the principles of generosity, a just transition can strive towards comprehensive and lasting change, recognising the historical struggles of marginalised communities and working towards a more equitable and sustainable future for all. A just transition should not merely aim for the redistribution of resources but should be driven by a deep commitment to fostering ecological integrity, social equity, care, transparency and solidarity. This approach would ensure that no individuals or groups are left behind during the transition process and that the benefits and opportunities are distributed equitably. It would require actively engaging the diverse segments of society in decision-making processes. Also, spatial justice, which advocates for a fair geographical distribution of benefits and costs arising from the energy transition, should be strictly advocated for and upheld by all stakeholders (Garvey *et al*., 2022).

A generosity lens can provide insights into the values and interests behind the commitments of governments and companies to just transition principles. By questioning the generosity of their actions, we can reveal what underlying interests and values drive their understanding of just transition. For example, as discussed in Chapter 1 and subsection 4.1.2 of the current chapter, according to Heffron & McCauley (2022), EU policies that have just transition funds allocated to phase out fossil fuels are very likely to result in perpetual subsidisation of fossil fuel industries given that coal, oil, and gas must be phased out in turn. The global development of low-carbon economies will be halted by this kind of just transition policy. These actions might be under the just transition umbrella, but if one looks at the profits of fossil fuel companies and the needs of vulnerable communities in EU countries, it is impossible to see these actions as generous.

Generosity is compatible with different moral perspectives, but is perhaps better understood as a moral virtue or an element of different qualities of ethics of care. Tronto (2013) identified five moral qualities that align with five phases of care:

1- Attentiveness: The first phase of care involves being attentive to unmet caring needs. In the context of a low carbon future, this would mean recognising the needs of individuals and communities who may be disproportionately affected by the transition, such as those in poverty or vulnerable regions.

2- Responsibility: Once the needs are identified, someone or a group must take on the responsibility of meeting those needs. In the context of resource sharing for a low carbon future, this would entail acknowledging the responsibility of wealthier countries and individuals to support and assist those with fewer resources in adapting to and mitigating climate change.

3- Competence: The third phase of care is about the competence or ability to provide care. In the transition to a low carbon future, competence would involve sharing knowledge, technology, and resources to enable countries and communities to adopt sustainable practices. Although wealthier countries should assist their poorer counterparts, the direction of care does not always need to be from wealthy to poor countries. Alternative ideological frameworks to current approaches to development, such as *buen vivir* (Acosta & Martinez Abarca, 2018) can be shared from communities at the margins of capitalism, to help dismantle a one-dimensional understanding of development as technology driven economic growth.

4- Responsiveness: After care has been given, there is a need for responsiveness to the outcomes and impacts of that care. In the context of a low carbon future, this would involve assessing whether the support provided has been sufficient and effective in addressing the needs and challenges faced by poorer regions or communities.

5- Plurality, communication, trust, respect, and solidarity: Sevenhuijsen (1998) identified additional qualities necessary for caring in a democratic society, which include plurality, communication, trust, respect, and solidarity. These qualities recognise diverse perspectives, foster open dialogue, build trust among different actors, and promote collective action. In the context of a low carbon future, these qualities are crucial for fostering cooperation, collaboration, and resource sharing between rich and poor countries and communities, ensuring that the transition is fair and inclusive.

When applied to the transition to a low carbon future, these qualities highlight the importance of generosity and resource sharing between wealthy and impoverished regions, both within and between countries. Such generosity would involve recognising

and addressing the specific needs of disadvantaged communities, providing support and assistance, sharing knowledge and resources, and fostering cooperation and solidarity to ensure a just and sustainable transition for all.

The appropriation of the just transition concept by actors more interested in continuing business as usual than in genuinely achieving a just transition is concerning (Stevis & Felli, 2020), and might parallel what happened to the sustainable development concept (Doyle, 1998). To counteract this, the incorporation of generosity as a moral principle can ensure that the transition is driven by authentic care and consideration for all rather than mere token gestures. It helps distinguish between genuine efforts and superficial actions.

Generosity as the main moral virtue guiding the transition emphasises the interconnectedness of human beings and our responsibilities towards one another. By promoting human flourishing and care, generosity fosters personal and social developments that align with the demands of social movements historically advocating for just transitions. It provides a desirable trait for individuals and societies in transition, nurturing a sense of self-esteem and care as we navigate the complexities of a changing world.

Critics of the development-first approach in low carbon transitions highlight the need to incorporate justice-based strategies for equity in resource allocation, access, and decision-making (Munro *et al*., 2017; Sovacool *et al*., 2021). Generosity as a moral principle aligns with these justice-based strategies, ensuring that the transition considers recognition, as well as distributive principles in its design and implementation. However, it also adds the aspects of care, self-improvement and universalism, which could appeal to a wide variety of actors and promote participation.

The incorporation of generosity as a moral principle in low-carbon transitions offers a promising pathway towards a just and sustainable future. Generosity-based frameworks recognise unfair behaviours, as well as the need to engage a wider variety of voices, to ensure that the transition is inclusive and responsive to the needs of all stakeholders and prioritises their wellbeing. As such, these frameworks not only unveil the values behind just transition initiatives but might also accelerate the pace of transitions by fostering self-perfecting actions (at both individual and collective levels) that creatively respond to evolving needs, relying on qualities such as attentiveness and responsiveness. It

encourages actions that go beyond compliance and actively contribute to a sustainable future.

4.3 Key Findings

4.3.1 Redefining the Paradigm: Generosity as a Guiding Principle

Generosity is not a replacement for justice; rather, it can be a catalyst for it and an additional layer that enhances its scope. Generosity offers a lens through which we can explore environmental sustainability and social justice more comprehensively and provides a route to the achievement of both. It is not just about dividing resources fairly; it is about understanding the interconnectedness of our actions and their impact. Generosity as a guiding principle calls for self-perfection, encouraging empathy and a deep sense of shared responsibility. While justice focuses on distributing resources equitably, generosity invites us to consider how our actions ripple through communities and ecosystems. This shift urges us to consider not just the allocation of resources, but also the character traits more likely to bring a positive future. It is an approach that acknowledges the interdependence of individuals, communities, and the environment.

High consumption stands in opposition to generosity, as a formidable challenge in our pursuit of a low carbon future. It is a stark reminder of the inequities ingrained within our societal fabric, where some wield resources at levels far beyond necessity while others grapple with scarcity. In this context, the integration of generosity takes on a critical role, offering a fresh perspective on curbing excess and fostering sustainable consumption patterns. Generosity, as a guiding principle, prompts us to reassess our consumption habits. It underscores the responsibility of those with higher consumption capacities to actively engage in reducing their ecological footprint. This is not merely an altruistic act; it is an acknowledgment of the disproportionate impact that high consumption has on environmental degradation, and on resource distribution and how overconsumption by some groups affects the ability of other human beings to achieve a decent quality of life.

Moreover, generosity challenges us to redefine success beyond material accumulation. It encourages a shift from conspicuous consumption to meaningful contribution—where the value of one's actions is measured not by the volume of possessions, but by their positive impact on the well-being of others and the planet.

4.3.2 Generosity in Policy: Fostering Transformative Change

As we confront the intricate challenges of low carbon transitions, it becomes evident that policy makers wield a considerable influence in shaping the trajectory of societal

behaviour. Generosity, with its ethos of shared responsibility and mutual support, emerges as a potent tool for policy interventions that drive transformative change.

The concept of generosity urges a shift from top-down directives to a more participatory and collaborative approach. It encourages policy interventions that not only impose restrictions but also inspire individuals and communities to voluntarily engage in sustainable behaviour. A generosity-driven policy framework encourages the development of incentives that reward environmentally responsible choices. By recognising and celebrating efforts to reduce consumption and environmental impact, policy makers can motivate and amplify a culture of sustainability. This approach emphasises positive reinforcement and empowerment.

Furthermore, policy considerations framed by generosity are inherently adaptable to diverse contexts. Recognising that every community, region, and culture possesses unique characteristics, generosity opens avenues for localised and context-sensitive interventions. It takes into account the different levels of responsibility of different actors, but also acknowledges that sustainable solutions must resonate with the values, aspirations, and socio-economic realities of the individuals they aim to influence.

