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Post-Growth Economics: A Paradigm Shift in Progress

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This working paper was written as part of the [Post Carbon Pathways](#) project, at the Melbourne Sustainable Society Institute. This project is exploring and evaluating rapid decarbonisation strategies, and the social, economic, and political implications of such strategies, from various disciplinary and interdisciplinary perspectives. In that broader context, this paper provides a literature review and critical analysis of post-growth economics.

If the earth must lose that great portion of its pleasantness which it owes to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a better or happier population, I sincerely hope, for the sake of posterity, that they will be content to be stationary, long before necessity compels them to it. – **John Stuart Mill, *Principles of Political Economy* (1848)**

Post-Growth Economics: A Paradigm Shift in Progress

Samuel Alexander¹

1. INTRODUCTION

‘Going for growth is the government’s number one priority’, declared Gordon Brown in 2010, then Prime Minister of the United Kingdom, neatly capturing the spirit of our times (Settle, 2010). It is a worldview that shapes the global economy more so today than ever before (Purdey, 2010), at least as a reflection of economic *desire*, if not as a description of recent or anticipated economic *reality*. As the global economy slowly emerges, at least superficially, from the global financial crisis — a crisis in which many economies around the world suffered recession — the imperative of all governments around the world to maximise growth in Gross Domestic Product (GDP) has never seemed stronger. The underlying economic assumption is that growth in GDP is the most direct path to national prosperity, and this vision of progress is widely embraced across the political spectrum, where growth is used as the touchstone of policy and institutional success (Hamilton, 2003).

Despite the dominance of this growth model of progress around the world, it has never been without its critics, and as this paper will outline, there are reasons to think that grounds for opposition are growing in number, strength, and sophistication. It was the philosopher of science, Thomas Kuhn (1962), who argued that paradigm shifts in the natural sciences occur when the existing paradigm finds itself increasingly unable to solve the critical problems it sets for itself. As anomalies increase in number and severity, the need for an alternative paradigm becomes clearer, and eventually a new paradigm is developed that can solve more problems than the old one. At that stage a paradigm shift is set in motion, and over time the new paradigm becomes accepted and the old one loses its influence, sometimes quite abruptly. In much the same way, this paper proposes that a paradigm shift in macroeconomics is underway, with a post-growth economic framework threatening to resolve critical anomalies that seem irresolvable from within the existing growth paradigm. We will see that a growing array of theorists, from various disciplinary backgrounds, are questioning the feasibility and even the desirability of continuous growth, especially with respect to the most highly developed regions of the world. Increasingly there is a call to look ‘beyond growth’ (see, e.g., Costanza *et al*, 2014; Kubiszewski *et al*, 2013; Stiglitz, Sen, and Fitoussi, 2010), on the grounds that growth may now be causing the problems it was traditionally hoped to solve. Not only can it be argued that a post-growth paradigm shift is *in progress*, it seems the fundamental importance of this shift lies in the fact that it is *in relation to progress*. That is, it is changing the very nature of what ‘progress’ means.

In this paper the key thinkers and movements in this emerging paradigm of ‘post-growth’ economics will be reviewed. By way of introduction, a brief overview of the growth paradigm is presented, in order to later highlight, by way of contrast, some of

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the most prominent features of the alternative paradigm. A substantial literature review of post-growth economics is then provided, after which some of the outstanding issues in this emerging movement are outlined. This paper intends to raise questions about what prospects this movement has for dislodging the growth paradigm from the dominant position it currently holds in popular consciousness; what significance it may have if it were ever to succeed; and what the implications could be if it were to remain marginalised. The paper concludes by outlining a research agenda of critical issues.

2. THE GROWTH MODEL OF PROGRESS

Economic growth is conventionally defined as a rise in GDP, and that is how the term will be used in this paper, unless stated otherwise. The result of elaborate national accounting systems, GDP can be broadly understood as ‘the market value of all final goods and services [i.e. commodities] produced within a country during a given period of time’ (Mankiw, 2008: 510). It can be calculated in three different, but formally equivalent ways, as Tim Jackson (2002: 99) explains:

[GDP] may be seen, first, as the total of all *incomes* (wages and profits) earned from the production of domestically owned goods and services. Next, it may be regarded as the total of all *expenditures* made in consuming the finished goods and services. Finally, it can be viewed as the sum of the *value added* by all the activities which produce economic goods and services.

GDP accounting first emerged in the early 1930s with the onset of the Great Depression, which highlighted the need for more detailed economic data. Responding to this deficiency, the United States’ Department of Commerce commissioned Simon Kuznets (who would later receive the Nobel Prize in Economics) to develop a set of national accounts. These were the prototype for what later became the GDP accounts. GDP accounting developed significantly during World War II to assist with planning, but it was really in the post-war era that GDP came to prominence, not just in the United States but also increasingly around the world (Collins, 2000). Almost immediately international comparisons of GDP per capita were made as a way of assessing the relative ‘progress’ of nations (Purdey, 2010).

According to this dominant macroeconomic paradigm, growth in GDP provides governments, by way of taxation, with more resources to pay for the nation’s most important social services. It provides the necessary funds needed for national security and a police force, democratic elections, sophisticated health care, sanitation systems and other infrastructure, public education, unemployment benefits and so on, as well as funding for such things as environmental protection programs, foreign aid and the arts. These are all good things, one might accept, but they cost money, and funds are always limited. Therefore, by maximising growth of the economy a government can secure more funding for those services, thereby contributing directly, so the paradigm implies, to social, economic and ecological wellbeing. There is a certain coherency to this way of looking at the world, no doubt, and in many ways it even seems commonsensical.

Furthermore, this paradigm also implies that as an economy grows, so too do personal incomes, meaning that individuals, not just governments, have more money and thus more freedom to purchase those things which they desire or need most. From this perspective growth seems unquestionably good – both individually and nationally – from which it would seem to follow that a bigger economy is always better. By essentially conflating economic and social wellbeing, growth in GDP per capita becomes a measure not just of economic success but of a nation’s social progress more generally, a view that is being referred to herein as the ‘growth model of progress’.

