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The Green Economy mythical or meaningful?

The conflicts among ecological and economic goals have been a central characteristic of environmental politics since the emergence of the modern environmental movement in the 1960s. On one side of the debate is the argument that reducing pollution and protecting ecosystems and other resources unnecessarily impairs economic expansion, competitiveness and prosperity. From this point of view, although some environmental safeguards are needed, public policy should favour growth as a general rule. On the other side is the assertion that human health and ecological limits demand a carefully managed path for growth, including little or even no growth, and a preference for ecological over economic goals when they conflict. Environmental politics has consisted of a struggle to define where the balance between these goals should be struck.

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Over the past few decades, as competition among ecological (including human health) and economic goals has escalated there has been growing interest in finding a way to reconcile them (Fiorino, 2010). Are economic growth and environmental protection necessarily a zero-sum game? Is there a choice beyond simply balancing these two sets of goals, one that recognises complementary and synergistic rather than simply conflicting relationships? The most significant effort to answer this question was the 1987 report of the World Commission on Environment and Development (WCED, 1987). The commission sought to lay out a strategy for respecting planetary biophysical limits while, at the same time, not foreclosing the possibility of economic growth and all of its consequences. In identifying this need to find an environmentally sound path to growth it was looking in particular at developing countries. The WCED offered a middle ground in the growth versus economy debate: poverty reduction and economic progress are a priority, but within a framework which respects ecological limits, over the long term, alongside more integrated policies.

A subset of this more general discourse of sustainability, the concept of the green economy aims to provide a pragmatic and even synergistic solution to the economy–ecological conflict. It asserts that, not only may economic and political development occur in ways consistent with recognition of planetary limits, but many potentially positive relationships exist among these two goals.

This article considers several issues associated with this concept of the green economy. What is the green economy? Where did it come from? Why do some embrace it while others disdain it? Is it a meaningful way of designing a path forward at a time when such a path is urgently needed? Is it just another passing fad, or, worse yet, a justification for business as usual?

What is the green economy?

As the introduction suggests, the green economy is the idea that the economic and social aspirations of people and nations around the world may be fulfilled without exceeding the finite limits of local, regional and global ecosystems. It responds to a question posed by an American Association for the Advancement of Sciences report in 1971: how do we live a good life on a finite earth? (Daly and Townsend, 1993). Until the middle of the last century only the first part of that question was seen to matter: that is, how do we live a good life? More recently we have added the part about a 'finite earth'. Although most industrial nations have made progress in managing many forms of pollution and some of the effects of growth, growing evidence suggests that ecosystems at all levels and the natural resources that our social and economic well-being depend on are being degraded (Meadows, Randers and Meadows, 2004; Millennium Ecosystem Assessment, 2005; Boston, 2011). The concept of the green economy responds to this evidence and to the apparent inevitability of economic growth.

Many recent analyses have defined the green economy. One view comes in a 2011 report of the United Nations Environment Programme (UNEP). A green economy is 'one that results in improved well-being and social equity, while significantly reducing environmental risks and economic scarcities' (UNEP, 2011, p.9). The UNEP report asserts that a green economy 'is not generally a drag on growth but a new engine of growth', a 'net generator of decent jobs' and 'a vital strategy for the elimination of persistent poverty' (p.10). UNEP concludes that investing 2% of annual global gross domestic product (GDP), about $1.3 trillion, could deliver an economy in which growth is achieved within global ecological limits. This would be achieved through a strategy of sustainably managing and restoring the key natural capital sectors of agriculture, fisheries, forestry and water, while dramatically increasing efficiency and reducing the ecological impacts of such built sectors as transport, energy, manufacturing and buildings. The UNEP's macroeconomic model projects that a green investment strategy would, after a few transition years, deliver more growth, reduce poverty and generate more jobs than would a business-as-usual 'brown' strategy.