In this vein, policy makers are presented with an opportunity to reshape societal norms and expectations. Generosity challenges the status quo by encouraging a re-evaluation of what constitutes success and progress. By promoting values of empathy, cooperation, and environmental stewardship, policies inspired by generosity can help shift the cultural compass towards a more sustainable and just future.

For example, a generosity-driven approach to policies related to consumption would prioritise equitable resource distribution, environmental sustainability, and social responsibility. Here are some examples of policies that might emerge from such an approach:

- Resource Redistribution Incentives: Policies that incentivise businesses and individuals to limit their consumption, get involved in sharing initiatives and voluntarily redistribute surplus resources to those in need. This could involve tax benefits or other financial incentives to encourage a more generous and equitable distribution of resources (although it is important to note that financial incentives for the very wealthy are ineffective unless they are exceptionally substantial). Platforms such as ShareNL in the Netherlands and Streetbank in the UK connect

individuals within local communities, allowing them to share tools, household items, and other resources. While these initiatives are community-driven rather than government-mandated, they showcase options for a cultural shift towards resource sharing. Policies could facilitate the creation of community hubs or digital platforms that promote a culture of generosity, reducing individual consumption through shared access to resources.

- Corporate Social Responsibility (CSR) Mandates: Enforcing or enhancing regulations requiring companies to integrate generosity and social responsibility into their business models. This might include strict production as well as advertisement regulations, mandatory corporate philanthropy, responsible sourcing practices, and transparent reporting on the social and environmental impact of their products and operations.
- Educational Programs on Ethical Consumption: Establishing educational programmes aimed at raising awareness about the environmental and social impact of consumption choices. These programmes could highlight the benefits of generosity-driven consumption practices, encouraging individuals to make more sustainable and socially responsible choices in their daily lives.
- Circular Economy Promotion: Advocating for policies that promote a circular economy, where products are designed for longevity, repairability, and recyclability. This approach encourages a shift away from a disposable culture, fostering inter- and intragenerational generosity in the form of reduced waste and extended product lifecycles. It also offers opportunities for sustainable employment not only in repairing and recycling but also in services, such as care and education, which can adhere to circular economy and sustainability principles.

These policies would aim to foster a culture of generosity by encouraging individuals, businesses, and communities to consider the broader social and environmental implications of their consumption choices. Embracing a generosity-driven approach could not only address the ecological footprint of high consumption but also extend its positive impact to individual well-being, self-esteem, and social cohesion.

4.3.3 Generosity in Universalism, Benevolence, and Self-direction

In charting a generous transition, my exploration converges with established ethical frameworks that might illuminate the path ahead. Generosity in low carbon transitions finds resonance in the values of universalism, benevolence, and self-direction outlined

within Schwartz's model of basic human values. Schwartz *et al*. (2012) identified a set of universal values that transcend cultural boundaries, providing a comprehensive map of the foundational principles that guide human behaviour. While values are relatively stable over time, they can be influenced and may change under certain conditions. According to Schwartz, values are shaped by a combination of cultural, social, and personal factors, and they can evolve in response to shifts in societal norms, experiences, and life circumstances.

Cultural values are often responsive to factors such as media, education, and government policies. Therefore, intentional efforts to promote specific values through these channels might have a meaningful impact on shaping or reinforcing cultural values. For example, public awareness campaigns, educational programmes, and policies that emphasise the importance of environmental sustainability and social justice can contribute to the promotion of values associated with these principles. Over time, such efforts may influence individuals within a culture to internalise and prioritise these values in their decision-making and behaviour.

However, it is essential to recognise that the malleability of values is not uniform across all individuals or cultures. The extent to which values can be effectively promoted depends on various factors, including the existing cultural context, the perceived relevance of the promoted values, and the presence of supportive social structures. The effectiveness of such efforts will depend on the specific context and the receptiveness of individuals and communities to the promoted values. The intentional promotion of specific values has many practical and ethical implications which go beyond the focus of this thesis. However, on a theoretical level, by applying Schwartz's model to the context of transitioning to a low carbon future, we can gain valuable insights into the ethical underpinnings that can shape and drive a transition to a fairer, more sustainable society.

Universalism, the value of understanding, tolerance, and concern for the welfare of all, is intertwined with generosity. Both principles are based on interconnectedness and acknowledge our shared responsibilities and the inherent value of collective well-being. This underpins a vision of sustainability not as an isolated endeavour, but as a collaborative journey propelled by empathy and a sense of duty towards present and future generations.

Benevolence, with its focus on the well-being of those close to oneself, aligns seamlessly with the spirit of care and generosity. It calls upon individuals and societies to extend compassion and support to those who bear the brunt of environmental degradation and resource scarcity. The integration of benevolence into a generous transition depends on how successful we are on widening our moral circle and recognising more people and more parts of the environment as worthy of moral consideration. This would amplify the transformative potential of a transition to a low carbon future, fostering a society where the principles of justice, empathy, and collective welfare resonate harmoniously.

Self-direction, the value of independent thought and personal choice, might assume a crucial role in the framing of generosity-driven low carbon transitions. It acknowledges that change can be inspired by the conscious decisions of individuals. The concept of self-direction emboldens us to make deliberate choices that prioritise sufficiency over excess, thereby steering the trajectory of consumption patterns towards sustainability and shared responsibility.

As these ethical values coalesce, they form a backdrop against which the principles of generosity come alive. Universalism binds us to the global community, benevolence nurtures our commitment to the well-being of others, and self-direction empowers us to embrace change from within. Together, they sculpt a roadmap for action—a roadmap that holds the potential to guide us towards a future where sustainability, justice, and empathy intertwine to create positive change.

4.4 Contribution to the Literature

My research has been guided by a profound concern for social justice during a transition to a low carbon future. Throughout this thesis, I have delved into the relationships between our environment, societal and cultural dynamics, and the imperative for a more equitable distribution of power and resources. Central to this research is the concept of just transition, a cornerstone of conversations surrounding the shift towards sustainability. However, as I reviewed the literature on just transition and investigated how the concept translated into policy, it became evident that while just transition offers opportunities for positive transformation, it carries inherent limitations. This realisation compelled me to cast a wider net, ushering in the concept of generosity as a guiding principle, one which could simultaneously spark different types of justice, while overcoming some of the inherent limitations of justice. Generosity, in this context, does not supplant justice; instead, it enriches it, offering a new dimension to our understanding. This synthesis of

concepts and insights transcends the boundaries of my individual papers, culminating in a cohesive narrative that prompts us to reimagine the future. A future where care, empathy, and conscientious decision-making provide the starting point for a more holistic framework for sustainable progress.

In this thesis I argue that incorporating ethics of care and generosity principles to the just transition concept can help reconfigure the concept to restore its historic origins in labour and environmental movements, while overcoming the limitations previously outlined. A generous approach to low carbon transitions could play a key role in promoting more sustainable forms of production and consumption, while also promoting a fairer distribution of resources. This approach recognises a transition to a low carbon future will require wider collective action and cooperation, with the participation of more actors and with greater contributions from some actors than others. For example, it acknowledges that, as high consumers are disproportionately responsible for emissions and resource depletion, they have more responsibility to reduce their environmental impact through lifestyle changes. Emphasising the importance of relationships and interconnectedness (as well as a different understanding of individual achievement), this approach can be applied to social interactions between people as well as to the relationship between humans and the environment. Generosity as the underpinning principle for a fair and equitable transition could help guide policy and action to reduce the consumption levels of those with a greater environmental impact. It could also ensure that the benefits of the transition are distributed fairly.