Conventional growth economists accept that there is an ‘optimal scale’ at the *microeconomic* level (Mankiw, 2008) – which is to say, they accept there will eventually

come a point where growth in an individual firm's production will cost more than it is worth, and therefore be judged 'uneconomic' growth; at some stage, that is, hiring more employees or buying more industrial plant will not maximise profits. However, there is no place in the growth paradigm for an 'optimal scale' at the *macroeconomic* level, no 'optimal scale' of the economy as a whole. In particular, growth economists argue that there are no biophysical limits to growth. This is because technological and allocative efficiency improvements are thought to allow for an infinitely expanding economy, despite the fact that the raw materials needed for production are finite. Technological efficiency, it is assumed, will continually allow human beings to consume a finite set of resources more efficiently or, better yet, to consume a set of resources hitherto inaccessible (e.g. Lovins, 1998; Lomborg, 2001). Alternatively, human ingenuity in conjunction with pricing mechanisms will lead to scarce resources being substituted for less scarce resources when the benefits of doing so outweigh the costs (Simon and Kahn, 1984). Allocative efficiency, it is assumed, will ensure that market mechanisms continually move resources into the hands of those who will 'exploit' them best (Posner, 1986). All this is expected to 'decouple' growth from environmental impact, a process through which it is believed GDP can grow while each unit of GDP becomes less resource and energy intensive. When one looks at the world through this neoclassical lens, what matters most is that commodities are available for exchange in the market, for then the 'invisible hand' is said to maximise social wellbeing while protecting the environment better than any other system of structuring society. Prices will ensure that natural resources are consumed to an 'optimal' degree. Since each market transaction under non-coercive conditions is assumed to increase the wealth of both seller and buyer – otherwise why would the parties transact? – the growth paradigm implies that 'free markets' are in everyone's interests and that market activity should be maximised (Friedman, 2002).²

Upon these neoclassical assumptions, advocates of growth purport to show that an economy as a whole can and should continue growing indefinitely. The great social problem according to this influential narrative is that even the richest nations do not have 'enough' and therefore must pursue 'more'. Economic growth is thus heralded across the globe, and across the political spectrum, as the goal towards which all nations should direct their collective energy. Not only are growth and environmental health seen as compatible goals, growth in the rich world is seen as the best means of lifting the poorest individuals and nations out of poverty. Within the growth model, that is, the solution to poverty involves growing a bigger economic pie ('a rising tide lifts all boats'), not slicing the economic pie differently (redistribution).

This growth model strikes many people as basically correct, and, as noted, one can accept that parts of it, at least, have some intuitive plausibility. Surely more money is better than less? As we will now see, however, there is a long tradition of growth scepticism that, in various ways, has argued that there are critical problems with this 'more is always better' growth model – problems which a growing chorus of theorists argue cannot be dismissed as minor anomalies in an otherwise functional paradigm.

3. A LITERATURE REVIEW OF POST-GROWTH ECONOMICS

The following literature review will have a predominately macroeconomic focus, with the macroeconomic tradition beginning, as we will see, with economists such as Thomas Malthus and John Stuart Mill. It is worth noting, however, that many of the post-growth

² For a critical examination of 'free market' theory, see Samuel Alexander, 'Property beyond Growth: Toward a Politics of Voluntary Simplicity' (doctoral thesis, Melbourne Law School) Chapter 2. Available here: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1941069 [accessed 10 November 2013].

perspectives that eventually found macroeconomic expression can be understood to have had their roots in much earlier thinkers and cultures, whose focus were more on personal and social perspectives than macroeconomics. One of the defining features of post-growth macroeconomics is a questioning of materialistic values – a questioning of the very pursuit of material wealth as a path to wellbeing – and clearly that critical positioning finds its roots in ancient times (Vanenbroeck, 1991). While this body of ideas is vast and deep, representative examples come from thinkers as diverse as the Buddha, Lao-Tzu, Confucius, Diogenes, Socrates, Aristotle, Epictetus, Jesus, Marcus Aurelius, Seneca, and St Francis, while in more modern times one could cite thinkers such as William Morris, John Ruskin, Henry Thoreau, Mahatma Gandhi, and Helen Nearing, as well as cultures such as the Amish or the Quakers (Alexander and McCleod, 2014). All these thinkers and cultures, and a great many more, have expressly denied that ‘the good life’ depends on an abundance of material things, and instead emphasised the importance of virtues such as moderation, frugality, simplicity, and sufficiency. Accordingly, this diverse wisdom tradition, with deep historical roots, can be understood to provide some of the philosophical and ethical underpinnings of post-growth macroeconomics. Although these perspectives focused mainly on the *individual* benefits of living a life based on material sufficiency, perhaps the closest thing to an expression of a post-growth *macroeconomics* in ancient times can be found in Plato’s *Republic*, where a distinction is made between a ‘healthy city’ based on moderation and a ‘fevered city’ driven relentlessly on by insatiable desires for luxury and extravagance (Plato, 2004). If one seeks a more developed expression of post-growth economics, however, one must look to the late eighteenth century and beyond, beginning with Thomas Malthus.

Malthus is most famous for his *Essay on the Principle of Population*, first published in 1798, wherein he made his case for what became known as the ‘Malthusian catastrophe’. In essence, Malthus claimed that population growth would outpace the ability of agricultural production to feed people, a dynamic that he proposed would end in a ‘gigantic inevitable famine’ (Malthus, 2007 [1798]: 54). Although he never used the phrase, Malthus was arguing that there were ‘limits to growth’. The critical flaw in his theory, however, was that he failed to take into account the impacts of technology, for what happened was that technological development led to huge productivity gains in agricultural output, making it possible to feed growing populations, thereby averting, or at least delaying, his predicted catastrophe. Today the term ‘Malthusian’ or ‘neo-Malthusian’ is generally used as a slanderous epithet to describe those who predict catastrophe based on false premises. Nevertheless, as the global population moves toward eight billion people, the challenges raised by population growth may yet justify Malthus’s grim perspective. Paul Ehrlich (1970) has perhaps done more than any other to keep the question of population at the forefront of environmental and social concerns, showing clearly that, all other things being equal, population growth tends to increase environmental impact, especially as the high-impact consumer class expands (Ehrlich and Holdren, 1971; Alcott, 2010). Malthus deserves his place in the history of post-growth economics on the basis that he was first to raise the possibility that unlimited population growth, coupled with the economic growth that such a growing population would depend on, could eventually lead to human suffering and environmental degradation on a tragic scale. Despite the theoretical errors in Malthus’ original work, a case can be made that a ‘Malthusian catastrophe’ of some form remains a worryingly real prospect, with the UN predicting that global population will reach 9.6 billion by 2050, perhaps as high as 10.9 billion (UNDSEA, 2012). Whereas conventional economics sees population growth as a good thing – providing a larger pool of labourers and consumers to stimulate economic activity – there is a very real question over whether planetary ecosystems can sustain such a large population, and what the consequences may be if they cannot.