Another view of the concept, also from 2011, is that of the OECD. It looks to green growth rather than the more neutral concept of a green economy. Green growth is 'fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies' (OECD, 2011, p.9). Green growth means sustainable natural resource use, energy efficiency and fair valuation of ecosystem services. It is 'centered on mutually reinforcing aspects of economic and environmental policy' (p.10). Like the UNEP report, this one gives an optimistic view of prospects for a green economy if needed policies and incentives are adopted. Among these, aside from investments in green economic sectors, are: eco-taxes; well-designed regulation that promotes innovation; education and training to support green energy and other sectors; and removal of harmful subsidies that promote unsustainable activity in fossil fuels, irrigation, mining and other brown sectors. The OECD report stresses the need to value the natural capital and ecosystem services on which human well-being depends.

Another approach is from the World Business Council for Sustainable Development (WBCSD), a group of mostly large multinationals formed after the 1992 Earth Summit. Its 2012 report *Vision 2050* begins with a good news-bad news statement. The good news for business is that 'growth will deliver billions of new consumers who want homes and cars and television sets'. The bad news is that 'shrinking resources and potentially changing climate will limit the ability of all 9 billion of us to attain or maintain the consumptive lifestyle that is commensurate with wealth in today's affluent markets'. The council presents a two-part vision for 2050. The first aims for 'a standard of living where people have access to and the ability to afford education, healthcare, mobility, the basics of food, water, energy, and shelter, and consumer goods'. The second envisions 'a standard of living [that] can be sustained with the available natural resources and without further harm to biodiversity, climate, and other ecosystems' (WBCSD, 2012, executive summary). It is a business group but the council stresses the need to respect ecological limits.

The World Business Council argues that, although it may sound utopian, this

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vision is achievable. A workable strategy involves many goals, among them meeting the needs of poor countries; halting deforestation; halving carbon emissions by 2050; doubling agricultural output with no increase in land or water used; incorporating the costs of pollution into the price of goods and services; and getting a four- to ten-fold increase in resources and materials used for a given level of well-being. The report outlines strategies for realising these goals in key economic sectors. Following a business-as-usual growth path, it argues, leads to us consuming the equivalent of 2.3 earths by 2050; a green path offers the alternative of consuming just over one earth by 2050. The council also hints at another issue that is not prominent in the other reports: that we should rethink our idea of well-being – our vision of the quality of life we wish to achieve – as well as our means of achieving it. This is the challenge of rethinking growth as a measure of progress.

Several aspects of these approaches to the green economy are worth noting. The first is that all three are highly optimistic. Our environmental and energy challenges may be solved, they all assert, if only we are able to put the needed policies in place. All are consistent in recognising that the current growth and development trajectory of nearly all nations will lead at some point to disaster. In this sense, all three recognise the existence of ecosystem limits, although the World Business Council is the most explicit. Most importantly, all three embrace the need for continued economic growth. Indeed, they argue that a greening of the global economy is not inconsistent with growth and increasing incomes, and that it may outperform a business-as-usual scenario.

These reports suggest an approach to the green economy that may be distilled to five core features:

