Milan Ilnyckyj

ORCID: 0000-0001-7193-8715

31 May 2015

Resource Inequality and Environmental Sustainability

The key philosophical problem of distributive justice is choosing criteria for evaluating different resource distributions between people and groups and then applying the criteria in a logically convincing and empirically supported way. With a strongly data-driven approach, Thomas Piketty has contributed substantially to the ongoing normative and policy debate about income and wealth inequality in rich democracies. Piketty's long-term analysis of the causes and long-term trends of income and wealth inequality can be integrated meaningfully with Richard Wilkinson and Kate Pickett's survey on the empirical impacts of inequality on people's life prospects in *The Spirit Level*, particularly if the aim is to reconcile claims about what achieving environmental sustainability requires with claims about distributive justice and economic equality.[[1]](#footnote-1) At the same time as philosophical and political debate on inequality is active, a diverse and internally-conflicted literature on the policy requirements of environmental sustainability has been developing, in areas from biodiversity to soil conservation to climate change. Many predominantly economic analyses of inequality pay little or no attention to environmental matters. Piketty, for instance, flags climate change as important, but does not deeply integrate the question of its management into his analysis or policy prescriptions.[[2]](#footnote-2) He also fails to seriously integrate it into his projections about future growth. Efforts to integrate consideration of sustainability into analysis of inequality have the potential to produce a more comprehensive set of criteria for normative evaluation of policy, as well as to provide applicable guidance for policy-makers who must grapple with both trends. Some of the major critiques raised by scholars focused on environmental politics, such as the inadequacy of gross domestic product (GDP) as a measure of human welfare, have the potential to contribute to the emergence of improved criteria for assessing policy outcomes even in issue areas not immediately connected with the natural environment. Close consideration of environmental sustainability may provide insight into the nature of human flourishing, prospects for cooperation, and questions about what sorts of living things have interests that matter. Consideration of economic equality alongside sustainability is also important for the practical task of examining coalitions that have formed in support of different policy agendas and the prospects for meaningful changes in the approaches taken by states.

 As with energy security and climate change, the issues of economic equality and environmental sustainability are orthogonal from the perspective of policy: any particular policy proposal can be identified as helpful from the perspective of just one or the other, helpful in both respects, or harmful in both ways.[[3]](#footnote-3) [[4]](#footnote-4) For instance, allowing wealthy landowners to exclude traditional land-users from activities which are arguably environmentally harmful may worsen economic equality while promoting sustainability[[5]](#footnote-5) (at least if defined as reduced interference in ecosystems); subsidies to reduce the cost of fossil fuels for low-income individuals likely improve equality while worsening environmental outcomes; the provision of energy-efficient social housing likely improves both equality and environmental outcomes; while reducing the strength of environmental regulation on major projects like mines or fossil fuel pipelines probably at least temporarily increases corporate profitability, worsening both equality and sustainability outcomes.[[6]](#footnote-6) This orthogonal perspective is at odds with accounts that see improvements in equality or sustainability carrying over essentially automatically into the other realm. It also raises questions about which approach ought to be emphasized in the event of conflict between the two; correcting prolonged economic injustice has obvious moral importance, but maintaining a living planet is a pinnacle necessity. Naomi Klein's *This Changes Everything* is an important example of an account that sees improvements in equality and sustainability as essentially compatible, or even automatically synergistic.[[7]](#footnote-7) While Klein's account is coherent and appealing, it may assume too much about the compatibility of the two outcomes being sought. In particular, we must be somewhat wary of those who see pressing environmental problems as automatically adding to the appropriateness of policy prescriptions they already support. It is also prudent to remain open to the possibility that multiple routes exist for achieving improved sustainability outcomes, including both approaches driven at the elite level and those advanced through mass social movements.[[8]](#footnote-8) Klein's vision, in which sustainability can be achieved in the absence of painful sacrifices from most members of the population, can be usefully contrasted with the perspective of George Monbiot, in which nearly everyone must be called upon to make significant sacrifices for the sake of nature and future generations. In a book where he makes an ambitious attempt to describe what the United Kingdom would need to do as a fair response to climate change, Monbiot explains:

"[T]he campaign against climate change is an odd one. Unlike almost all the public protests which have preceded it, it is a campaign not for abundance but for austerity. It is a campaign not for more freedom but for less. Strangest of all, it is a campaign not just against other people, but also against ourselves." [[9]](#footnote-9)

This apparent contradiction can be resolved to a degree by refocusing on Wilkinson and Pickett's arguments about wealth and life satisfaction. They argue that: "further economic growth in the developed world no longer improves health, happiness or measures of wellbeing" and that "there are ways of improving the quality of life in rich countries without further economic growth".[[10]](#footnote-10) As with many other behaviours that can be interpreted as short-sighted or irrational from the standpoint of quality of life, it's possible that most people would be happier if they were living less greenhouse gas (GHG)-intensive lives. Even so, it does not follow that a political program designed to compel or strongly encourage such changes will receive broad public or elite support.[[11]](#footnote-11) The simple fear of transitioning from proven power supplies to others which seem unproven provokes resistance. So does the argument that environmental protection and economic prosperity are fundamentally incompatible, and that economic growth must be the top priority for democratic governments. Particularly if voters in democratic societies continue to use the rate of economic growth as a major criterion for deciding whether to support the party in power or an opposition party, a substantial political barrier will exist even if the empirical claims in *The Spirit Level* are correct.