This thesis makes several significant contributions to the existing body of literature on low carbon transitions and social justice. Firstly, on a conceptual level, it challenges the conventional use of justice as the guiding virtue in low carbon transitions. Instead, the thesis proposes the incorporation of ethics of care and generosity principles, arguing that these can act as catalysts for justice and provide a reconfigured and more historically grounded approach to the just transition concept. Secondly, a methodological contribution is made through the innovative application of Q methodology to explore policy makers' perspectives on the interpretation of a just transition, specifically in South Yorkshire. Finally, the empirical contributions are substantial, particularly through a detailed case study in South Yorkshire, offering new insights into the meaning of just transition within a specific geographic context and shedding light on the social justice implications. Additionally, the investigation into high consumption as a social justice issue associated

with the transition to a low carbon future contributes to the literature by highlighting a key, often overlooked, dimension of the transition. The thesis contends that a generosity-driven approach can play a pivotal role in fostering sustainable production and consumption, promoting equitable resource distribution, and recognising the collective action required for a just transition. The nuanced exploration of this generosity-driven approach presented in preceding sections illuminates its profound implications for high consumption, policy interventions, and the broader ethical perspectives that could guide our vision for a low carbon future.

This research holds relevance for several academic fields. Scholars in environmental ethics can find valuable insights into the moral dimensions of transitioning to a low-carbon future, especially through the exploration of the generous transition concept. Transition studies can benefit from the localised case study in South Yorkshire, which provides nuanced perspectives on the interpretations of just transition within a specific geographic context. Environmental sociology and consumption studies can be enriched by prioritising the investigation into high consumption practices, shedding light on their implications for social and environmental inequalities during the transition to a low-carbon future. Beyond these fields, the multidisciplinary nature of this research opens avenues for cross-disciplinary dialogue, making it pertinent for any academic domain concerned with the interplay of justice, sustainability, and societal transitions.

4.5 Summary of Limitations

Publication 1 brought to the fore a series of considerations that underscore the contextual constraints embedded within my research. The findings from the literature review, while insightful, are inevitably influenced by a bias towards the developed world—an echo of the prevailing focus of scholarly discourse and available sources. The confinement to a select set of theoretical perspectives was not merely a choice, but rather a reflection of the academic terrain where the conversation has predominantly unfolded. The scope of this review, despite its meticulousness, may not encompass the broader spectrum of perspectives and critical nuances that a more exhaustive review might uncover.

Publication 8 focused on secondary data, leveraging existing sources to shed light on the high consumption landscape in the UK. However, the limitations of data originally collected for different purposes introduce an inevitable constraint—an unavoidable trade-off between the availability of relevant indicators and the specificity demanded by my

research questions. The lack of granular geographical data restricts our ability to map the contours of high consumption at finer spatial resolutions.

In the synthesis of these studies, the limitations stand not as impediments but as signposts guiding future research. They serve as a reminder that the pursuit of knowledge is an evolving task, and the quest for a more equitable and sustainable world requires ongoing inquiry, adaptation, and refinement. These limitations have motivated me to consider new dimensions, embrace broader perspectives, and develop more encompassing frameworks.

4.6 Directions for Future Research

The study of high consumers opens avenues for theoretical discussions on needs, resource access, inequalities, intergenerational justice, and solidarity with the vulnerable. While theoretical groundwork has been laid, empirical research is now vital to uncover specific aspects of this topic. Key questions arise: Who are high consumers, where are they, and how can their environmental impact be reduced? What barriers do they face to reduce their consumption? Can subsets of high consumers more receptive to reducing consumption be identified? Understanding their awareness of consequences and exploring factors beyond income and lifestyle influencing high consumption is crucial. This group, often neglected in sustainability research and policymaking, holds valuable potential for positive change, urging a focused research agenda to bridge existing gaps.

Future research in the realm of just transition should consider the integration of generosity-based frameworks to unearth the underlying values of just transition in context. A promising avenue lies in scrutinising the generosity embedded in the actions of governments and companies as they articulate their commitment to just transition principles. Examining the extent of generosity in these entities can serve as a revealing lens, shedding light on the interests and values that shape their understanding of just transition. This exploration could offer valuable insights into the motivations and ethical foundations guiding the implementation of just transition initiatives, contributing to a more comprehensive understanding of the dynamics at play within these transformative processes.

The insights gleaned from this research are relevant not only within the confines of academic discourse but also extend into practical realms in the form of policy considerations and implications for cultural values.

One noteworthy trajectory lies in the investigation of practical applications of generosity as a guiding principle. The notion of encouraging high consumers to take proactive steps towards sustainability could create a ripple effect that reverberates through consumption patterns. By fostering a culture where generosity guides decisions, we could open pathways for collaboration, innovation, and meaningful change. The potential for grassroots movements, community initiatives, and corporate responsibility to converge under the banner of generosity offers a glimpse of a society where environmental stewardship and social justice coalesce.

Policy makers, equipped with the insights of this study, possess a unique opportunity to shape governance structures that mirror the ethos of generosity. Crafting policies that reward sustainable choices, empower marginalised communities, and steer industries towards sustainable practices can pave the way for a more equitable and resilient future. The integration of generosity as a guiding principle reshapes policy considerations from enforcement-centric approaches to ones that inspire and uplift, nurturing a sense of agency and shared responsibility.

Moreover, the exploration of generosity uncovers a multifaceted landscape where interconnectedness between individuals, communities, and the environment is not just acknowledged, but celebrated. This realisation has the potential to influence not only decision-making but also cultural norms and societal values. By integrating generosity into educational curricula, public discourse, and media narratives, we could sow the seeds for a shift in collective consciousness—one that transcends individual interests to prioritise the greater good.

However, this journey will not be without its challenges. The implementation of generosity-driven transitions requires addressing issues of inequality, access, and systemic barriers that persist in various contexts. Striking a balance between individual agency and collective impact, while navigating political considerations, economic issues and diverse cultural nuances, demands thoughtful navigation and strategic planning.

4.7 Conclusion

The integration of generosity into the discourse of low carbon transitions is not a mere theoretical exercise; it holds the potential to shape policy, inform individual choices, and recalibrate societal values. This thesis asserts that generosity is a practical tool for change. It can transform how we view ourselves, our relationship with the environment, and our obligations to present and future generations. The principles of generosity, universalism,

benevolence, and self-direction are core values that resonate across cultures, contexts, and beliefs. Together, these values can help us create a more just, harmonious, and sustainable world, where everyone has the opportunity to thrive, and where we live in balance with the rest of nature.

Through empirical research and theoretical analysis, this work has contributed to our understanding of the moral and practical implications just transitions entail. It has also shed light on the often-overlooked issue of high consumption in the context of environmental sustainability and social justice. While this research has made valuable contributions, it is important to acknowledge the ever-evolving nature of these challenges. Social justice and sustainability are complex and continuously changing issues, as demonstrated by the evolving literature in these fields. This thesis builds upon the insights shared by many others, contributing to an ongoing collective investigation of these crucial topics. In this spirit, I remain committed to further exploration in the years to come.

References

Abram, S., Atkins, E., Dietzel, A., Jenkins, K., Kiamba, L., Kirshner, J., ... & Santos Ayllón, L. M. (2022). Just Transition: A whole-systems approach to decarbonisation. *Climate Policy*, 22(8), 1033-1049.

Abraham, J. (2017). Just transitions for the miners: Labor environmentalism in the Ruhr and Appalachian coalfields. New Political Science, 39(2), 218-240.

Acosta, A., & Martinez Abarca, M. (2018). Buen Vivir: An alternative perspective from the peoples of the global south to the crisis of capitalist modernity. Chapter 6 in Vishwas Satgar (ed.) *The climate crisis: South African and global democratic eco-socialist alternatives,* 131-147.

Adger, W. N., Paavola, J., Huq, S., & Mace, M. J. (2006). Fairness in adaptation to climate change. Cambridge, MIT Press.

Agyeman, J., & Evans, B. (2004). 'Just sustainability': the emerging discourse of environmental justice in Britain?. *Geographical journal*, 170(2), 155-164.

Angelsen, A., Brockhaus, M., Sunderlin, W. D., & Verchot, L. V. (2012). Analysing REDD+: Challenges and choices. Cifor.

Archer, M. S. (2020). The morphogenetic approach; critical realism's explanatory framework approach. *Agency and causal explanation in economics*, 137-150.