While Malthus prophesied about population growth inevitably leading to mass starvation, other classical economists, such as David Ricardo, developed similarly gloomy theories – such as the so-called ‘Iron Law of Wages’ – which held that economic laws would result in wages inevitably moving toward bare subsistence levels (see generally, Hollander, 1992). Owing to such theories, the details of which we need not presently unpack, economics became known as the ‘dismal science’. But while other classical economists were theorising pessimistically about how economic laws would constrain the ability of economies to grow and meet human needs, in 1848 John Stuart Mill first published his *Principles of Political Economy*, in which there is a short, neglected chapter arguing that perhaps a non-growing economy may not be such a bad thing. It is this chapter, entitled ‘Of the Stationary State’, where we find the first explicit defence of a post-growth economy, and on that basis it is Mill, rather than Malthus or Ricardo, who deserves acknowledgement as the true founder of post-growth economics.

Mill posed the question: ‘Toward what ultimate end is society tending by its industrial progress?’ (Mill, 2004 [1848]: 188). Unremarkable on the surface, perhaps, this question subtly challenges the growth model of progress in three important ways: first, because it acknowledges, implicitly, that industrial progress (or what we today would call economic growth) is only of instrumental value and not of any intrinsic value; second, because it raises the possibility that there might come a time when economic growth no longer serves any worthwhile purposes; and third, and perhaps most importantly, because it prompts us to consider not only how much economic growth is *enough*, but also what we want growth *for*. Mill proposed that if there came a time when economic growth stopped contributing to wellbeing (or began undermining those things upon which wellbeing depends), the most suitable economic system would be what he called ‘the stationary state’. By this he meant a society with a stable population and zero growth in physical capital stock, but which continued improvements in technology and what he called the ‘Art of Living’. Mill argued that technology in a stationary state would serve not to increase material wealth, but to abridge labour, an approach that is receiving increased attention in the 21st century as a means of promoting quality of life while reducing ecological impact (see, e.g., Coote and Franklin, 2013). As for the ‘Art of Living’, Mill was of the view that cultural, moral, and social progress would be much more likely ‘when minds ceased to be engrossed by the art of getting on,’ later adding that ‘it is scarcely necessary to remark that a stationary condition of capital and population implies no stationary state of human improvement’ (Mill, 2004 [1848]: 191). Despite its coherency and attractiveness as a vision of a future society, Mill’s conception of a stationary state proved to be too far ahead of its time and was essentially ignored by his contemporaries. For generations to come, the growth scepticism it entailed lay dormant and forgotten.

It was not until the 1950s and 60s that growth scepticism reemerged. More than a century of relatively sustained economic growth had occurred since Mill’s work – driven by the fossil fuelled, industrial revolution – meaning that by this stage most Westerners were living at a material standards of living that Mill may never have dared think possible. Books were being published with titles such as *The Affluent Society* (Galbraith, 1958) and *The Challenge of Abundance* (Theobald, 1961), suggesting that a stationary state with sufficient material resources for all was not the utopian pipedream it may once have seemed to be. Western economies had indeed grown significantly, providing the vast majority of their citizens with unprecedented material comforts, but not everyone took this as an unmitigated social advancement, and some were beginning to doubt both the desirability and feasibility of continued economic growth. Kenneth Boulding (1997 [1966]) was one of the first to argue at any length that economic growth, being dependant on natural resources, could not continue indefinitely on a finite planet. He famously quipped that anyone who thought it could ‘was either a madman or an economist’ (as quoted in Collins, 2000: 141). In the cultural domain, Herbert Marcuse (2000 [1964]) presented a scathing indictment of how Western

nations fixated on growth and consumption were creating 'one-dimension societies'. He argued that the emergence of consumer-orientated cultures was homogenising human experience and providing people with little more than a 'comfortable unfreedom' (Marcuse, 2002 [1964]: 3; see also, Adorno, 2002).

Growth scepticism received its first comprehensive statement, however, in 1967, with the publication of Ezra Mishan's *The Costs of Economic Growth*. In this path-breaking text, directed at affluent Western nations, Mishan expressed deep reservations about whether limitless economic expansion – a policy that he called 'growthmania' (Mishan, 1967: 3) – was in the interests of human welfare. After acknowledging that growth had historically brought significant benefits to the West, lifting many people out of poverty, Mishan set about highlighting the unpleasant *costs* of economic growth that he felt were too often overlooked when governments shaped their pro-growth policies. Casting doubt on the dominant economic paradigm, he provocatively suggested that perhaps the costs of growth – which he argued included psychological ill-health, long working hours, loss of community, ugly cityscapes, traffic congestion, pollution, environmental degradation, etc. – were beginning to outweigh the benefits. Just for a moment, he proposed, we should put our minds to the question of whether it is all really worth it, whether there might not be a better path to follow. In the context of this literature review, what is particularly significant about Mishan's argument is the fact that it exposed how the single-minded pursuit of growth placed severe limits on government action, presumptively excluding any policy or institutional reform that would retard growth in any way. Mishan recognised that if growth were ever to lose its privileged position as the touchstone of policy and institutional success, new avenues would open up for progressive political, legal, and economic reform. In the following decades, however, the desire for growth not only persisted but intensified and the politics of growth became more deeply entrenched (Purdey, 2010; Collins, 2000).

A few years after the publication of Mishan's manifesto, several other texts emerged which made significant contributions to the tradition of growth scepticism. In 1972 a group of systems analysts, known as the Club of Rome, caused much controversy with their publication, *Limits to Growth* (Meadows *et al*, 1972), which has come to be the most widely read environmental text of all time. In this book the authors explored, with the help of computer modelling techniques, the potential consequences of exponential growth in human population and resource consumption in a world of finite resources. Their alarming but arguably commonsensical diagnosis was that if growth trends in world population, industrialisation, and resource depletion were to continue or accelerate, the planet would eventually come up against 'limits to growth', with potentially catastrophic consequences. Widely but erroneously dismissed at the time for ignoring pricing mechanisms, understating the potential for efficiency gains, and denying adaptation (Bardi, 2011), the last few decades of environmental research have provided further scientific support for the view that the never-ending pursuit of growth is incompatible with biophysical reality (Meadows *et al*, 2004). The work of Graham Turner (2012), in particular, provides rigorous support for the 'limits to growth' analysis.

In 1973 a supporting analysis was offered by the Buddhist economist, Ernst Schumacher, in his provocative text, *Small is Beautiful: A Study of Economics as if People Mattered*. Schumacher faulted conventional economic theory for failing to address the issue of macro-economic 'scale', that is, for never asking the question of how much growth is 'enough' and instead just assuming that a bigger economy is always better. Challenging the orthodox view that economic policy should always seek to maximise opportunities for consumption through continuous growth, Schumacher proposed that the aim, both of individuals and societies, should be to obtain the maximum amount of well-being with the minimum amount of consumption. Sensible though this proposal may sound, the world was not ready for it, and Wilfred Beckerman, representing

economic orthodoxy, eventually responded to Schumacher's arguments asserting that 'small is stupid' (Beckerman, 1995).