 Even within discussions of economic inequality alone, an exclusive focus on wealth and income risks obscuring the overall situation and encouraging policy choices with illusory benefits. As such, it is preferable to consider 'resource inequality', which considers wealth and income alongside valuable services that people receive from governments and other entities. Certain examples illustrate the distinction clearly. For instance, astronauts aboard the International Space Station and submariners on long patrols are provided with all the resources immediately required for life as a condition of their employment, rather than on a commercial basis. Monks living under the *Rule of Saint Benedict* provide another example of the distinction between resource inequality and that of income or wealth, as the Rule stipulates both that all monks shall be equally provided for with the necessities of life and that all private property shall be strictly prohibited.[[12]](#footnote-12) In less extreme form, citizens of states that provide public benefits like health care, child care, and parental leave have more resources than people with the same wealth and income who live in states that do not provide such benefits.

'Resource' is here taken to mean a rivalrous good (the use of which by one person precludes use by someone else) which can be used to advance the life projects of individuals. It is a concept closely linked with "primary social goods" as discussed by John Rawls: "things which it is supposed a rational man wants whatever else he wants… rights, liberties, and opportunities, and income and wealth".[[13]](#footnote-13)[[14]](#footnote-14) Resource equality is distinguished from primary social goods as it excludes rights and opportunities which require no material expenditure to provide and which require no raw materials and produce no waste, such as freedom of speech or religion. Analyses of income and wealth inequality which exclude public services risk being distorted by illusory gains when the provision of services is shifted from public to market provision. Privatizing a national daycare system, for example, would likely boost GDP without necessarily altering the resource equality of the population. Indeed, privatization of formerly universal services risks worsening resource equality by allowing wealthy individuals to purchase superior services from commercial providers, while putting even the most basic services out of reach for the poorest members of society. Wilkinson and Pickett's analysis strongly supports the need to look beyond GDP when evaluating human welfare and quality of life, in part by highlighting the breakdown of the relationship between wealth and life satisfaction at higher levels of income. Piketty acknowledges something similar in his brief discussion of climate change, arguing that "[t]he more urgent need is to increase our educational capital and prevent the degradation of our natural capital" – a position that highlights the importance of resources not directly captured in GDP.[[15]](#footnote-15)

### Resource equality and sustainability as orthogonal policy objectives

 Public policy interventions can be charted in a space with two dimensions and four quadrants, with one axis representing the tendency to increase or decrease resource inequality and the other representing the impact on sustainability. Even such a typology is an oversimplification, however, because of the multidimensional character of sustainability. For life on Earth to endure in a manner similar to what has existed historically, a number of chemical and biological systems must be kept within tolerable bounds. Soils must remain capable of sustaining plant life, including for human agriculture. The climate must remain compatible with the ability of species to adapt. In addition, the reciprocal relationships between species which aggregate to form ecosystems must be maintained: a multidimensional requirement in itself. Furthermore, there are likely to be many possible policies which will have complex or unpredictable effects on both axes. Regardless, the existence of at least some policies which can be clearly situated in each of four quadrants (promoting/inhibiting equality and promoting/inhibiting sustainability[[16]](#footnote-16)) suffices to establish that the two sets of criteria are at least sometimes independent. Any distributive justice framework that accords importance to both equality and sustainability will therefore need to evaluate policy impacts across both dimensions and, ideally, seek to identify policies which do not work at cross purposes, but which are rather mutually reinforcing.

 Candidate policies with promise for improving both environmental and equality outcomes can be found in both the equality-focused literature and the sustainability-focused literature. Often, however, a policy designed to serve one purpose requires modification to effectively serve both. Building more social housing may serve equality inherently, but only serve environmental outcomes if done in the context of a determination to address energy efficiency, water use, integration with transportation infrastructure, and other factors which comprise the environmental effects of housing. Conversely, a carbon tax aimed only at discouraging fossil fuel use and the destruction of natural carbon sinks may not serve equality objectives, but could be made to do so by including progressivity or a universal partial rebate set at the level of sustenance, or even at the average societal level of GHG pollution.[[17]](#footnote-17) The cap and dividend concept, for instance, would collect revenue from all GHG emissions (more from those who are more intensive users) and then refund all revenues to the public on a *per capita* basis. The result would be a net refund for people who use less than the average amount and a net cost for those who use more. If such a policy was successful at reducing total societal GHG pollution, the threshold at which the rebate was set would progressively fall, shifting the pollution level at which any individual would break even. The policy most enthusiastically endorsed by Piketty for reducing economic inequality is investment in education.[[18]](#footnote-18) It seems implausible that such investment would automatically improve sustainability outcomes (indeed, if education boosts productivity, income, and total consumption it may have the opposite effect), though it does seem conceivable that suitably-designed curriculums could help prepare future generations to make sounder ecological choices.