Aristotle. (1908). Nicomachean Ethics. http://classics.mit.edu/Aristotle/nicomachaen.4.iv.html

Baier, A. (1995). Moral prejudices: Essays on ethics. Harvard University Press.

Bainton, N., Kemp, D., Lèbre, E., Owen, J. R., & Marston, G. (2021). The energy-extractives nexus and the just transition. *Sustainable Development,* 29(4), 624-634.

Barker, T., Scrieciu, Ş. & Taylor, D. (2008). Climate Change, Social Justice and Development. *Development* 51, 317–324 https://doi.org/10.1057/dev.2008.33

Barry, J. (2021). A just transition to a sustainable economy: Green political economy, labour republicanism, and the liberation from economic growth. In The Politics and Ethics of Contemporary Work (pp. 166-182). Routledge.

Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. *Review of general psychology*, 1(3), 311-320.

Bentham, J. (1996). The collected works of Jeremy Bentham: An introduction to the principles of morals and legislation. Clarendon Press.

Bergh, D. D., Boyd, B. K., Byron, K., Gove, S., & Ketchen Jr, D. J. (2022). What constitutes a methodological contribution?. *Journal of Management*, 48(7), 1835-1848.

Bhaskar, R. (1997). On the ontological status of ideas. *Journal for the theory of social behaviour*, 27(2-3), 139-147.

Bhaskar, R. (1998). The possibility of naturalism: a philosophical critique of the contemporary human sciences. London: Routledge.

Bhaskar, R. (2008). A realist theory of science. London: Routledge.

Bookchin, M. (1982). The ecology of freedom: The emergence and dissolution of hierarchy . Palo Alto, CA: Cheshire Books.

Bookchin, M. (1986). The Modern Crisis. Philadelphia: New Society Publishers.

Brand, U., & Pawloff, A. (2014). Selectivities at work: Climate concerns in the midst of corporatist interests. The case of Austria. *Journal of Environmental Protection*, 2014.

Brock, G., & Hassoun, N. (2023). Global Justice. In E. N. Zalta & U. Nodelman (Eds.), The Stanford Encyclopedia of Philosophy (Fall 2023 Edition). Retrieved from https://plato.stanford.edu/archives/fall2023/entries/justice-global/

Brown, K., Adger, W. N., Devine-Wright, P., Anderies, J. M., Barr, S., Bousquet, F., Butler, C., Evans, L., Marshall, N. & Quinn, T. (2019). Empathy, place and identity interactions for sustainability. *Global Environmental Change*, 56, 11-17.

Burke, M. J. (2020). Energy-sufficiency for a just transition: a systematic review. *Energies*, 13(10), 2444.

Butler, C. (2022). Energy Poverty, Practice, and Inequality. In *Energy Poverty, Practice, and Policy* (pp. 105-122). Palgrave Macmillan. Retrieved from https://link.springer.com/chapter/10.1007/978-3-030-99432-7_6?utm_mediu

Castree, N. (2001). Socializing nature: Theory, practice, and politics. In N. Castree & B. Braun (Eds.), Social nature: Theory, practice, and politics (pp. 1–21). Malden, MA, Blackwell.

Committee on Climate Change (2019). Net Zero: The UK's contribution to stopping global warming. https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf

Corsini, F., Certomà, C., Dyer, M., & Frey, M. (2019). Participatory energy: Research, imaginaries and practices on people'contribute to energy systems in the smart city. *Technological Forecasting and Social Change*, 142, 322-332.

Crepaz, M. M., & Lijphart, A. (1995). Linking and integrating corporatism and consensus democracy: Theory, concepts and evidence. *British Journal of Political Science*, 25(2), 281-288.

Crouch, C. (2006). Modelling the firm in its market and organizational environment: Methodologies for studying corporate social responsibility. Organization studies, 27(10), 1533-1551.

Della Porta, D. (2006). From corporatist unions to protest unions? On the (difficult) relations between organized labour and new social movements. *The Diversity of Democracy. Corporatism, Social Order and Political Conflict*, 71-97.

Demaria, F., Kothari, A., Salleh, A., Escobar, A., & Acosta, A. (2023). Post-development: From the Critique of Development to a Pluriverse of Alternatives. In Sergio Villamayor-Tomas and Roldan Muradian (Eds.) *The Barcelona School of Ecological Economics and Political Ecology: A Companion in Honour of Joan Martinez-Alier* (pp. 59-69). Springer International Publishing.

Department for Business, Energy & Industrial Strategy (2017). Smart Meter Customer Experience Study 2017. https://www.gov.uk/government/publications/smart-meter-customer-experience-study-2016-18

Descartes, R. (1989). Passions of the Soul. Hackett Publishing.

Di Chiro, G. (1996). Nature as community: The convergence of environment and social justice. Uncommon ground: Rethinking the human place in nature, 298-320.

Doorey, D. J., "A Law of Just Transitions?: Putting Labor Law to Work on Climate Change" (2016). Osgoode Legal Studies Research Paper Series. 164.

Doyle, T. (1998). Sustainable development and Agenda 21: The secular bible of global free markets and pluralist democracy. Third World Quarterly, 19(4), 771-786.

Drupp, M. A., Kornek, U., Meya, J., & Sager, L. (2021). Inequality and the environment: The economics of a two-headed hydra. CESifo Working Paper No. 9447

Dyrstad, J. M., Skonhoft, A., Christensen, M. Q., & Ødegaard, E. T. (2019). Does economic growth eat up environmental improvements? Electricity production and fossil fuel emission in OECD countries 1980–2014. *Energy policy*, 125, 103-109.

Eadson, W., van Veelen, B., & Backius, S. (2023). Decarbonising industry: a places-of-work research agenda. The Extractive Industries and Society, 15, 101307.

Eberhard, M. (2021). Putting people first. An analysis of the European Green Deals relationship to a just transition from an intersectional feminist standpoint.

European Commission (2020). Proposal for a regulation of the European Parliament and of the Council establishing the Just Transition Fund, COM(2020) 22 final, https://ec.europa.eu/commission/presscorner/detail/en/fs_20_50

European Commission (2021). 2030 Climate & Energy Framework https://climate.ec.europa.eu/eu-action/climate-strategies-targets/2030-climate-energy-framework_en

Fisher, S. (2013). Low-carbon resilient development in the least developed countries. International Institute for Environment and Development. https://www.iied.org/sites/default/files/pdfs/migrate/10049IIED.pdf

Foster, J. B. (2011). Capitalism and degrowth: an impossibility theorem. *Monthly Review*, 62(8), 26-33.

Fournier, V. (2008). Escaping from the economy: the politics of degrowth. *International Journal of Sociology and Social Policy*, 28 (11/12), 528–545. https://doi.org/10.1108/01443330810915233

Fraser, N. (2009). Scales of justice: Reimagining political space in a globalizing world (Vol. 31). Columbia University Press.

Garvey, A., Norman, J. B., Büchs, M., & Barrett, J. (2022). A “spatially just” transition? A critical review of regional equity in Decarbonisation Pathways. Energy Research & Social Science, 88, 102630. https://doi.org/10.1016/j.erss.2022.102630

Giddens, A. (1984). The Constitution of Society – outline of the theory of structuration. Berkeley and Los Angeles: University of California Press.

Given, L. M. (2008). The Sage encyclopaedia of qualitative research methods. Sage publications.

Guruswamy, L. (2010). Energy justice and sustainable development. *Colorado Journal of International Environmental Law and Policy*, 21, 231-275.

Goldman, M. J., Turner, M. D., & Daly, M. (2018). A critical political ecology of human dimensions of climate change: Epistemology, ontology, and ethics. *Wiley Interdisciplinary Reviews: Climate Change*, 9(4), e526.

Government of Canada (2019).Task Force: Just Transition for Canadian Coal Power Workers and Communities. https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition.html

Håkansson, A. (2014). What is overconsumption?–A step towards a common understanding. *International Journal of Consumer Studies*, 38(6), 692-700.

Harvey, D. (1988). Social Justice and the City. Oxford, Blackwell.