- *Ecosystem limits are recognised and incorporated into decision-making.* If there were no such limits we would not need to worry about how green we are. Without limits, a green economy is irrelevant. Although not always explicit in the analyses cited above, recognition of inherent ecosystem limits is central to the concept of a green economy.
- *Sources of natural capital – fresh water, forestry, biodiversity and so on – and the ecosystem services they provide are valued appropriately.* The world cannot survive by using up natural assets. Historically, the case for preserving these assets has been made in ethical, aesthetic, or practical but hard-to-measure terms. The case should be made in economic and instrumental terms as well. Ecosystems provide essential and largely irreplaceable services: regulating regional and global climate, providing fresh water, and treating wastes, among others.
- *Positive relationships among ecological and economic goals are seen to exist, even abound, in nearly all arenas of decision-making.* The challenge is to overcome the boundaries of particular interests and short-term thinking. For example, a long-term transition to energy efficiency and renewable sources offers huge benefits in both ecological and economic terms. Preserving coastal ecosystems offers tremendous benefits in protecting vulnerable areas and reducing storm-related damages.
- *Ecological considerations enter into all aspects of societal decision-making.* They are taken into account in land use, building design, transportation, infrastructure, tax policy and so on. This means that there should be analytical tools for integrating ecological and economic issues. Using alternatives to standard GDP, such as a green GDP, to measure progress is an example; another is assigning long-term economic value to ecological services.
- *There is serious, critical debate about quantitative economic growth as the overriding policy goal.* Aside from security, no other goal is as broadly embraced in modern political systems as the need for growth. Although the potential for far greener growth than occurs now is indisputable, at some point the sheer scale of economic expansion will stretch the limits of global ecosystems. A green economy will be a more balanced and equitable one.

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These five features define a basis for distinguishing a green economy (or at least a greener one) from the more conventional 'brown' or business-as-usual one. Although not all advocates of the concept would include these as defining features, they are viewed as such here.

Origins of the green economy concept

Before going further, it is worth considering where the green economy concept comes from. Often we can trace the origins of a concept, or at least its emergence in public debates, to specific events. Although the concept of sustainable development existed before the late 1980s, especially in terms of sustainable yields in forestry and fisheries, widespread use of the term may be traced to the 1987 report of the WCED. The concept of the green economy goes back at least to forward-thinking economists in the late 1980s and the 1992 Earth Summit. Among the influences on the emergence and evolution of the green economy concept, four are particularly important.

Blueprint for a green economy

The first visible use of the green economy concept was a 1989 book by David Pearce, Anil Markandya and Edward Barbier,

Blueprint for a Green Economy. The innovation in the book for its time was the case for the mutual interdependence of environment and economy. Just as the environment is affected by economic activity, so do our economic aspirations depend on the environment, specifically in terms of natural resources, ecosystem services and public health. The environment is not only a source of aesthetic, recreational or spiritual benefit, but the very foundation of economic success. In this argument, the fundamental economic failure is that markets do not assign value to ecological resources. Because markets do not value clean air and water, coastal estuaries, or the global climate system, these are consumed or degraded. Only when we value natural capital in a way that recognises its contribution to other forms of capital can ecological goals compete with economic. As the authors argue in a later book (*Blueprint for a Sustainable Economy*), 'valuation is important because it places the environment in the same political dialogue as economic activity generally' (Pearce and Barbier, 2000, p.7).

The Blueprint books were a landmark in the emergence of the green economy, but differ in significant ways from the meaning that was later attributed to the concept. One difference is that the authors do not explicitly accept the existence of inherent ecological limits, regardless of the sum of the monetised values people attach to them. Rather, they accept what has become known as weak rather than strong sustainability: in the former, natural capital is not seen as possessing distinctive, irreplaceable value and thus is not subject to 'special compensation rules'. (Pearce and Barbier, 2000, pp.23-4) A second difference is a reluctance to accept that there are limits to economic growth that at some point must be accepted if we are to remain within ecological limits. They argue that a slow- or no-growth strategy is unnecessary, risky and may undermine gains in the educational and social capacities of a society (ibid., pp.30-2).

Ecological modernisation theory

An intellectual influence on the emergence of the green economy concept is the academic literature on ecological modernisation theory. This line of thought emerged in the 1980s. It responded to political and social criticism that asserted the inherent incompatibility of existing capitalist and liberal democratic systems with the recognition of ecological limits. Much environmental writing to that point had argued for the need to fundamentally restructure existing economic and political systems, including a shift to authoritarian governance (Ophuls, 1977). Ecological modernisation theory presented the view that, by incorporating ecological issues into economic and political decision-making, and with technology innovation and policy change, the economy could be managed in ways that were consistent with the finite limits of ecosystems (Hajer, 1995; Mol and Sonnenfeld, 2000; Mol and Spaargen, 2000; Dryzek, 2013).