 A progressive wealth tax, as proposed by Piketty, probably doesn't have an inherent or predictable consequence for sustainability. If the assets of the wealthy are committed to the development of especially unsustainable projects like extreme offshore fossil fuel development, arctic drilling, or the development of Canada's bitumen sands, it may be that shifting wealth away from the rich has net environmental benefits. If the large stores of wealth held by the rich are invested in more environmentally neutral ways, however, the tendency of poorer people to spend a larger share of their income (as opposed to investing it) may turn redistribution into a mechanism for reduced sustainability. This is not to say that the environmental consequences of a wealth tax are impossible to predict (or, still less, impossible to evaluate after the fact), but simply to say that there are policies which have a clear effect across one dimension but a complex or unpredictable effect across the other. Policies may well also have varied effects on different timescales: privatizations used to fund deficit spending by governments, for instance, may reduce inequality in the short term by maintaining spending on social services, but increase it in the long term as service provision from privatized entities becomes worse for poorer people while delivering investment returns to the wealthy which aggravate resource inequality.

 One interesting distinction between the ways in which different theorists approach matters of equality and sustainability is in terms of which phenomena they consider to be bound by strict limits, and which they see as essentially fungible. A dramatic example is Ross Zucker's *Democratic Distributive Justice*, in which the market is treated almost like an essential entity in itself, without reference to the natural resources that serve as inputs to it or the wastes that result from it.[[19]](#footnote-19) This contrasts with Klein's perspective:

"We know that we are trapped within an economic system that has it backward; it behaves as if there is no end to what is actually finite (clean water, fossil fuels, and the atmospheric space to absorb their emissions) while insisting that there are strict and immovable limits to what is actually quite flexible: the financial resources that human institutions manufacture, and that, if imagined differently, could build the kind of caring society we need."[[20]](#footnote-20)

Taken to an extreme, there are some thinkers within environmental politics who reject the market entirely, seeing it only as a way through which the real physical processes of production and consumption and their effects on nature are obscured. Peter Dauvergne and Jennifer Clapp define one of four major schools of environmentalism as "bioenvironmentalists" who are:

"[i]nspired by the laws of physical science, [and who] stress the biological limits of the earth to support life... Many bioenvironmentalists stress, too, that the neoclassical economic assumption of infinite economic growth is a key source of today’s global environmental crisis. For these thinkers, a relentless drive to produce ever more in the name of economic growth is exhausting our resources and polluting the planet." [[21]](#footnote-21)

It is essentially true by definition that all of the processes of production, consumption, and exchange which define the market are a subset of the physical and chemical processes that define Earth's atmosphere, hydrosphere, lithosphere, and biosphere. From a bioenvironmentalist perspective, the standard liberal approach of controlling environmental problems by internalizing externalities is inadequate, and humanity can only bring its behaviour into conformity with what the planet can endure through much more extensive institutional reorganization. In some ways, Klein's analysis incorporates this criticism, highlighting how international trade agreements impede the ability of states to enact sustainable policies and stressing the need to move beyond the "extractivist" mindset in which the natural resources available in any particular place should be exploited before moving on.[[22]](#footnote-22) This also accords to some degree with Stephen Gardiner's warning about how, as judges in our own case, we are susceptible to "shadow solutions… that do not respond to the real problem", that the appeal of such 'solutions' may increase as the global climate situation deteriorates, and the geoengineering (which Klein criticizes at length) may fall into this category.[[23]](#footnote-23)

 In contrast with Piketty's bracketing of climate change as an important issue largely divorced from the main body of his analysis, Wilkinson and Pickett hold up improved environmental sustainability as one of the two major justifications for their pro-equality policy proposals, along with the argument that many social ills are created or exacerbated by resource inequality. Like Klein, however, Wilkinson and Pickett may be a bit quick to assume compatibility between their equality and environmental objectives, given the risk that policies intended to promote the one may hamper the other. At the same time, Wilkinson and Pickett do not put forward policies intended to improve resource inequality as automatic environmental solutions, highlighting how policies must be designed with both objectives in mind. For instance, in their discussion of the appeal of a 'steady state' economy characterized by stable biophysical demands on the Earth rather than never-ending growth, they acknowledge the need to treat rich and poor countries differently. They also engage with psychological phenomena that go beyond the liberal focus on prices as signals, discussing consumerism as status competition.[[24]](#footnote-24) Indeed, *The Spirit Level* contains one of the strongest arguments for why resource inequality and sustainability may not be orthogonal, since it is only through greater equality that the status competition driving consumerism can be alleviated.[[25]](#footnote-25)

### Sustainability and the future of growth

 Changing patterns in the rate of economic growth in North America and Europe constitute a key part of Piketty's argument and analysis. He argues, to begin with, that for most of human history the real rate of economic growth has only been very slightly above 0%. Since, going back at least to the mid-1700s, it was possible to earn a return of about 5% on land, the long-run deviation between growth and the rate of return was quite large (r > g), facilitating the accumulation of fortunes and accentuating the importance of inherited wealth as opposed to social mobility. After the industrial revolution, Piketty argues that growth rose to about 1-2%, and then to 3-4% post-war, with even higher rates in societies engaged in large scale reconstruction.[[26]](#footnote-26) Going forward, he expects such high growth rates to be an aberration, and for growth of 1-2% become normal again. In the absence of policies specifically designed to counter the inequality-generating effects of such low growth levels when compared to the rate of return on capital, Piketty projects a scenario where the relative social mobility and wealth and income equality of recent decades gives way to deeply entrenched upper and lower classes.[[27]](#footnote-27)