Healy, N., & Barry, J. (2017). Politicizing energy justice and energy system transitions: Fossil fuel divestment and a "just transition". *Energy policy*, 108, 451-459.

Heffron, R. J. (2020). The role of justice in developing critical minerals. The extractive industries and society, 7(3), 855-863.

Heffron R. J. and McCauley, D. (2018). What is the 'Just Transition'? *Geoforum*, 88, 74–77

Heffron, R. J., & McCauley, D. (2022). The 'just transition'threat to our Energy and Climate 2030 targets. Energy Policy, 165, 112949.

Heynen, N., Kaika, M., & Swyngedouw, E. (2006). In the nature of cities. Urban political ecology and the politics of urban metabolism. London, New York.

Holstein, J.A. & Gubrium, J.F. (2016) Narrative practice and the active interview. In: Silverman D (ed.) Qualitative Data Analysis. London: SAGE, 67–82.

Humphery, K. (2009). Excess: Anti-Consumerism in the West. Cambridge: PolityPress

IEA (2021). Greenhouse Gas Emissions from Energy Data Explorer – Data Tools. IEA. https://www.iea.org/data-and-statistics/data-tools/greenhouse-gas-emissions-from-energy-data-explorer

IPCC (2018). Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. https://www.ipcc.ch/sr15/

IPCC (2023). AR6 Synthesis Report: Climate Change 2023. https://www.ipcc.ch/report/sixth-assessment-report-cycle/

ILO (2015) Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All. Geneva: International Labour Office.

Jackson, T. (2009). Prosperity Without Growth. London: Earthscan.

Jakobsen, S. E., Uyarra, E., Njøs, R., & Fløysand, A. (2022). Policy action for green restructuring in specialized industrial regions. *European Urban and Regional Studies*, 29(3), 312-331.

Jenkins, K. (2018). Setting energy justice apart from the crowd: Lessons from environmental and climate justice. *Energy Research & Social Science*, 39, 117-121.

Jenkins, K., McCauley, D., Heffron, R., Stephan, H., & Rehner, R. (2016). Energy justice: A conceptual review. *Energy Research & Social Science*, 11, 174-182.

Jiang, X., Guan, D., & López, L. A. (2018). The global CO2 emission cost of geographic shifts in international sourcing. *Energy Economics*, 73, 122-134.

Johnstone, P., & Hielscher, S. (2017). Phasing out coal, sustaining coal communities? Living with technological decline in sustainability pathways. *The Extractive Industries and Society*, 4(3), 457-461.

Kallis, G. (2011). In defence of degrowth. *Ecological Economics*, 70 (5), pp. 873–880. https://doi.org/10.1016/j.ecolecon.2010.12.007

Kasser, T. and Kanner, A.D. (2004) Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World, *American Psychological Association*, https://doi.org/10.1037/10658-000.

Kolokotsa, D., & Santamouris, M. (2015). Review of the indoor environmental quality and energy consumption studies for low income households in Europe. *Science of the Total Environment*, 536, 316-330.

Kothari, A., Salleh, A., Escobar, A., Demaria, F., & Acosta, A. (2020). Pluriverse: A post-development dictionary. Authors Up Front/Tulika/Columbia University Press.

La Gioia, A., Fransolet, A., Marek, H., & Meyer, S. (2023) "Just Transition" Visions: An Analysis of the Perception of the Belgian Actors. Working Paper ULB & CEBRIG. https://www.cebrig-ulb.be/uploads/1/1/9/7/119727964/vision_transition_-_q_survey_-_final.pdf

Lee, J., & Byrne, J. (2019). Expanding the conceptual and analytical basis of energy justice: beyond the three-tenet framework. *Frontiers in Energy Research,* 7, 99.

Loewen, B. (2022). Coal, green growth and crises: Exploring three European Union policy responses to regional energy transitions. *Energy Research & Social Science*, 93, 102849.

Manfredo, M. J., Bruskotter, J. T., Teel, T. L., Fulton, D., Schwartz, S. H., Arlinghaus, R., ... & Sullivan, L. (2017). Why social values cannot be changed for the sake of conservation. *Conservation Biology*, 31(4), 772-780.

Månsson, A. (2014). Energy, conflict and war: towards a conceptual framework. *Energy Research & Social Science*, 4, 106-116.

Martínez Alier, J. (2003). The environmentalism of the poor: A Study of Ecological Conflicts and Valuation (1st ed.). Bath, Edward Elgar Publishing.

Martínez Alier, J. (2020) A global environmental justice movement: mapping ecological distribution conflicts Disjuntiva. Crítica De Les Ciències Socials 1(2):83–128. https://doi.org/10.14198/DISJUNTIVA2020.1.2.6

Maximov, S., Drummond, P., McNally, P., & Grubb, M. (2023). Where does the money go? An analysis of revenues in the GB power sector during the energy crisis. Institute for New Economic Thinking Working Paper Series, 207.

McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. Energy Policy, 119, 1-7.

McCauley, D., Ramasar, V., Heffron, R. J., Sovacool, B. K., Mebratu, D., & Mundaca, L. (2019). Energy justice in the transition to low carbon energy systems: Exploring key themes in interdisciplinary research. *Applied Energy*, 233-234, 916–921. doi:10.1016/j.apenergy.2018.10.005

McKeown, B., & Thomas, D. B. (2013). Q methodology (Vol. 66). Sage publications.

Middlemiss, L., Isenhour, C., & Martiskainen, M. (2019). Introduction: Power, politics, and (un) sustainable consumption. In C. Isenhour, M. Martiskainen and L. Middlemiss (Eds.) *Power and politics in sustainable consumption research and practice* (pp. 1-18). Routledge.

Mohai, P., Pellow, D., & Roberts, J. T. (2009). Environmental justice. *Annual review of Environment and Resources*, 34, 405-430.

Munro, P., van der Horst, G., & Healy, S. (2017). Energy justice for all? Rethinking sustainable development goal 7 through struggles over traditional energy practices in Sierra Leone. *Energy Policy*, 105, 635-641.

Neo, H., & Pow, C. P. (2015). Eco-cities and the promise of socio-environmental justice. In The international handbook of political ecology (pp. 401-414). Edward Elgar Publishing.

Newell, P., & Phillips, J. (2016). Neoliberal energy transitions in the south: Kenyan experiences. Geoforum, 74, 39–48. https://doi.org/10.1016/j.geoforum.2016.05.009

Newell, P., & Mulvaney, D. (2013). The political economy of the "just transition." *The Geographical Journal*, 179(2), 132–140.

Nielsen, K. S., Nicholas, K. A., Creutzig, F., Dietz, T., & Stern, P. C. (2021). The role of high-socioeconomic-status people in locking in or rapidly reducing energy-driven greenhouse gas emissions. *Nature Energy*, 6(11), 1011-1016.

Obeng-Odoom, F. (2021). Oil cities in africa: beyond just transition. *American Journal of Economics and Sociology*, 80(2), 777-821.

Page, E. A. (2006). Climate Change, Justice and Future Generations. Cheltenham. Edward Elgar.

Parker, J. (2010). Towards a dialectics of knowledge and care in the global system. In *Interdisciplinarity and Climate Change* (pp. 219-240). Routledge.

Pellegrini-Masini, G., Pirni, A., & Maran, S. (2020). Energy justice revisited: A critical review on the philosophical and political origins of equality. *Energy Research & Social Science*, 59, 101310.

Pepper, D. (1993). Anthropocentrism, humanism and eco-socialism: A blueprint for the survival of ecological politics. *Environmental Politics*, 2(3), 428-452.

Pinker, A. (2020) Just Transitions: a comparative perspective. https://www.gov.scot/publications/transitions-comparative-perspective/

Prober, S. M., Doerr, V. A., Broadhurst, L. M., Williams, K. J., & Dickson, F. (2019). Shifting the conservation paradigm: a synthesis of options for renovating nature under climate change. *Ecological Monographs*, 89(1), e01333.

Roberts, J. T., & Parks, B. (2006). A climate of injustice: Global inequality, north-south politics, and climate policy. MIT press.