Ecological modernisation was a reformist, pragmatic and optimistic alternative to what John Dryzek (2013) has termed a 'survivalist' mindset and to the doubts about the capacity of existing institutions. It was reformist in asserting the need for economic, social and political change, but within existing democratic and market institutions. It was pragmatic in stressing policy reform, technology innovation and policy integration. At the same time, it was optimistic in arguing that institutions could be restructured to respect ecological limits, if the right policies were put in place. As a governance strategy, it was a forerunner of the green economy concept.

Ecological economics

Another source of the green economy concept is the field of ecological economics. In the last several decades, many economists grew increasingly unhappy with the orientation of their field. They thought that a near-total focus on expanding economies and increasing incomes was narrow and short-sighted, and that the field paid too little attention to such critical issues as ecological limits and social equity (Daly, 1973; Eriksson and Andersson, 2010; Cato, 2009). Of what value is a measure such as gross domestic product when it counts the destruction of a tropical rainforest or valuable coastal estuary as a net addition to well-being? What is the value of ever-increasing affluence when it comes at the price of the vital ecosystems on which life depends? In addition to an emphasis on ecological values in economic analysis, this school of thought made the case for reducing economic and political inequality. This focus has special relevance at a time when inequality is increasing in developed countries (Dadush, et al., 2012; Reich, 2010); among the effects are less capacity for collective action, a culture of consumption and status competition, erosion in social capital, and enabling of powerful interests (e.g. exploiters of fossil fuels) to impede a green economic transition (Wilkinson and Pickett, 2010; Boyce, at al., 1999).

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Ecological economists created a new approach within their discipline that recognised ecological limits and assigned appropriate value to ecosystem services. Like the *Blueprint* authors, they saw the need to use the tools of economics to protect the ecological system. This constituted an intellectual breakthrough that made the reframing of ecological issues in terms of the green economy possible. One of the contributions of this field was the development of analytical tools for assigning value to ecosystem services and resources. It was now possible to argue the benefits of a wetland, tropical forest or coastal estuary not just

in aesthetic and conservationist but also in economic terms. This was vital to the reframing that made the green economy possible.

Business greening

A third place to look for the origins of the green economy is the literature on the greening of business. Beginning in the 1980s, leading business scholars and firms have been engaged in a process of reframing the relationship between finance and the environment (Cairncross, 1995). The old zero-sum view was that investments in environmental quality subtracted from the bottom line, were a cost rather than a source of competitive advantage. Among policy makers, this was reflected in a corresponding view that only regulation backed by sanctions could change industry behaviour, leading in the United States especially to highly adversarial relationships. This view began to change a few decades ago. In the business literature, a landmark was the writing of business professor Michael Porter and associates (Porter and van der Linde, 1995). Porter turned conventional business thinking on its head by arguing that innovation in environmental, energy and other such areas was not only compatible with but contributes to business success. In recent decades firms have changed how they view environmental issues. They seek win-win paths to competitive advantage; this shapes how policy choices are viewed at macroeconomic levels.

In sum, the green economy illustrates a process in which a range of thinking influenced the emergence of a concept that acquired political significance. Such books as *Blueprint for a Green Economy* proposed measures for valuing ecological resources and placing environmental issues on a political level along with economic ones. Ecological modernisation defined a framework for restructuring economic and governance systems. Ecological economics applied the tools of an established discipline, while stressing the existence of limits and the need to rethink growth and equity. And the thinking on business greening reframed the economy–ecology relationship at a micro level, which, in turn, has shaped thinking about such issues at a macroeconomic level.