 Notably, Piketty highlights how inequality in wealth is always much greater than inequality in income. Looking at the top 10% of the population in the United States and Europe between 1900 and 2010, he finds that their share of total national income varied between about 30% and about 50%. By contrast, the share of wealth held by the top 10% ranged from 60% to 90%. An extreme contrast can be observed between a significant part of the population that has always had more liabilities than assets, and hence negative net worth, and the dramatic concentration of wealth at the top of the distribution, with the share allocated to the top 0.1% being even more disproportionate than the share held by the 1%, with the share held by the top 0.01% more disproportionate still.[[28]](#footnote-28) Piketty emphasizes how, on balance and under most economic conditions, such economic inequalities are self-reinforcing and require active government intervention to reverse.

 When analyzing these patterns of income and wealth distribution, Piketty pays little attention to the material basis underlying growth. Clearly technology and levels of investment are important for understanding the industrial revolution and the pace of post-war reconstruction, but simply accepting the relevance of these factors doesn't bring us all the way to considering the nature of material inputs fuelling growth, or the nature of the wastes being produced and their impacts on human and natural systems. Significant analyses of pressing environmental problems, most notably climate change, have highlighted how the accumulation of wastes has the potential to seriously hamper future human prosperity. In their latest comprehensive assessment of the peer-reviewed science of climate change, the Intergovernmental Panel on Climate Change concluded:

"Without additional mitigation efforts beyond those in place today, and even with adaptation, warming by the end of the 21st century will lead to high to very high risk of severe, widespread, and irreversible impacts globally." [[29]](#footnote-29)

This conforms with the estimates of others, such as the Stern Review on the economics of climate change, which have found that climate change poses a major risk to global economic prosperity, and carries the risk of catastrophic scenarios which seriously threaten the ability of human civilization to endure. Before being disbanded for persistently advocating carbon pricing, the National Round Table on the Environment and the Economy estimated that climate change could cost Canada between $21 billion and $43 billion per year by 2050, even under a 2˚C warming scenario.[[30]](#footnote-30) If climate change goes unchecked, Piketty's projected growth rate of 1-2% may be overly optimistic, as climate change which exceeds the capacity of human and natural systems to adapt may permanently reduce global economic output and diminish the stock of global financial wealth. The distributive and political consequences of such a scenario bear consideration. Lack of consideration for the long-term consequences of present-day economic activity also risks eroding the normative basis for egalitarianism which considers only near-term economic outcomes. A social order that permanently and substantially damages the world in which future generations must live has questionable egalitarian credentials, regardless of the degree of economic equality it establishes at any specific point in time.

 If empirical claims about how present-day economic activities will inevitably run up against natural barriers, or claims that treating future generations fairly requires major changes in the level and nature of production and waste management, Piketty's implied expectation that future economic behaviour will largely resemble that of the present risks being invalidated. In this sense, the willingness of Wilkinson and Pickett to contemplate radically different possibilities like a no-growth steady state global economy may better position them to guide the consideration of policy-makers who must consider both ecological integrity and matters of distributive justice in combination.[[31]](#footnote-31)

### Political feasibility and winning coalitions

 In *Blueprint for Revolution*, Serbian activist and non-violent action trainer Srdja Popovic encourages campaigners to imagine the dividing line between support and opposition within society at large in relation to a particular tactic or policy objective. Tactics and objectives supported by the large majority of the populace are more likely to produce change. While this analysis is intuitively appealing and Popovic relates many stories about its effective use against autocratic governments, it may be more challenging to apply in the arenas of resource inequality and sustainability. As an example of what not to do, he cites the emphasis of the Occupy movement on taking up residence in prominent public spaces like Zuccotti Park, a tactic that "tends to invite only a certain type of dedicated person".[[32]](#footnote-32) More effective, he suggests, would have been to focus on the slogan "we are the 99%" and the group identity which it helps to cultivate. For social movements to be effective, he argues, there must be significantly more people in favour of the proposed changes than opposed to them and, while that requirement may seem easy to satisfy when it comes to seeking greater redistribution of wealth and income down from the top 1%, Popovic argues that the Occupy movement was insufficiently focused in its objectives and did an inadequate job of cultivating a winning coalition for change. Particularly in the face of entrenched opposition from elites and *status quo* actors, effective coalition building is likely indispensible in crafting a response to rising resource inequality and ecological threats of growing severity.

 Communication and the development of coalitions must take into account how the reasoning and priorities of coalition members differ. For instance, many campaigns against oil pipelines which are being conducted primarily by individuals concerned about climate change have found that the fear of local spills is a more powerful motivator for most ordinary citizens. For example, a 2015 University of Texas Energy Poll found that concerned about climate change ranked only 6th among reasons used by opponents of the Keystone XL pipeline to justify their opposition, cited as the top justification by only 6% of opponents surveyed.[[33]](#footnote-33) This accords with Stephen Gardiner's analysis of the features that make climate change an especially challenging moral problem for people to assess intuitively, and for groups to respond to appropriately.[[34]](#footnote-34) Separation in space and time between causes (GHG pollution) and consequences (global changes enduring for centuries or millennia) diminishes the moral salience of the problem, especially when compared with issues which are local, visible, and the direct subject of personal experience. In cases where the costs of change are front-loaded, benefits emerge only across time, and where both winners and losers emerge from policy change, it is especially pertinent to consider what near-term incentives can be used to build support for the policy, and what just and effective steps can be used to soften opposition from those who fear negative personal consequences.