Over the next few years there were several developments of sociological significance that provided further support for growth scepticism. Theorists such as Richard Easterlin (1974), Fred Hirsch (1976), and Tibor Scitovsky (1992 [1976]), variously provided arguments and evidence to the effect that 'more growth' did not always mean 'more happiness' or 'more wellbeing'. Once the basic material needs of a society are met, some of these theorists argued, further growth in per capita income contributes little or nothing to overall wellbeing. Scitovsky explained this finding on the ground that, beyond basic material needs, human beings simply do not find the consumption and accumulation of material things all that fulfilling, contrary to the culturally entrenched promises of advertisements (see also, Kasser, 2002). A related explanation offered by Easterlin and Hirsch was essentially that once basic material needs are met, people tend to become more concerned about relative wealth than absolute wealth and, consequently, start engaging in wasteful status competition that is necessarily a zero-sum game (see also, Veblen, 2009[1899]). It is a zero-sum game because if one person's status is increased, someone else's status must have relatively decreased, typically leaving overall satisfaction unchanged (Easterlin, 1995). As Hirsch (1976) argued, this indicates that there are 'social limits' to growth. These sociological insights, among others, challenge the assumption that more consumption is always better, raising further doubts, at least in relation to affluent societies, about the validity of the growth model as a path of social progress (see Alexander, 2012a). In more recent years this work has evolved, with Tim Jackson's *Prosperity without Growth* (2009) deserving of special note, if only for the attention it brought to post-growth economic perspectives, rather than for any original contribution it made to the literature.

From the 1970s onward, ecological economist, Herman Daly, built upon and developed this diverse tradition in important ways, paying close attention to the emerging environmental predicament and its impact on questions of macro-economic scale (Daly and Farley, 2004). Two aspects of Daly's work are of particular significance. The first is his notion of a 'steady-state' economy (Daly, 1973), which can be understood as a modern expression of Mill's notion of a 'stationary state' economy. Daly criticises growth-orientated neoclassical economics for treating the natural environment as a subset of a boundless, price-dependent economy, proposing instead that the economy ought to be considered a subset of the finite environment, the biophysical limits of which an economy cannot justifiably exceed. Merging environmentalist and economic perspectives, Daly (1996) argues that sustainable development in the developed world necessarily entails a radical shift away from 'growth economies' toward what he calls a 'steady-state' economy. By this he means an economy that continues to develop in response to new technologies and changing market and cultural forces, but without growing beyond the sustainable biophysical limits of the planet. In framing his 'steady-state' perspective in biophysical terms rather than in terms of GDP, Daly also acknowledges his intellectual debts to Frederick Soddy (see Daly, 1980) and Nicholas Georgescu-Roegen (1971), whose writings highlighted the close connection between energy and economics (an issue discussed further below). The ecological footprint analysis developed by Mathis Wackernagel and William Rees (1996) is also of immense value in this context, as it is a tool for measuring how large an economy is in relation to the carrying capacity of its environment (see Global Footprint Network, 2013), and therefore provides some guidance on questions of 'scale' which are so fundamental to post-growth or steady-state perspectives.

The second aspect of Daly's scholarship deserving of acknowledgement is the work he pioneered with John Cobb developing 'alternative indicators' to GDP (Daly and Cobb, 1989). Daly and Cobb were early critics of GDP and painstakingly exposed its many defects as a proxy for social wellbeing. GDP, they argued, is merely a measure of total economic activity that makes no distinction between activity that contributes to

wellbeing and activity that does not. For example, GDP treats market expenditure on guns, anti-depressants, and cleaning up oil spills, no differently from expenditure on education, solar panels, and bicycles. They also pointed out that GDP says nothing at all about the level or nature of *non-market* activity in a society, such as community engagement or the functioning of ecosystems; nor does GDP say anything about the distribution of wealth in a society (see also, Stiglitz, Sen, and Fitoussi, 2010). That last point on inequality is especially important in light of recent evidence showing that economies that have broader distributions of wealth do better on a whole host of social indicators (Wilkinson and Pickett, 2010). Wanting to provide a much more nuanced assessment of overall progress and wellbeing, Daly and Cobb developed the Index of Sustainable Economic Welfare (ISEW). This index and others like it – such as the Genuine Progress Indicator (GPI), the Happy Planet Index (HPI), and the Bhutanese notion of Gross National Happiness (GNH) – take into consideration important social and ecological factors that GDP simply does not reflect (e.g. Lawn, 2006; Lawn and Clarke, 2008; Costanza *et al*, 2009). For example, the ISEW and GPI begin with total private consumption expenditure and then make deductions for such things as resource depletion, pollution, income inequalities, loss of leisure, ‘defensive expenditures’ etc., and make additions for such things as public infrastructure, volunteering, and domestic work. The aim is to measure, as accurately as possible, the overall wellbeing of a nation, including its sustainability, not just its total market activity. The results from such indexes tend to show that despite steady growth in GDP over recent decades, the genuine progress of many developed nations has been stagnant or even in decline (Kubiszewski *et al*, 2013). Put otherwise, the results indicate that growth has stopped contributing to wellbeing in the developed world and now may even be causing the very problems that growth is supposed to be solving, suggesting that many developed nations have entered a phase of ‘uneconomic growth’ (Daly, 1999). Redistribution of wealth and the protection of natural ecosystems are two areas of particular importance where these results have potentially revolutionary implications for how nations structure their economies.