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Criticisms of the green economy

Like the broader and more widely recognised concept of sustainable development, its intellectual cousin, the green economy possesses a certain 'have your cake and eat it' quality. After all, it asserts that societies may expand their economies, enhance their competitiveness, increase per capita income and provide jobs, all while remaining within ecological limits. Moreover, some advocates of the concept assert that it offers a path to social equity and poverty reduction. Some even link it to visions of a happy planet. These are impressive claims and part of why many people doubt its validity. Is the concept of the green economy too good to be true?

Critics of the green economy raise many issues. One is that it is too anthropocentric, or focused almost entirely on preserving natural assets and respecting ecosystems on the basis of their benefits to people. Green economy thinking justifies clean technology, renewable energy, habitat protection and so on based on their value in satisfying human needs and aspirations. To be sure, that is a more than worthwhile objective, but it would ease the concerns of sceptics if there were more appreciation of nature's intrinsic qualities, not just its instrumental value. The worry, even for many green economy advocates, is that we depend so much on the economic case that, when benefits cannot be measured, we lose the argument. A related concern is that framing the issue in economic terms undermines the moral case for ecological protection.

Another source of criticism, from the left, is that the green economy concept serves to legitimise capitalism as managed by liberal democracies and perpetuates the fundamental causes of our ecological crisis. As mentioned earlier, the theory of ecological modernisation was an intellectual forerunner of the green economy. That idea emerged in response to the argument that only fundamental transformations in capitalist and political institutions could prevent a headlong rush toward environmental degradation. By laying out a supposed middle ground, critics argue, the green economy advocates are simply avoiding the radical changes that need to occur. Even for those who do not call for radical change the concept is suspect: it may justify infinite growth in production and consumption. To these critics, it is less a middle ground than a rationalisation for not rethinking growth and its role in well-being – an excuse for business as usual.

What about the objections from the right side of the political spectrum? Why would economic and social conservatives in some countries not embrace a concept that accepts the inevitability of economic growth, although more broadly conceived? The fact is that, at least in the United States, the green economy concept is disliked and often derided by conservatives. One reason is that, by defining a path that reconciles at least some level of continued growth with ecological quality, green economy proponents are taking away one of the core arguments against devising more progressive environmental policies. The heart of the conservative case is the argument of the zero sum: that prosperity and ecology are inherently at odds. Reconciling growth and the environment, as green economy

advocates seek to do, removes a major political weapon from the pro-market, pro-growth arsenal and, to these critics, legitimises environmentalism.

Two other reasons are important in explaining criticisms from the right. One is that a policy framework designed to promote a green economy could mean a more active governmental role in society. Columnist Charles Krauthammer (2009) has written that 'environmentalism is becoming the new socialism, i.e. the totemic ideal in the name of which government seizes the commanding heights of the economy and society'. As discussed below, a green economy does not necessarily require big government or more bureaucracy. Still, it does involve more in the way of collective action than advocates of limited government care to see. The second reason for conservative hostility, at least in the US, is a simple matter of political coalitions. The distribution of political support in the US has conservatives most often relying on fossil fuel and development interests. They are reluctant to promote policies that undermine these interests.

In the US the green economy has been embraced more by the centre and left of centre than by the right. It is most closely linked with the presidential administrations of Bill Clinton and Barack Obama. For both, and Obama in particular, having to face an obstructive Congress and often sceptical public on the critical issues of energy, climate change, water security and habitat protection in the midst of an economic crisis led to a reframing of environmental in relation to economic issues. This reframing is an explicit strategy to minimise the economic argument against strong environmental and energy policies. It is, and is intended to be, a strategy of conceptual co-optation. One example of how this reframing is presented in practical terms is a poster in the president's re-election campaign which read:

> There will always be people in this country who say we've got to choose between clean air and clean water and putting people back to work. That is a false choice. With smart, sustainable policies, we can grow our economy today and protect our environment for ourselves and our children.

Another example comes from the US Environmental Protection Agency, which recently undertook a project on the economic value of water based on the assertion that 'Water is vital to a productive and growing economy in the United States, directly and indirectly affecting the production of goods and services in many sectors'. These statements illustrate the political reframing of environmental issues in terms of the green economy, a concept that is embraced by the Obama administration.