 Policies that aspire to greater resource equality within and between societies need not all be based around direct forms of redistribution. For instance, policies intended to increase financial and environmental transparency have promise for advancing both equality and sustainability objectives. Piketty identifies the ability of the rich to conceal assets, including in foreign jurisdictions, as an impediment to the creation of effective wealth taxes.[[35]](#footnote-35) Not only could better reporting of financial holdings allow existing tax codes to be more effectively applied, it could conceivably contribute to changing political attitudes. When the disproportionate resources controlled by the wealthy are less likely to be seen as deserved, parties with redistributive platforms experience more electoral success. In the environmental context, improved transparency could take several forms. Most obviously, a more detailed accounting of the total GHG pollution associated with the operations of firms would allow for a more granular global tally of the sources of climate change, helping to establish responsibility and to prioritize the areas where the largest reductions may be sought. While governments and industry have often preferred minimal reporting based only on the quantity of GHGs directly and deliberately arising from their operations, the atmosphere does not distinguish between molecules of carbon dioxide (CO2) that resulted from deliberate fossil fuel burning as opposed to inadvertent GHG release from leaking gas pipelines, emissions created through production overseas and embedded in imports, and secondary emissions induced from natural sources by a warming planet, such as when permafrost releases methane or when forests that act as effective carbon sinks dry out or burn and are replaced by grasslands less capable of carbon sequestration.

 A more total accounting of all sources of GHG pollution could be compared with direct observation of the distribution of atmospheric CO2, such as by NASA's Orbiting Carbon Observatory 2. Such an accounting would also likely feed into international negotiations about what sort of emission reductions different states must achieve, how the issue of emissions embedded in imports is to be addressed, and what sort of financial and technological transfers should take place between states in order to make the deal politically acceptable while producing emission reductions at the necessary pace and scale. Insofar as negotiations about fair national contributions to climate change mitigation are deeply connected with questions of the historical development patterns of states which are now rich, and the various potential development pathways for states presently growing rapidly, questions of resource equality and environmental sustainability probably cannot and probably should not be separated in the course of deciding how states should collectively act. A plausible framework for reconciling the need to control climate change with justice claims about international development could emerge along the lines of 'contraction and convergence', in which rich states must cut carbon pollution deepest and most quickly while the poorest states are able to temporarily increase emissions to aid with reducing extreme poverty.[[36]](#footnote-36)

 One of the most remarkable features about the political landscape in Canada, the United States, and the United Kingdom is the absence of major political parties strongly committed to redistribution. This is especially puzzling given widespread acceptance of claims like Piketty's, showing that income and wealth inequality have reached exceptionally high levels and that, in the absence of countervailing policies, are likely to continue to worsen. Just as global elites have been effective at resisting policies intended to redistribute resources at a large scale, they can be expected to continue to resist efforts at financial and environmental transparency. The ability of elites to both effectively promote policy outcomes which are personally favourable and to maintain a public perception that the system hasn't been unjustly altered in their favour is discussed by Piketty in the context of tax rates.[[37]](#footnote-37) It is plausible that similar mechanisms impede the emergence and popularization of redistributive policies in the platforms of political parties, and that similar mechanisms help to prevent the enactment of environmental policies which would be costly or inconvenient for elites, while also maintaining a public discourse in which such policies are seen as anti-job or otherwise contrary to the interests of most citizens.

 One of the most ambitious efforts to create a winning coalition pushing for meaningful action on climate change can be seen in the work of the international environmental NGO 350.org. Notably, beyond efforts to discourage new fossil fuel investment and encourage a just international agreement for controlling carbon pollution, 350.org has been advocating a $15 minimum wage in the United States, working to forge partnerships with major labour unions, and prominently positioning 'jobs' within campaigns for climate justice.[[38]](#footnote-38) These strategic choices reflect the intuition that widespread public support is probably needed for effective action to constrain climate change, as well as awareness that defenders of the fossil fuel *status quo* reflexively employ arguments about lost jobs and reduced economic growth as grounds for rejecting large-scale change. Beyond rallying the general public, 350.org and other climate and environmental organizations have accepted the importance of developing alliances with groups controlling potentially potent legal and political levers, perhaps most notably aboriginal groups with special constitutional rights to environmental quality. Such alliances potentially risk being exploitative if motivated by the desire for 'levers' at the expense of genuine concern about the welfare and perspective of the allied group. If based on respect and a genuinely collaborative effort to overcome shared problems, however, such alliances may help avoid the pitfall of creating a movement motivated by an essential purpose but unable to assemble and sustain a coalition calling for an effective response.