Some of the most radical expressions of growth scepticism that have emerged over the last decade have emerged from the ‘degrowth’ movement (Baykan, 2007; Fournier, 2008; Latouche, 2009; Kallis; 2011; Alexander, 2012b). In broad terms, degrowth can be defined as ‘an equitable down-scaling of production and consumption that increases human well-being and enhances ecological conditions’ (Schneider *et al*, 2010: 512.) Although it is not a unified doctrine by any means, an emerging consensus within the degrowth movement has resulted in the ‘Paris Declaration’ of 2008, which concisely outlines the basic vision. This document (to paraphrase) calls for a paradigm shift from the general and unlimited pursuit of economic growth to a concept of ‘right-sizing’ both global and national economies. At the global level, right-sizing means reducing the global ecological footprint (including carbon footprint) to a sustainable level. In countries where per capita footprint is greater than the sustainable global level, this right-sizing implies a reduction to this level through the process of voluntary economic contraction (i.e. degrowth). In countries where widespread poverty still remains, right-sizing implies increasing consumption to a level adequate for a decent life. This will need to involve increasing economic activity in some cases, but the Declaration holds that redistribution of income and wealth both within and between countries is a more essential part of the process. Once right-sizing has been achieved, the Declaration concludes, the aim should be to maintain a ‘steady-state’ economy with a relatively stable level of resource and energy consumption. The primary contribution made by degrowth scholarship is the explicit acknowledgement that sustainability implies, not merely giving up further growth, but actually initiating a *phase of planned contraction* of the ‘scale’ of developed economies. That is a position entirely absent from mainstream environmental and political discourse, where the ideology of growth still reigns supreme.

In response to 'free-market environmentalists' or 'technological optimists' who claim that there is no conflict between growth and sustainability, and who claim that something called 'green growth' is the way forward, degrowth scholars point out that although techno-efficiency improvements have been widely applied, flows of material and energy are still increasing (see Weidmann *et al*, 2013; Alexander, 2014). This increase in material and energy use despite efficiency and technology improvements is largely due to 'rebound effects', coupled with the inherent 'grow or die' structure of growth economies. Though not widely appreciated, 'rebound effects' are highly significant, for they mean that techno-efficiency improvements, rather than reducing material and energy use, often function merely to create revenue which is then spent on producing or consuming more of the same commodity (a primary rebound) or other commodities (a secondary rebound). If this is so, as the weight of evidence suggests it is (Polimeni *et al* 2009; Herring and Sorrell, 2009), technology and efficiency are fatally flawed solutions to the ecological problems of growth and over-consumption. This is not an argument against the use of appropriate technologies, however, but an argument that technology provides no escape from the biophysical limits to growth (Huesemann and Huesemann, 2011). In order to reduce environmental impact, growth sceptics argue that technology must be governed by an ethics of sufficiency, not an imperative to grow.

There is one final post-growth perspective deserving of acknowledgement, even if the intricacies cannot be explored. It builds upon the recognition by some ecological economists that there is a close connection between energy use and economic activity (Hall and Klitgaard, 2012). From this view – sometimes called 'biophysical economics' – the unprecedented levels of economic growth experienced since the industrial revolution have been largely due to the available abundance of cheap energy in the forms of coal, gas, and especially oil. Fossil fuels are finite resources, however, and energy analysts since Marion King Hubbert (1956) have known that at some time the production of finite fossil fuels will 'peak' and, after a plateau, eventually enter decline. The concern here is that, while production may plateau, demand is still expected to increase (Hirsch *et al*, 2010), thereby putting an upward pressure on the price of fossil fuels, even as the 'energy return on investment' declines (Murphy and Hall, 2011). This phenomenon seems to be underway already in relation to oil, with crude oil production entering a plateau around 2005, causing the price of oil to increase from around \$25 per barrel, historically, to an average price of \$110 since 2011 (IEA, 2013a: 2). In a world that consumes 90 million barrels of oil every day, such sharp price rises have significant economic implications, by sucking discretionary expenditure and investment away from the rest of the economy. Indeed, some analysts argue that expensive oil is at least part of the reason the global economy, which is so dependent on oil for transport, pesticides, plastics, etc., is showing persistent signs of stagnation and instability (Heinberg, 2011). Furthermore, if expensive oil and other 'limits to growth' are indeed bringing an end to more than two centuries of economic growth, then this is likely to cause havoc with the heavily indebted societies around that world that currently, under a capitalist framework, depend on growth to pay back debts and keep unemployment at bay. At the pessimistic end of the spectrum, some analysts argue that the global financial crisis was merely the first of series of forthcoming crises that are going to increase in magnitude as the growth model fails to deal with, or even acknowledge, energy, resource, and debt limits (Tverberg, 2012). From such perspectives, the world may have an alternative to the growth model imposed upon it sooner rather than later, irrespective of whether the world wants or is ready for such an alternative (see, e.g. Clarke and Lawn, 2010).

The relationship between energy and economics also becomes problematic in the context of climate change mitigation. Currently, fossil fuels make up over 80% of the global energy supply (IEA, 2013b: 6). If nations around the world choose to decarbonise economies in response to climate change (see Wiseman *et al*, 2013), this may well imply an end to growth, or even significant economic contraction, because there are serious doubts about whether renewable energy will be able to fully replace the energy-dense

fossil fuels in a timely or affordable way (see, e.g. Trainer, 2013a, 2013b). This is not an argument against renewable energy, of course; the suggestion is merely that growth-orientated consumer societies could not be sustained if the world rapidly decarbonised to run solely or primarily on renewable sources of energy (Hopkins and Miller, 2013). A transition to 100% renewable energy, therefore, may well imply consuming significantly less energy, and in the highly developed regions of the world, energy descent would probably mean transitioning to some post-growth economic paradigm via a process of planned economic contraction, or degrowth. Kevin Anderson's work is particularly important here (see Anderson, 2013), for he is one of the only climate scientists who recognises (or is outspoken enough to say) that the world's shrinking carbon budget requires degrowth and reduced consumption in high consumption societies. That is not an implication many are prepared to accept, even amongst many or even most participants in the broad environmental movement. Indeed, this blindness – it might even be wilful blindness – is arguably the environmental movement's greatest short-coming.

3. OBSTACLES AND ISSUES ON THE PATH TO A POST-GROWTH ECONOMY

While passing over many matters of detail, this review has nevertheless outlined a wide variety of issues that, in the eyes of many observers, undermine the coherency of the growth paradigm. If once humankind lived on an 'empty planet', where the benefits of growth clearly outweighed the costs, today it seems we live on a 'full planet', where continued growth in the developed regions of the world, at least, is ecologically unsupportable, socially unjust, and arguably not even socially desirable from a 'happiness' perspective (Diener *et al*, 2010). According to the latest reports from the Global Footprint Network (2013), the global economy now exceeds the sustainable carrying capacity of the planet by 50 percent, causing a perfect storm of chronic ecological problems including climate change, biodiversity loss, resource depletion, topsoil erosion, deforestation, water shortages, and pollution (Rockstrom *et al*, 2009; Brown, 2011; Ehrlich and Ehrlich, 2013). To make the environmental burden heavier still, the human population is set to reach nine or ten billion in coming decades. But despite this fact of gross ecological shoot – and despite the fact that technologies are not reducing the overall impact of the global economy – essentially all nations on the planet seek to grow their economies further, and without apparent limit. This is the growth paradigm, and it is in the process of colliding with biophysical reality (Turner, 2012).