Critics of the green economy often assert that it depends on technology innovation as the means of sustaining some level of growth while remaining within ecological limits. While it is true that technology plays a central role in a green economic transition, especially by increasing the eco-efficiency of most products and services, it is not the only instrument for achieving a green or substantially greener economy. Energy conservation and efficiency, for example, involve changes in behaviour or modifications in insulation, lighting and building design that are low in the technology scale. Reducing deforestation or overfishing, shifting to low-input and low-tillage agriculture, increasing mass transit, cutting fertilizer use, and preserving habitat from development require little in new technologies, but do demand changes in behaviour and policies. Moving towards more sustainable consumption through product redesign, reduced packaging or a focus on providing services rather than simply selling goods are not technology-based solutions.

The green economy and growth

The green economy agenda suggests an economically and technologically feasible set of policy options. An example is eco-taxes, of which a carbon tax is a prominent current example. It builds the social costs of fossil fuel-based energy into the price of the resource. It is effective in reducing carbon dioxide and other air pollution and placing renewable sources like solar energy and wind on a more competitive financial footing. A carbon tax may generate revenue to fund research on energy efficiency and technologies, offset income taxes, reduce deficits or support low-income people. As a policy tool, eco-taxes promote positive relationships among ecological and economic goals. Others tools include emissions and effluent trading; energy efficiency standards for appliances, vehicles and buildings; green infrastructure for water quality; products designed with green chemistry; elimination of environmentally-harmful subsidies, like those for irrigation; and stringent but smarter regulation that encourages technology innovation.

If the analysis in the 2011 UNEP report is correct, a moderate rate of global growth is not inherently incompatible with substantial reductions in the pressures that are being placed on planetary ecology. It projects that, if its 2% green investment strategy is implemented, a global increase of 14%

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in per capita income is possible, with a 21% increase in forest land, a nearly 22% decrease in water demand and 40% decrease in primary energy demand, and a reduction by nearly half in the footprint-to-bio-capacity ratio. Even allowing for some uncertainty, it seems clear that a far greener global economy is entirely feasible with the right investments and policies.

All of these options need to be included in a transition to a green economy. They are essential if we expect to live a good life on a finite earth. Many green economy advocates aim to reconcile economic and social aspirations with ecosystem limits, but within current growth trajectories. There is a case to be made, however, for the insufficiency of a strategy that assumes that current exponential growth rates may be sustained (Jackson, 2011). Even aggressive policies aimed at decoupling ecological impacts from growth cannot offset the fact of nine billion living more affluent lives by mid-century and beyond. Only so much energy, land, water, habitat and atmospheric capacity are available. As a matter of political reality, not all of the agenda outlined by the UNEP and other groups will be adopted, and much of it will not be. One solution is a goal political leaders around the world avoid talking about: stabilising or reducing economic scale in a planned economic contraction.

The more extreme argument along these lines, for degrowth, is not just for a greener but a smaller economy. One advocate defines degrowth as 'an equitable downscaling of production and consumption that increases human well-being and enhances ecological conditions' (Alexander, 2012, p.351). Recognising that people in many parts of the world are so poor they lack the income needed for minimal material well-being and development, this school of thought calls for higher incomes in poorer countries and lower incomes in wealthier ones. The objective is to achieve a level of global income that provides an appropriate level of well-being and happiness while not exceeding ecological limits. What is the logic in rich countries living with well past the incomes needed for happy, fulfilling lives when the planet is in jeopardy and poor nations lack the basics of a comfortable existence? If people are not happier beyond some level of affluence, why strive to make them still richer when the fate of the planet may hang in the balance?