Robins, N., Tickell, S., Irwin, W., & Sudmant, A. (2020). Financing climate action with positive social impact: How banking can support a just transition in the UK. Grantham Research Institute on Climate Change and the Environment, LSE: London, UK.

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. *Nature*, 461(7263), 472-475.

Rosa, H. & Henning, C. (2017) The good life beyond growth: New perspectives. Routledge.

Sathaye, J., Najam, A., Cocklin, C., Heller, T., Lecocq, F., Llanes-Regueiro, J., ... & Winkler, H. (2007). Sustainable development and mitigation. In: Metz, Bert, Davidson, Ogunlade, Bosch, Peter, Dave, Rutu, and Meyer, Leo, (eds.) Climate Change: mitigation of climate change. Cambridge University Press, Cambridge, UK, pp. 691-743.

Sayer, A. (2000). Key features of critical realism in practice: a brief outline. *Realism and social science*, 10-28.

Schlosberg, D. (2013). Theorising environmental justice: the expanding sphere of a discourse. Environmental politics, 22(1), 37-55.

Schröder, P. (2020). Promoting a just transition to an inclusive circular economy. Royal Institute of International Affairs. https://rb.gy/5esp4e

Schwartz, S. H. (2012). An overview of the Schwartz theory of basic values. *Online readings in Psychology and Culture*, 2(1), 11.

Schwartz, S. H. (2022). Understanding values: Schwartz theory of basic values https://i2insights.org/2022/05/10/schwartz-theory-of-basic-values/

Schwartz, S. H., & Cieciuch, J. (2021). Measuring the refined theory of individual values in 49 cultural groups: Psychometrics of the revised portrait value questionnaire. Assessment, 29(5), 1005–1019. https://doi.org/10.1177/1073191121998760

Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. Journal of Personality and Social Psychology, 103(4), 663–688. https://doi.org/10.1037/a0029393

Scottish Government (2020) Just Transition Commission. https://www.gov.scot/groups/just-transition-commission/

Scottish Government (2023) About the Commission. https://www.justtransition.scot/the-commission/

Scruggs, L. A. (1999). Institutions and environmental performance in seventeen western democracies. British Journal of Political Science, 29(1), 1-31.

Sevenhuijsen, S. (1998) Citizenship and the Ethics of Care. London: Routledge.

Siciliano, G., Wallbott, L., Urban, F., Dang, A. N., & Lederer, M. (2021). Low-carbon energy, sustainable development, and justice: Towards a just energy transition for the society and the environment. *Sustainable development*, 29(6), 1049-1061.

Silverman, D. (2017). How was it for you? The Interview Society and the irresistible rise of the (poorly analyzed) interview. Qualitative Research, 17(2), pp.144–158. doi:https://doi.org/10.1177/1468794116668231

Sovacool, B. K., & Dworkin, M. H. (2014). Global energy justice. Cambridge University Press.

Sovacool, B. K., Turnheim, B., Hook, A., Brock, A., & Martiskainen, M. (2021). Dispossessed by decarbonisation: Reducing vulnerability, injustice, and inequality in the lived experience of low-carbon pathways. *World Development*, 137, 105116.

Snell, D. (2018). 'Just transition'? Conceptual challenges meet stark reality in a 'transitioning'coal region in Australia. *Globalizations*, 15(4), 550-564.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424.

Stevis, D., & Felli, R. (2020). Planetary just transition? How inclusive and how just?. *Earth System Governance*, 6, 100065.

Tanner, T., & Harvey, B. (2013). Social justice and low carbon development. In F. Urban & J. Nordensvard (Eds.), Low carbon development: Key issues (pp. 55-65).

Teixidó-Figueras, J., Steinberger, J. K., Krausmann, F., Haberl, H., Wiedmann, T., Peters, G. P., ... & Kastner, T. (2016). International inequality of environmental pressures: Decomposition and comparative analysis. *Ecological Indicators*, 62, 163-173.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207-222.

Tronto, J. (2013). Caring Democracy: Markets, Equality, and Justice. New York: New York University Press

UFCCC (2020). Just Transition of the Workforce, and the Creation of Decent Work and Quality Jobs. https://unfccc.int/sites/default/files/resource/Just%20transition.pdf

United Nations (2018). World altered by "neoliberal" outsourcing of public services to private sector, third committee experts stress, amid calls for better rights protection. UN press. United Nations. https://press.un.org/en/2018/gashc4239.doc.htm

Valentine, S., Brown, M., & Sovacool, B. (2019). Empowering the great energy transition policy for a low-carbon future. New York: Columbia University Press.

Vartanian, T. P. (2010). Secondary data analysis. Oxford University Press.

Vesa, J., Gronow, A., & Ylä-Anttila, T. (2020). The quiet opposition: How the pro-economy lobby influences climate policy. *Global Environmental Change*, 63, 102117.

Walk, P., Braunger, I., Semb, J., Brodtmann, C., Oei, P. Y., & Kemfert, C. (2021). Strengthening gender justice in a just transition: A research agenda based on a systematic map of gender in coal transitions. *Energies*, 14(18), 5985.

Wang, X., & Lo, K. (2021). Just transition: A conceptual review. *Energy Research & Social Science*, 82, 102291.

Wiedenhofer, D., Lenzen, M., & Steinberger, J. K. (2013). Energy requirements of consumption: Urban form, climatic and socio-economic factors, rebounds and their policy implications. *Energy policy*, 63, 696-707.

Wiedmann, T., Lenzen, M., Keyßer, L. T., & Steinberger, J. K. (2020). Scientists' warning on affluence. *Nature communications*, 11(1), 1-10.

Williams, S., & Doyon, A. (2019). Justice in energy transitions. *Environmental Innovation and Societal Transitions*, 31, 144–153

While, A., & Eadson, W. (2019). Households in place: socio-spatial (dis)advantage and energy-carbon restructuring. *European Planning Studies*, 27(8), 1626-1645. https://doi.org/10.1080/09654313.2019.1595533

Young, J. (1998). Just Transition: A New Approach to Jobs v. Environment: The Oil, Chemical and Atomic Workers (OCAW) Union wants a GI Bill for workers who lose jobs because of necessary environmental regulation. WorkingUSA, 2(2), 42-48.

Zhang, Y., & Wang, M. (2018). Climate change actions and just transition. *Chinese Journal of Urban and Environmental Studies*, 6(04), 1850024.

Appendix A: Level of Contribution for Each Publication

Publication number	Title	Level of contribution
1	High consumption, an unsustainable habit that needs more attention	**First author.** I assumed the primary authorship role, overseeing the conceptualisation, organisation, and writing of the literature review. I conducted an exhaustive review of the relevant literature, including identifying key themes, synthesising findings, and critically evaluating existing research. I was responsible for the analysis and synthesis of the gathered literature, ensuring the paper's coherence and the integration of various sources. I took the lead in drafting the manuscript, ensuring clarity, structure, and adherence to academic writing standards. I played a central role in reviewing and revising the paper based on feedback from co-authors and reviewers, contributing to the paper's overall quality and rigor.
2	Lessons for a Just Transition from the COVID-19 pandemic	**Sole author.**
3	Transitions for zero carbon futures: from just to generous	**Sole author.**
4	What is an urban just transition? Grappling with an	**Contributing author.** I conceptualised and led the Q methodology portion of the study. This included designing the Q

	unsettled concept in an industrial region	method research framework, conducting the Q-sort data collection, and performing the Q analysis. I actively participated in the semi-structured interview data collection process. Additionally, I contributed to the analysis of interview data. I made substantial contributions to writing and revising the final paper, contributing to the methodology, results and conclusion sections. My contributions ensured the seamless integration of the Q methodology and interview data within the paper's overarching research narrative.
5	Uneven consumption and the work of being a high consumer	**Contributing author.** I contributed to the conceptual development of the chapter, shaping its focus and ensuring alignment with the overarching project goals. I participated in drafting the chapter, ensuring that the ideas and findings from the literature review and interviews I had previously conducted were effectively integrated and presented. I actively participated in the review and revision process, incorporating feedback and ensuring the chapter's coherence and academic rigor.
6	Alternatives to justice for a thriving transition	**Contributing author.** I offered key conceptual ideas and insights that helped shape the overall direction and focus of the chapter. These ideas were