Consider the basic arithmetic of growth: if the GDP of developed nations were to grow by 3% per year in coming decades – which seems to be the benchmark for 'success' – and by 2080 a global population of ten billion has achieved a similarly high material standard of living – which seems to be the goal of the global development agenda – then the global economy could be 40-60 times larger than it is today. Pause for a moment to dwell on those figures. Even allowing for significant uncertainty in these types of forecasts, and even assuming many efficiency improvements are implemented to reduce the resource intensity of each dollar of GDP, it is simply not credible to think that the planet's ecosystems could tolerate the global economy multiplying in size even two or three or four times, let alone forty or sixty times. Earth is struggling to absorb the impacts of the existing global economy, and despite decades of extraordinary technological advance, the ecological situation is getting worse, not better. It is very hard, therefore, to escape the conclusion that sustainability *proper* means that overdeveloped nations must enter a phase of significant degrowth in material and energy consumption, so that there is some 'ecological room' for the poorest nations expand their economic capacities in order to provide basic needs for all. When that has been achieved, humanity must figure out a way to maintain a relatively 'steady state' economy that operates within the sustainable carrying capacity of the planet. This

alternative, post-growth vision of progress may sound idealistic – and in today’s neoliberal political climate it certainly lies on the intellectual fringe – but in the long term one only ever hits what one aims for, and post-growth economics have a coherency that the vision of growth decidedly lacks.

If it is indeed the case that the growth paradigm has no future – primarily due to the impossibility of its persistence in the face of the biophysical limits to growth – then the critique of growth should always be accompanied by a discussion of what the best alternatives are and how to get there. In closing this analysis, a few outstanding issues are outlined which, it is argued, deserve more attention if the paradigm shift toward a post-growth macroeconomics is to come to fruition.

3.1. *How best to frame the alternative?*

As more people come to recognise the ‘limits to growth’, calls for an alternative macroeconomic model will surely become louder and more numerous. While this may be the catalyst that speeds up the paradigm shift to a post-growth economy – a paradigm shift which seems to be already underway – one must also accept that the growth paradigm remains, for the time being, the meta-narrative that governs the global development agenda. This dominance is partly due, no doubt, to the vested interests many corporations and political parties have in maintaining a growth economy, as well as the influence advertising and news media have in promoting materialistic values and consumerist cultures. This raises the important question of how advocates of a post-growth alternative should try to frame the transition. Should we try to redeem the notion of ‘sustainable development’? Should we embrace the language of Mill’s ‘stationary state’ or Daly’s ‘steady state’ economy? Is the vocabulary of ‘degrowth’ required to express the magnitude of the changes required? Or should we be talking of a politics or economics of ‘happiness’ or ‘sufficiency’? And how to deal the fact that all post-growth economists presumably still want ‘growth’ in culture, renewable energy, bike lanes, leisure, wellbeing, etc. ‘Degrowth in *what?*’, one might suggest, is just as important as the question ‘Growth in *what?*’ Further ways of framing the debate might include ‘wellbeing economics’, ‘one planet economics’ or ‘safe climate economics’. These issues about how best to frame the alternative to conventional growth economics are not simply cosmetic. After all, it is not enough for growth objectors merely to be correct in their diagnoses and prescriptions; if they are to have any influence, they also have to be listened to and to be persuasive, and that requires thinking about how best to frame the new narrative.

The problem with trying to redeem the language of ‘sustainable development’ is that its ambiguities have been exploited for many decades now, such that it has come to mean anything at all, depending on the interests it is meant to serve, and thus it means nothing much of any substance. *Everyone* seems to be in favour of ‘sustainable development’, which means it lacks content as a concept, and is too easily shaped and reshaped. Business as usual, more or less, has been the result. The other problem is that sustainable development has always been deeply embedded in the growth paradigm – if sustainable development means anything, it means ‘green growth’ or ‘sustained growth’ (e.g. UN, 2012). But if growth itself is the issue that needs rethinking, then sustainable development may not be the banner under which to march. It may carry too much baggage. Herein lies the value of ‘degrowth’ discourse – it could hardly be more explicit about its rejection of the growth paradigm and for the requirement, in the developed world, at least, for a *contraction* of resource and energy consumption. While neoliberal capitalism proved quite capable of co-opting the language of ‘sustainable development’ in order to avoid changing, it is hard to imagine how neoliberalism could co-opt degrowth without degenerating into Orwellian double-speak: degrowth means growth! Nevertheless, despite the coherency of degrowth as a radical vision for sustainability, it

has obvious 'public relations' issues to deal with. It is difficult to imagine a mainstream campaign emerging under the banner of 'degrowth', so while it has conceptual value in positioning itself clearly *against growth*, it may not be the best term to use if mainstreaming that position is the goal. Too many people are likely to interpret the term as somehow being against 'progress', even though degrowth scholars would insist it *means* progress, albeit of a reconceived nature. Even notions of a 'stationary state' or 'steady state' state economy can seem to imply stagnation, although, again, advocates are clear that it is only *biophysical impact* that does not grow, leaving it open for such an economy to progress or grow in cultural, technological, and moral terms.

Accordingly, the notion of 'progress' may itself be the term that needs to be reconceived, as we see happening already with the alternative indicators to GDP, such as the 'Genuine Progress Indicator'. These indicators may be the clearest means of communicating the idea that 'genuine progress' today may not mean growth in GDP, and may even imply degrowth. The idea of a politics or economics of 'happiness', while at risk of coming across too rosy, may also bear fruit by emphasising the personal and social *benefits* that can flow from rethinking the growth paradigm (see also, NEF, 2012). An 'economics of sufficiency' has great value in highlighting the lifestyles implications of the alternative paradigm (discussed further below). While all these terminological issues ought to be borne in mind, it may be that different ways of framing the alternative may be required in different contexts. As the title of this paper suggests, however, the phrase 'post-growth economics' may be a suitable middle-ground, in so far as it is explicitly against growth – and thus has some oppositional content – while at the same time implying that it is 'after' or 'beyond' growth, suggesting progress rather than social decline.