### Conclusions

 Environmental damage and extreme resource inequality both threaten the continuing viability of rich democratic societies. In the most extreme case, if fossil fuel use is not aggressively curtailed it risks profoundly transforming the global climate, destabilizing agriculture and sea levels, and creating an enduring threat both to human prosperity and to international peace and security. A continuing rise in resource inequality, as anticipated by Piketty, threatens a return to a stratified social structure with permanently enhanced life prospects for those descended from the rich and few opportunities for advancement for those born into modest circumstances. While it may be highly desirable to promote both economic equality and environmental sustainability at the same time, different policy interventions will likely contribute in different directions and to different degrees in advancing or retarding each objective. Furthermore, there is cause to be wary about actors with pre-determined agendas presenting an implausible case where only the approaches which they have always preferred are suitable for responding to problems which they had not seriously considered previously. Excessive confidence about the predictability of the future is especially unjustified when the timescale under consideration stretches from decades to centuries, involves unknown future pathways in GHG emissions and resulting warming, involves unpredictable technological and demographic shifts, and which will be influenced by new political arrangements and institutions which may be impossible to envision from our present vantage.

 Nonetheless, the idea that a comprehensive program intended to address just one of economic inequality or sustainability can be viable in the face of the global trends and consequences arising from the other does not seem especially plausible. Rather, policy-makers principally concerned with resource inequality will need to consider the relevance of the changing integrity of Earth's natural systems, their ability to furnish raw materials, and their capacity to absorb wastes. Conversely, those seeking to bring human economic activity into conformity with what the Earth can endure indefinitely will need to consider the economic, technological, and political ramifications of changing resource inequality. Analyses like those of Klein and Wilkinson and Pickett identify fairly plausible synergistic approaches with the potential to reduce the severity of environmental problems specifically by addressing some of the causes and features of resource inequality. Furthermore, the emphasis of these authors on the social and psychological dimensions of consumption can be integrated with analysis on how mass movements are able to produce large-scale policy changes. Given the strength of *status quo* actors who wish to perpetuate a consumerist and fossil-driven global economy for as long as possible, the emergence of movements animated by such integrated sets of demands may be a necessary part of creating a form of global human prosperity that exists within the bounds of what the Earth can endure.

### Bibliography

Aroneanu, Phil. "The fight for $15 is the fight for a livable planet." 2015. <http://350.org/the-fight-for-15-is-the-fight-for-a-livable-planet/>

Clapp, Jennifer and Peter Dauvergne. *Paths to a Green World: the Political Economy of the Global Environment*. Cambridge; MIT Press. 2005.

Cohen, G.A. *Rescuing Justice & Equality.* Cambridge; Harvard University Press. 2008.

Gardiner, Stephen. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. Oxford; Oxford University Press. 2013.

Ilnyckyj, Milan. "Climate Change, Energy Security, and Nuclear Power." *St. Antony*'*s International Review.* Volume 4, Number 2, February 2009. p. 92-112. <http://www.sindark.com/NonBlog/Articles/CCNuclear.pdf>

Ilnyckyj, Milan. "Climate change and democratic legitimacy." 2012. <https://www.sindark.com/phd/cc-dem-legit-1-0.doc>

Intergovernmental Panel on Climate Change. "Climate Change 2014: Synthesis Report." 2014. <http://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_All_Topics.pdf>

Irwin, Neil. "The $179 Million Picasso That Explains Global Inequality." 2015. [http://www.nytimes.com/2015/05/14/upshot/the-179-million-picasso-that-explains-global-inequality.html](http://www.nytimes.com/2015/05/14/upshot/the-179-million-picasso-that-explains-global-inequality.html?hp&action=click&pgtype=Homepage&module=second-column-region&region=top-news&WT.nav=top-news&abt=0002&abg=0)

Jackson, Tim and Peter A. Victor. "Does slow growth increase inequality? A stock-flow consistent exploration of the 'Piketty hypothesis'." 2014. <http://www.prosperitas.org.uk/assets/wp-14-02-does-slow-growth-increase-inequality_-revised.pdf>

Klein, Naomi. *This Changes Everything: Capitalism vs. The Climate.* Toronto; Alfred A. Knopf Canada. 2014.

Kollipara, Puneet. "Among reasons that people oppose Keystone XL, climate change ranks surprisingly low." 2015. <http://www.washingtonpost.com/news/energy-environment/wp/2015/05/11/survey-climate-change-ranks-surprisingly-low-among-reasons-that-people-oppose-keystone-xl/>

Lowrey, Annie. "Even Among the Richest of the Rich, Fortunes Diverge." 2015. <http://www.nytimes.com/2014/02/11/your-money/even-among-the-richest-of-the-rich-fortunes-diverge.html>

Mason, Andrew. *Levelling the Playing Field: The Idea of Equal Opportunity and Its Place in Egalitarian Thought.* Oxford; Oxford University Press. 2006.

Monbiot, George. *Heat: How to Stop the Planet From Burning.* Toronto; Anchor Canada. 2007.