		instrumental in guiding the chapter's narrative. I collaborated closely with the other authors, providing input during discussions and brainstorming sessions. My contributions were integrated into the chapter's framework, contributing to its overall quality.
7	High consumers of energy and resources and the work of being wealthy: towards a research agenda	**Contributing author.** I significantly contributed to the paper's theoretical and contextual foundations. I actively participated in the interview data collection process, conducting several interviews. I contributed to the drafting of the conference paper, drawing on my knowledge of the literature and the insights gained from the interviews. I also took part in the review process, refining the paper for clarity and coherence.
8	High consumption in the UK: an exploration of secondary data	**First author.** I actively scoured and evaluated various databases to collect relevant secondary data for the project. I assumed the responsibility for creating informative and visually engaging graphs based on the collected data. These visual representations played a crucial role in conveying our findings effectively. I provided support in analysing the secondary data, assisting in deriving insights and patterns that informed our

		project's conclusions and recommendations. I actively participated in the writing process, helping to craft clear and concise sections of the report.
9	It's high time to talk about the climate impacts of high consumers	**Contributing author.** I actively participated in deriving meaningful insights and implications from the collected information. I contributed to the development of report sections, providing substantial input in structuring and drafting portions of the document. I played an integral role in the review and refinement of the report, ensuring that it maintained consistency with the literature review's findings (publication 1).

Appendix B: Q-sort Analysis

Exploring views on a Just Transition for Sheffield City Region with Q Methodology

This research explores the different perspectives about a just transition for Sheffield City Region (SCR) using Q methodology. It was conducted as part of a wider study aimed at understanding what a just transition for SCR should look like, using responses from SCR, LEP and civil society participants. This research is directly related to achieving a just transition in the region, and provides insights on areas of agreement and disagreement regarding the concept of a just transition.

Q methodology combines the openness of qualitative methods with the statistical rigour of quantitative analysis. It provides a way of establishing patterns among individuals, eliciting the variety of discourses about a particular theme. We used an online tool (Q-Tip) for online data collection and a desktop application (KADE) for the analysis of the data.

The Q study allowed us to identify 17 consensus statements, which could provide common ground for conversations about a Just Transition for the region. However, those consensus statements could also be further refined as different people might attach different meanings to them.

Three distinct views on what a Just Transition should look like for SCR emerged from the analysis: (1) Leading through investing in infrastructure and education, (2) A growing economy and technological innovation, and (3) Solidarity and putting people at the centre.

There are significant differences between those three ways of understanding a Just Transition for SCR, which might reflect ongoing debates about the topic.

As one of the main challenges for a just transition is reaching agreements on a common vision for the future, Q methodology is a valuable resource to identify points of view and perceptions of the concept, which could in turn facilitate public debate.

Q-sort analysis

The respondents' Q sorts showed there are 17 consensus statements, which could provide common ground to start (or continue) conversations about what a JT should entail. These consensus statements could also be further refined in conversation, as different people might give different meanings to them:

Agreement	Just Transition needs to account for the rights of future generations. Just Transition is about ensuring inclusive growth. Just Transition means changing how we think about education, training and skills. Just Transition is about changing how we think about work and jobs. Just Transition for SCR should prioritise improving housing stock for people.
Neutral	Just Transition will require specific policies to promote gender and racial equality. JT needs to be place-based. JT means protecting housing and businesses in areas prone to flooding. The region's anchor institutions will be central to a Just Transition A JT means putting the region's ecosystems first.
Disagreement	Just Transition should not be a priority for the City Region. SCR is less important than other places when it comes to implementing just transition principles.

	A just transition should take decades to give people time to adapt. A just transition depends on international agreements. Just Transition will require implementing a UBI so that everyone has sufficient income to meet their needs. Realising a JT inevitably means conflict between different groups in society. JT means Trade Unions should be closely involved in decision-making.

The data analysis process using KADE, a desktop application for the analysis of Q methodology data, was comprised of four steps:

1- Data input from the Q sorts of all 17 participants in the Q study.
2- Factor extraction using the Centroid method.
3- Selection of 3 factors for rotation.
4- Application of Varimax rotation to maximise the variance shared among items.

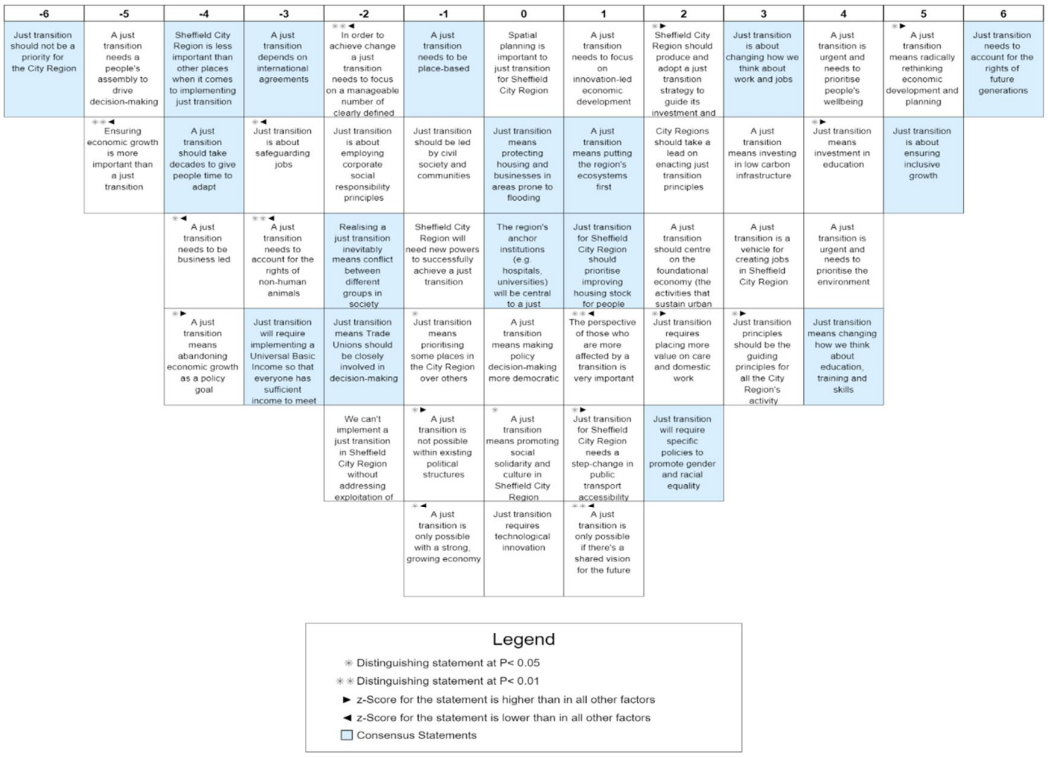
The output KADE provides after using these statistical techniques shows different tables created from the data, including the distinguishing statements for each factor and consensus statements. It also shows composite Q sorts that are related to distinct views on the topic of interest.

The 3 distinct views on Just Transitions that emerged from the composite Q sorts can be classified as answers to the question *What does a just transition look like for Sheffield City Region?* Based on the composite Q sorts from the participants' responses, the different views are:

- Leading through investing in infrastructure and education (linked to the 'Education' theme on the interview analysis)
- A growing economy and technological innovation (linked to the 'Economy' theme on the interview analysis)
- Solidarity and putting people at the centre (linked to the 'Communities/Inclusion and Awareness' theme on the interview analysis)

Leading through investing in infrastructure and education

Composite Q Sort:



This way of understanding a Just Transition for the region holds that Just Transition principles should guide SCR. And that this requires rethinking development and more investment in education.