3.2. *The problems of debt, interest, and fractional reserve banking*

Other issues that deserve more attention within the literature of post-growth economics are financial and banking issues related to debt, interest-bearing loans, and fractional reserve banking. Sometimes post-growth scholars give the impression that 'growth' is a feature of the existing economic order that can be taken away, while leaving the essential structure of that order more or less in place. However, as Ted Trainer (2011) and others have insisted, the existing market economies are not economies that *have* growth; they are *growth economies*, which have a 'grow or die' imperative built into their very structure (Smith, 2010). Profit-seeking (or profit-maximisation) is an element of market economies that cannot easily be done away with, giving rise to various financial issues which suggest that a post-growth economy could never arise without undertaking fundamental changes with respect to banking and finance systems. One does not refer here to things like stricter regulation of predatory lending or more state support for credit unions, although it may include those things. Instead, one refers to deeper, structural issues about what to do with the mountainous personal and national debts in existence, as well as the fact that interest-bearing loans and fractional reserve banking imply and rely on an ever-expanding money supply. Individuals and governments took on huge loans over recent decades, predicated on the assumption that the future of growth would be similar to the past. But if we are reaching or exceeding the 'limits to growth', then it will become much harder or impossible for those debts to be repaid. And yet, under the existing system, things quickly breakdown when debts are not repaid, as exemplified by the global financial crisis, so post-growth economists must formulate coherent strategies for dealing with the problem of debt. Similarly, interest-bearing loans imply an expansion of the money supply, since borrowers have to repay the sum borrowed plus the interest. But if a post-growth economy means bringing an end to the expansion of the money supply, then it is not clear whether interest-bearing loans or fractional reserve banking can be a part of such

an alternative. These questions suggest that it will be impossible to remove 'growth' from existing economies without fundamentally rethinking the nature of banking and finance systems. While these are very complex matters – calling on expertise beyond what the present author can provide – this short section will have served a worthwhile purpose if it highlights a research agenda that should be given more attention by post-growth economists. After all, however problematic the growth paradigm might be, an alternative is unlikely to be embraced *en masse* until more of its details are outlined, especially with respect to banking and finance systems that are compatible with such a post-growth alternative. These questions also raise broader issues about whether a post-growth alternative is consistent with the basic institutions of capitalism (i.e. private property and markets) or whether some form of eco-socialism is required to facilitate the transition. This is a debate that is currently underway (see Sarkar, 1999; Smith, 2010; Trainer, 2011; Lawn, 2011).

3.3. Radical lifestyle implications of a post-growth economy

Another area of neglect within the literature on post-growth economics relates to the lifestyle implications of a transition beyond growth. If the aim of a post-growth economy is to live within the carrying capacity of the planet, and to share the finite resources of Earth in some equitable fashion amongst the world's population (White, 2007; Vale and Vale, 2013), then it seems clear that nothing resembling the high impact, energy intensive, Western-style consumer lifestyles could be maintained. In a recent article, Steb Fisher (2013) outlined a case for why developed nations (his focus was Australia) would need to reduce resource consumption to about 6% of current levels if seven billion people are to live sustainably on the planet. That is 16 times less than current consumption levels! The arithmetic and assumptions can (and no doubt will be) debated, but even so, the magnitude of downshifting required for 'one planet living' is drastic, to say the least. The point is that living sustainably on a full planet does not merely mean recycling, composting, and buying efficient light bulbs, necessary though such practices may be. Rather, it means *fundamental lifestyle change* to an extent few people dare to envision (see Trainer, 2010; Alexander, 2013a). Without attempting presently to describe such a change in any detail, one planet living might involve a revolutionary shift toward organic urban agriculture, *a la* Havana in Cuba, with all households maximising food production and water collection, retrofitting their houses for energy efficiency, and living more densely within those houses; it might involve giving up private cars and regular air flights in favour of walking, biking, or using electrified public transport; it might involve vigilantly recycling and creatively reusing most, or all, wastes produced, and mending clothes and tools rather than buying new. More generally, it would surely imply doing without many comforts and conveniences that many 'first world' consumers take for granted today, like a new mobile phone every few years, superfluous kitchen gadgets or household ornaments, or cosmetic home renovations. Likewise, rather than turning on the heater or air-conditioner, we may need to put on a woollen sweater when its cold or close the curtains on hot days to keep out the heat. The changes required would be endless in number and radical in nature, but little attention is given to these issues by post-growth economists, perhaps due to an unconscious 'techno-optimism' that assumes that technology will be able to decouple consumer lifestyles from their ecological impact. The problem is that this gives the impression that something resembling consumer lifestyles could be maintained in a post-growth or degrowth economy, when in fact the degree of ecological overshoot and the limits of technology suggest otherwise. If sustainability means degrowth, then sustainability implies a move toward lifestyles of radical simplicity (Trainer, 2012).

It must also be emphasised, however, that the lifestyles of radical simplicity required by one planet living need not imply hardship. On the contrary, radical

simplicity implies focusing on what is *sufficient* to live well, and then dedicating one's time and energy to non-material sources of meaning and wellbeing. While it is certainly the case that this implies a cultural revolution in 'first world' attitudes to material consumption – and a reimagining of the 'good life' – an empirical and philosophical case can be made that people can live 'more' with significantly 'less' (Alexander, 2009; Alexander, 2012a; Alexander and Ussher, 2012).³

3.4. *Theories of change – democratic, eco-socialist, anarchist*

A final issue worth highlighting relates to the nature of any transition to a post-growth economy. What would drive such a transition? And how would it come about? These are important questions, but again, they are somewhat neglected in the literature on post-growth economics. That literature is particularly strong on the *critique* of growth (Meadows et al, 2004; Jackson, 2009; Turner, 2012), and a growing body of work is being dedicated to *describing* what a post-growth economy might look like at a political and macro-economic level (with a gap, as noted, related to finance and banking issues). Considerably less attention has been dedicated to understanding how the transition to a post-growth economy might unfold (Alexander, 2013b). This is problematic because it is not enough simply to *diagnose* the problems and *describe* the best alternative. It is equally necessary to consider questions about how to mobilise communities and destabilise existing power structures, for the purpose of bringing a post-growth economy into existence. There are several broad categories of transition worth outlining, in the hope of bringing more attention to the issues under consideration.⁴

The first theory of transition could be called 'radical reformism', which can be understood to signify a transition that holds on to the basic notions of a market economy and a centralised democratic state, and argues that the changes needed for a post-growth economy must be brought about through radical parliamentary reform. This approach to transition is currently dominant in green circles (e.g. Jackson, 2009) and it assumes that a functioning, representative democracy will produce a post-growth economy when the citizenry are willing to vote for it. This theory envisions a post-growth culture shift first growing in strength and influence, and over time filtering upwards to eventually find political and macro-economic expression, primarily through the legislature.