National Round Table on the Environment and the Economy. "Paying the Price: The Economic Impacts of Climate Change for Canada." 2011. [http://collectionscanada.gc.ca/webarchives2/20130322143132/http://nrtee-trnee.ca/wp-content/uploads/2011/09/paying-the-price.pdf](http://collectionscanada.gc.ca/webarchives2/20130322143132/http%3A//nrtee-trnee.ca/wp-content/uploads/2011/09/paying-the-price.pdf)

Piketty, Thomas (Translated by Arthur Goldhammer). *Capital in the Twenty-First Century.* Cambridge; Harvard University Press. 2014

Piketty, Thomas and Emmanuel Saez. "Inequality in the long run." 2014. <http://eml.berkeley.edu/~saez/piketty-saezScience14.pdf>

Popovic, Srdja. *Blueprint for Revolution*. New York; Spiegel & Grau. 2015.

Rawls, John. *A Theory of Justice: Revised Edition*. Cambridge; Harvard University Press. 1999.

Read, Rupert. "Green economics versus growth economics." 2015.

<https://www.radicalphilosophy.com/commentary/green-economics-versus-growth-economics>

Rognlie, Matthew. "Deciphering the fall and rise in the net capital share." Brookings Papers on Economic Activity. 2015. <http://www.brookings.edu/about/projects/bpea/papers/2015/land-prices-evolution-capitals-share>

Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* New York; Bloomsbury. 2011.

Zucker, Ross. *Democratic Distributive Justice.* Cambridge; Cambridge University Press. 2000.

1. In contrast to Piketty, who treats climate change as an afterthought while acknowledging its importance, Wilkinson and Pickett argue: "Over the next generation or so, politics seem likely to be dominated either by efforts to prevent runaway global warming or, if they fail, by attempts to deal with its consequences". Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* p. 424 [↑](#footnote-ref-1)
2. Despite calling climate change "the world's principal long-term worry" Piketty does little to incorporate it into his projections of what the future distribution of economic resources will resemble, or into his principal policy prescriptions. This raises questions about the plausibility of his conclusions about long-term growth. Piketty, Thomas. "Capital in the Twenty-First Century." p. 567-9

G.A. Cohen has a similarly inadequate treatment of environmental issues, which is not deeply integrated into his general argument. In *Rescuing Justice & Equality* he brings it up only in the context of "the publicity argument" and the question of whether it should be possible to tell if a principle of justice is being followed. He quotes Paula Casal in saying that knowledge that others will fail to act on environmental problems, even combined with a lack of knowledge about how much we ought to do, does not invalidate the claim that we are morally obligated to take action. p. 356-7

Andrew Mason, in *Levelling the Playing Field*, is also dismissive of environmental considerations, briefly mentioning the possibility of an obligation to treat future generations justly before saying that "it is hard to see how these principles could be formulated as precise guides to behaviour (e.g. concerning what size car we should drive, and whether and when we should shun aircraft travel in favour of some less-polluting alternative)". This seems an inadequate response to the challenge posed to egalitarianism by the apparently unsustainable character of the global economy. p. 104 [↑](#footnote-ref-2)
3. This is similar to the orthogonal relationship between energy security, normally defined in terms of reducing reliance on imports through domestic energy development, and climate change mitigation. See: Ilnyckyj, Milan. "Climate Change, Energy Security, and Nuclear Power". [↑](#footnote-ref-3)
4. Naomi Klein identifies "disaster capitalism" as one worrisome scenario that could arise from unconstrained climate change, in which corporate power and economic inequality are reinforced by the breakdown of global stability, and in which efforts to address the problem are simply palliative and not capable of restoring political stability or the integrity of the natural systems upon which humanity depends. [↑](#footnote-ref-4)
5. One can think of the preservation of forests in Europe to serve as aristocratic hunting estates, or about the exclusion of traditional land users from areas designated as parks. [↑](#footnote-ref-5)
6. Unless specifically targeted at poor individuals, fossil fuel consumption subsidies are probably regressive because wealthier people use more fossil fuels. [↑](#footnote-ref-6)
7. Klein, Naomi. *This Changes Everything: Capitalism vs. The Climate.* [↑](#footnote-ref-7)
8. Another example concerns whether energy generation in the future is likely to remain concentrated in large facilities or become more distributed. Many commenters assume that distributed energy is necessarily the most plausible solution, either for practical reasons like energy losses resulting from transmission over a distance or for aesthetic or philosophical reasons like the idea that distributed energy is somehow democratic. It remains possible, however, that non-carbon and climate-safe forms of energy will remain most efficient when built at scale and that concentrated generation and distribution similar to the system that now exists have the best odds of allowing us to control climate change quickly. [↑](#footnote-ref-8)
9. Monbiot, George. *Heat: How to Stop the Planet From Burning.* p. 215 [↑](#footnote-ref-9)
10. Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* p. 425 [↑](#footnote-ref-10)
11. See: Ilnyckyj, Milan. "Climate change and democratic legitimacy." 2012. <https://www.sindark.com/phd/cc-dem-legit-1-0.doc> [↑](#footnote-ref-11)
12. Chapter 55: On the Clothes and Shoes of the Brethren:

"We believe, however, that in ordinary places
the following dress is sufficient for each monk:
a tunic,
a cowl (thick and woolly for winter, thin or worn for summer),
a scapular for work,
stockings and shoes to cover the feet."