Distinguishing Statements –

A just transition means radically rethinking economic development and planning / 5

Just transition means investment in education / 4

Just transition principles should be the guiding principles for all the City Region's activity / 3

Sheffield City Region should produce and adopt a just transition strategy to guide its investment and policy decision-making / 2

Just transition requires placing more value on care and domestic work / 2

The perspective of those who are more affected by a transition is very important / 1

Just transition for Sheffield City Region needs a step-change in public transport accessibility and use / 1

A just transition is only possible if there's a shared vision for the future / 1

A just transition means promoting social solidarity and culture in Sheffield City Region / 0

Just transition means prioritising some places in the City Region over others / -1

A just transition is not possible within existing political structures / -1

A just transition is only possible with a strong, growing economy / -1

In order to achieve change a just transition needs to focus on a manageable number of clearly defined policy objectives / -2

Just transition is about safeguarding jobs / -3

A just transition needs to account for the rights of non-human animals / -3

A just transition needs to be business led / -4

A just transition means abandoning economic growth as a policy goal / -4

Ensuring economic growth is more important than a just transition /-5

A growing economy and technological innovation

Composite Q Sort:

-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
A just transition means abandoning economic growth as a policy goal	A just transition needs a people's assembly to drive decision-making	A just transition is not possible within existing political structures	A just transition should take decades to give people time to adapt	Just transition should be led by civil society and communities	A just transition means putting the region's ecosystems first	Just transition will require specific policies to promote gender and racial equality	* Just transition means investment in education	Just transition means changing how we think about education, training and skills	A just transition is a vehicle for creating jobs in Sheffield City Region	Just transition is about ensuring inclusive growth	Just transition needs to account for the rights of future generations	** ► A just transition is only possible with a strong, growing economy
	Just transition should not be a priority for the City Region	We can't implement a just transition in Sheffield City Region without addressing exploitation of	* ◄ Just transition means prioritising some places in the City Region over others	A just transition depends on international agreements	* ◄ A just transition should centre on the foundational economy (the activities that sustain urban	** ◄ A just transition is urgent and needs to prioritise the environment	** ► A just transition needs to be business led	A just transition means investing in low carbon infrastructure	The perspective of those who are more affected by a transition is very important	** ► A just transition needs to focus on innovation-led economic development	* A just transition means radically rethinking economic development and planning	
		Just transition will require implementing a Universal Basic Income so that everyone has sufficient income to meet	** ◄ A just transition means making policy decision-making more democratic	Just transition for Sheffield City Region needs a step-change in public transport accessibility	A just transition needs to be place-based	Just transition is about safeguarding jobs	City Regions should take a lead on enacting just transition principles	Just transition for Sheffield City Region should prioritise improving housing stock for people	** ► Ensuring economic growth is more important than a just transition	** ► Just transition requires technological innovation		
		Sheffield City Region is less important than other places when it comes to implementing just transition	Just transition means Trade Unions should be closely involved in decision-making	** ◄ Sheffield City Region should produce and adopt a just transition strategy to guide its investment and	Realising a just transition inevitably means conflict between different groups in society	* Just transition requires placing more value on care and domestic work	** ◄ A just transition is urgent and needs to prioritise people's wellbeing	* ► The region's anchor institutions (e.g. hospitals, universities) will be central to a just	In order to achieve change a just transition needs to focus on a manageable number of clearly defined	** A just transition is only possible if there's a shared vision for the future		
				** ◄ A just transition means promoting social solidarity and culture in Sheffield City Region	A just transition needs to account for the rights of non-human animals	Spatial planning is important to just transition for Sheffield City Region	Just transition is about employing corporate social responsibility principles	Just transition is about changing how we think about work and jobs				
					Sheffield City Region will need new powers to successfully achieve a just transition	Just transition means protecting housing and businesses in areas prone to flooding	Just transition principles should be the guiding principles for all the City Region's activity					

Legend

* Distinguishing statement at P< 0.05

** Distinguishing statement at P< 0.01

► z-Score for the statement is higher than in all other factors

◄ z-Score for the statement is lower than in all other factors

Consensus Statements

This is a view of Just Transition as reliant on economic growth and technological innovation.

Distinguishing Statements –

A just transition is only possible with a strong, growing economy / 6

A just transition means radically rethinking economic development and planning / 5

A just transition needs to focus on innovation-led economic development / 4

Just transition requires technological innovation / 4

A just transition is only possible if there's a shared vision for the future / 4

Ensuring economic growth is more important than a just transition / 3

The region's anchor institutions (e.g. hospitals, universities) will be central to a just transition for Sheffield City Region / 2

Just transition means investment in education / 1

A just transition needs to be business led / 1

A just transition is urgent and needs to prioritise people's wellbeing / 1

A just transition is urgent and needs to prioritise the environment / 0

Just transition requires placing more value on care and domestic work / 0

A just transition should centre on the foundational economy (the activities that sustain urban life like utilities,

public transport, care, education, food provision) / -1

Sheffield City Region should produce and adopt a just transition strategy to guide its investment and policy decision-making / -2

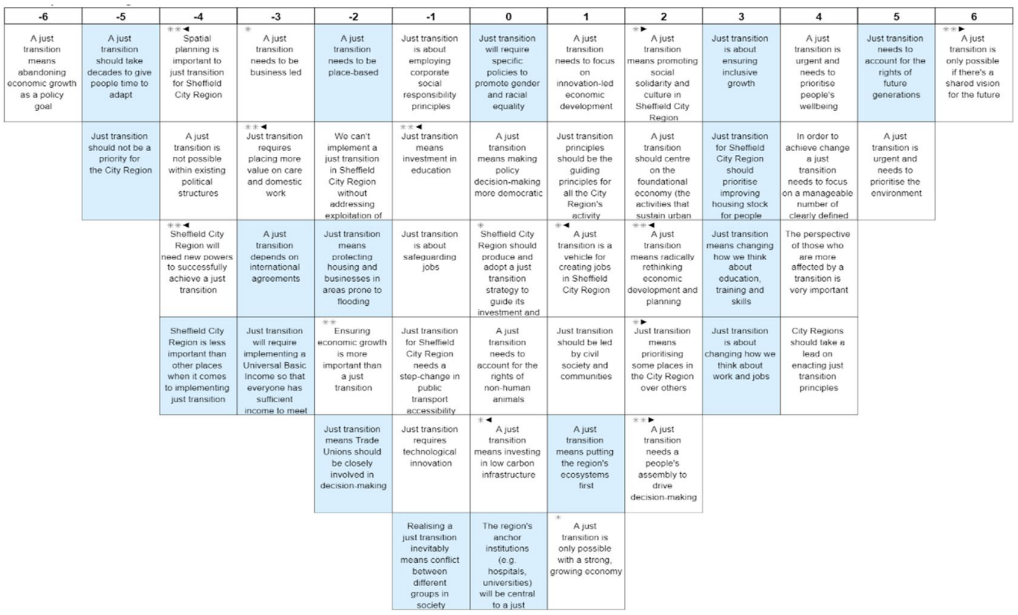
A just transition means promoting social solidarity and culture in Sheffield City Region / -2

Just transition means prioritising some places in the City Region over others / -3

A just transition means making policy decision-making more democratic /-3

Solidarity and putting people at the centre

Composite Q Sort:



This perspective holds that a Just Transition needs a common vision based on solidarity and putting people at the centre.

Distinguishing Statements –

A just transition is only possible if there's a shared vision for the future / 6

A just transition means promoting social solidarity and culture in Sheffield City Region / 2

A just transition means radically rethinking economic development and planning / 2

Just transition means prioritising some places in the City Region over others / 2

A just transition needs a people's assembly to drive decision-making / 2

A just transition is a vehicle for creating jobs in Sheffield City Region / 1

A just transition is only possible with a strong, growing economy / 1

Sheffield City Region should produce and adopt a just transition strategy to guide its investment and policy decision-making / 0

A just transition means investing in low carbon infrastructure / 0

Just transition means investment in education / -1

Ensuring economic growth is more important than a just transition / -2

A just transition needs to be business led / -3

Just transition requires placing more value on care and domestic work / -3

Spatial planning is important to just transition for Sheffield City Region / -4

Sheffield City Region will need new powers to successfully achieve a just transition / -4