A second approach could be called 'eco-socialist', which differs from radical reformism insofar as it denies that a post-growth economy could be based on markets and private property – that is, based on an essentially capitalist framework – and holds that what is needed instead is the establishment of a strong, centralised socialist government with a deep green vision (see Sakar, 1999). The argument, in short, is that markets have a 'growth imperative' built into their very nature (Smith, 2010), meaning that the idea of a *willingly post-growth capitalism* is essentially a contradiction in terms. Given that the capitalist class is unlikely to abdicate its power willingly, eco-socialists, like most socialists, argue that parliamentary reform will be inadequate to the task of creating a post-growth economy, on the grounds that the capitalist state is said to be primarily a tool for furthering the interests of the capitalist class. Accordingly, eco-socialist tend to believe some form of revolution will be required, through which state

³ While this discussion is focused on developed nations, obviously there lies a whole other body of issues to consider about the relevance of 'degrowth' to the Global South, as well as issues related to distribution of wealth both within and between nations. See generally, Wilkinson and Pickett (2010); Trainer, (2010) Ch 5; and White (2007).

⁴ For a more detailed examination of these issues, see Samuel Alexander and Jonathan Rutherford, 'The Deep Green Alternative: Debating Strategies of Transition' *Simplicity Institute Report 14a* (2014).

power is gained for the purpose of socialising the economy and establishing, by way of centralised planning, a post-growth regulatory framework.

A third theory of transition could be called 'eco-anarchist' (see Trainer, 2010; Holmgren, 2002; Fotopoulous, 1997). This school of thought tends to agree with the socialist or eco-socialist critique of capitalism, but argues that the strategy of trying to take state power for the purpose of realising a post-growth economy is flawed. As anarchists, they believe that human beings should be self-governing at the local level and that political hierarchies inherent to centralised governments are inconsistent with a fully free and dignified existence. However, in the context of post-growth economics, eco-anarchists have a supplementary critique of the state. Governments, they argue, have an inherent bias towards growth, on the basis that public policies cost money, incentivising governments to seek economic growth to pay for those policies via a larger tax base. For these reasons it is argued that governments of any stripe – whether capitalist or socialist – will tend to pursue growth, the implication of which, eco-anarchists argue, is that a post-growth economy could never emerge from the 'top down' but could only emerge 'from below' at the grassroots level.

While these cursory reviews surely raise more questions than they answer, the purpose was simply to raise the question of 'strategy'. If a post-growth economy is what is needed, theorists and activists have to put their minds to the question of where to direct their oppositional energies, for there is hardly oppositional energy to waste. Should people campaign for the Greens and try to radicalise them? Should they try to agitate and organise for a socialist revolution? Or should they essentially ignore governments and just set about 'pre-figuring' the post-growth alternative at the grassroots level, within the shell of the existing growth economy? Finally, will the transition be smooth and rational, or proceed through a series of crises and responses? These questions have no clear answers, but the movement for a post-growth economy will be stronger for taking them seriously.

4. CONCLUSION AND RESEARCH AGENDA

This literature review suggests that the foundations for a post-growth economy are becoming ever more robust and, indeed, that the movement for an economics 'beyond growth' is developing some real momentum (see, Stiglitz, Sen, and Fitoussi, 2010; Milne, 2012; Royal Government of Bhutan, 2012; Costanza *et al*, 2014). At the same time, it is difficult to be hopeful that a smooth transition will take place in the narrowing time frame available. Vested interests (e.g. the fossil fuel industry, concentrated private media, transnational corporations, etc.) are everywhere insidiously working to maintain the status quo and resist movements for change. Nevertheless, if a robust scientific and moral case can be made for a post-growth economy, then it is the job of academics, educators, and activists to keep pushing for change, no matter the chances of success. As Bertrand Russel (2009: 45) once wrote, 'Gloom is a useless emotion'.

If it turns out that it is already too late to avoid some form of 'Great Disruption' (Gilding, 2011) as the growth economy collides with the biophysical limits to growth, then in practical terms the attempt to 'pre-figure' post-growth alternatives here and now presents itself as a coherent strategy to adopt, even if only at the micro-scale at first. Doing so will help build resilience in anticipation of future shocks, and increase the likelihood that less destructive modes of civilisation could one day emerge from the existing order. Before all else, this creative process of civilisational renewal will require infusing as ethics of sufficiency into our economic thinking and practice.

This analysis will close by summarising some research and advocacy agendas which it is proposed could help advance post-growth economics by addressing outstanding issues highlighted by this literature review:

- Take seriously the question of how best to ‘frame’ the alternative macro-economic paradigm. There may not be only one ‘correct’ way to do this, but reflecting on these terminological issues in relation to specific contexts and audiences may increase the likelihood of reaching a broader audience, which is obviously a necessary part of the transition.
- Give increased attention to what systems of banking and finance would be required to make a post-growth economy function, and how a transition to such systems could play out.
- Confront the question of whether a post-growth economy is compatible with the basic property and market structures of capitalism or whether fundamentally different structures are required, and if so, what they may be.
- Honestly acknowledge the radical implications of the ‘carbon budget’. Kevin Anderson (2013) has drawn most attention to this issue, by showing that keeping beneath 2 degrees implies degrowth in the wealthiest parts of the world. But a huge amount of work remains to be done mainstreaming this message and unpacking its implications.
- Emphasise the radical lifestyle implications of moving away from a growth economy. High-impact consumer lifestyles are inconsistent with sustainability; degrowth implies lifestyles of voluntary simplicity.
- Move beyond merely criticising growth (diagnosis) and describing the alternative (prescription), and dedicate more attention to questions of how best to *facilitate the transition* to the proposed alternative. This is partly a debate about which strategies are likely to provide the most leverage, but it also calls for ‘envisioning’ exercises where various post-growth futures are creatively sketched out to help more people break free from the imaginative constraints of the current growth trajectory.
- Address the whole host of further issues about how to overcome the various social, psychological, cultural, economic, legal, and political obstacles and barriers that currently obstruct the path to a post-growth economy and entrench the status quo.
- Recognise that transitioning to a post-growth economy in the developed regions of the world is going to have implications for the developing regions of the world. Give deeper consideration to issues of social justice and equity in this transition, paying particular attention to ways that a systemic redistribution of wealth could help facilitate the transition to a post-growth economy and minimise suffering as the new paradigm lays down its roots.
- Confront the thorny subject of population growth. While this issue must not be used as a scapegoat to deflect attention away from ‘first world’ over-consumption – the primary problem – it is clear that population growth tends to be a multiplier of everything, including ecological burden, and so global population must be equitably limited and eventually reduced.
- Clarify and collect arguments for ‘grounded hope’ in these extremely challenging times. Both despair and naive optimism are unhelpful responses – tempting though they both, at times, may be.

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