Chapter 33: Whether Monks Ought to Have Anything of Their Own:

"This vice especially

is to be cut out of the monastery by the roots.

Let no one presume to give or receive anything

without the Abbot's leave,

or to have anything as his own -

anything whatever,

whether book or tablets or pen or whatever it may be -

since they are not permitted to have even their bodies or wills

at their own disposal;

but for all their necessities

let them look to the Father of the monastery." [↑](#footnote-ref-12)
13. Rawls, John. *A Theory of Justice.* p. 79 [↑](#footnote-ref-13)
14. Rawls' attitude toward environmental problems can be reasonably understood as a version of liberal environmentalism, in which environmental degradation is principally interpreted as a market failure which can be corrected by governments without altering the basic functioning of the capitalist system. Ibid. p. 237 [↑](#footnote-ref-14)
15. Piketty, Thomas. "Capital in the Twenty-First Century." p. 568 [↑](#footnote-ref-15)
16. 'Sustainability' here is a euphemism for human survival across the next few hundred years. These being the stakes, Henry Shue's suggestion that "[e]ven in an emergency one pawns the jewellery before selling the blankets", combined with the thinking of people like Margaret Atwood on the terrifying ways in which broken systems of government may line up with amoral, monopolistic corporate power armed with genetic engineering and synthetic biology, can't fail to make all those knowledgeable about technology and human conflict deeply concerned. [↑](#footnote-ref-16)
17. Greenhouse gases are chemicals, mostly arising from the burning of fossil fuels, which inhibit the ability of the Earth to radiate energy from the sun into space, causing that energy to accumulate in the Earth system and raise average temperatures [↑](#footnote-ref-17)
18. Piketty, Thomas. "Capital in the Twenty-First Century." p. 306-7 [↑](#footnote-ref-18)
19. This is elaborated upon in my short paper on the ecological limitations of Zucker's analysis: <https://www.sindark.com/phd/MarkJust-Zucker-0-5.docx> [↑](#footnote-ref-19)
20. Klein, Naomi. *This Changes Everything: Capitalism vs. The Climate.* p. 347 [↑](#footnote-ref-20)
21. Clapp, Jennifer and Peter Dauvergne. *Paths to a Green World: the Political Economy of the Global Environment*. p. 9 [↑](#footnote-ref-21)
22. Klein, Naomi. *This Changes Everything: Capitalism vs. The Climate.* p. 64-95, 161-187 [↑](#footnote-ref-22)
23. Gardiner, Stephen. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. p. xiii [↑](#footnote-ref-23)
24. Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* p. 436-51 [↑](#footnote-ref-24)
25. Ibid. p. 446-7 [↑](#footnote-ref-25)
26. Piketty, Thomas. "Capital in the Twenty-First Century." p. 73-4

See also: Piketty, Thomas and Emmanuel Saez. "Inequality in the long run." [↑](#footnote-ref-26)
27. Analysis of past trends and future projections that differs to a degree from Piketty's can be found in: Rognlie, Matthew. "Deciphering the fall and rise in the net capital share." In particular, he more strongly emphasizes the particular characteristics of housing as a store of wealth.

See also: Read, Rupert. "Green economics versus growth economics."

Another account that diverges from Piketty's explanation and which makes more of an effort to account for environmental factors can be found in: Jackson, Tim and Peter A. Victor. "Does slow growth increase inequality? A stock-flow consistent exploration of the 'Piketty hypothesis'." [↑](#footnote-ref-27)
28. Patterns within the distribution of income and wealth are 'fractal', in that you see a similar looking pattern of distribution within the top 10% as across the whole distribution, as well as within the top 1% or 0.1%. See: Irwin, Neil. "The $179 Million Picasso That Explains Global Inequality" and Lowrey, Annie. "Even Among the Richest of the Rich, Fortunes Diverge." [↑](#footnote-ref-28)
29. Intergovernmental Panel on Climate Change. "Climate Change 2014: Synthesis Report." p. 17 [↑](#footnote-ref-29)
30. National Round Table on the Environment and the Economy. "Paying the Price: The Economic Impacts of Climate Change for Canada." p. 18 [↑](#footnote-ref-30)
31. Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* p. 433-6 [↑](#footnote-ref-31)
32. Popovic, Srdja. *Blueprint for Revolution*. p. 174 [↑](#footnote-ref-32)
33. Kollipara, Puneet. "Among reasons that people oppose Keystone XL, climate change ranks surprisingly low." [↑](#footnote-ref-33)
34. Gardiner, Stephen. *A Perfect Moral Storm: The Ethical Tragedy of Climate Change*. [↑](#footnote-ref-34)
35. Piketty, Thomas. "Capital in the Twenty-First Century." p. 465-6, 521-4 [↑](#footnote-ref-35)
36. For an alternative approach based around individual carbon rations, see: Wilkinson, Richard and Kate Pickett. *The Spirit Level: Why Greater Equality Makes Societies Stronger.* p. 431-2 [↑](#footnote-ref-36)
37. Piketty, Thomas. "Capital in the Twenty-First Century." p. 335 [↑](#footnote-ref-37)
38. Aroneanu, Phil. "The fight for $15 is the fight for a livable planet." [↑](#footnote-ref-38)