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The degrowth case reflects an ambitious social and political agenda. Some of its proposals are reformist, such as adopting post-growth progress measures, promoting work sharing, and using renewable energy. Others, such as a radical redistribution of income through tax reform, total taxation of inheritance and legal limits on working hours, are more dramatic. Overall, a deliberate, systematic economic contraction in most countries is far from feasible.

Still, it is more than a fair criticism to argue that a strategy of delivering the same level of growth as traditionally conceived through technology and behavioural change will be insufficient. Its greatest virtue may be that it buys time. It may be feasible for some ecological issues but not for others. As a result, I would include in my conception of the green economy a notion of a world that aims not just for simple GDP or income growth but for a better quality of life, or a society that looks beyond growth. Research suggests that there is a point at which growth becomes uneconomic (Graham, 2011; Jackson 2011; Victor, 2008; Nijacki, 2012; Kubiszewski et al., 2013). We reach this point when the social costs of further growth begin to exceed the benefits. One set of costs lies in the effects of pollution, habitat loss, chemical exposures and climate change. Other costs occur in the quality of life, such as traffic congestion, higher living costs, family stress and economic inequality. The positional competition that is characteristic of many affluent societies on its own may be a source of significant stress (Wilkinson and Pickett, 2010).

A thoughtful, analytical case for at least rethinking the wisdom of economic growth as the overriding objective of modern societies is a book by the Canadian economist, Peter Victor. In *Managing without Growth* (2008), Victor makes the case that the focus on increasing the size of economies and per capita incomes has failed to deliver on three goals: maintaining full employment, eliminating poverty, and avoiding many forms of ecological degradation. He provides a thoughtful and empirically-grounded analysis of how such a slower-growth scenario might unfold while actually enhancing the quality of life. He also concludes, however, that there are hazards in 'deliberately and dramatically slowing the rate of growth' and that a strategy of no growth 'can be disastrous if implemented carelessly' (pp.178, 183). Victor favours a strategy of planned, well-managed development in pursuit of a more diverse set of policy goals.

Recognising this, some cities in the US have moved towards greener growth, not only by adopting the policies discussed earlier but by re-examining the primacy of growth as a community vision (Portney, 2013). They are moving from a conception of cities as just growth machines to a more nuanced conception of quality of life. Portland, Oregon, one of the most sustainable cities in the US, has adopted urban growth boundaries to limit land use and development. Boulder, Colorado was the first US city to enact a local carbon tax. Milwaukee in Wisconsin undertook a sustainable redevelopment of an old, decayed industrial area with explicit ecological and social goals to balance out the economic aspects of the programme. Indeed, these actions at the

city level are some of the best examples of green economic thinking in the US. Even public opinion may be moving in this direction: a recent Harris poll found that 'Americans are increasingly placing greater priority on living a fulfilling life – in which being wealthy is not the most significant factor'. People may be looking beyond growth as a measure of human progress and well-being.

Is the green economy a realistic or useful concept?

As should be clear by now, the view in this article is that the green economy is more meaningful than mythical. It offers a pragmatic, politically arguable, analytically-sound path for policy making, public and private. Moreover, some version of the green economy offers the only realistic path for avoiding the long-term, irreversible ecological devastation that is coming. It is a fact of life that economies will grow; growth is the basis for political legitimacy in nearly all nations. Like it or not, economic growth and rising incomes are a priority in both developed and emerging economies. And one cannot deny aspirations for a better quality of life in poor nations.

Without doubt, a major decoupling of progress from ecological harm is technically and economically achievable. It is most likely to succeed in the energy sector, where a long-term transition to renewable energy sources is feasible. Other economic sectors, such as transport, agriculture, tourism and manufacturing, are more challenging, but smart decisions and a stable policy framework could be effective in offsetting the ecological and health pressures of growth.

At some point, however, the cumulative effects of more people with ever-increasing standards of living will again press the limits of global ecosystems. In climate change, those limits are reasonably well defined. On issues such as water resources, persistent and bio-accumulative pollutants, nutrient loadings, loss of species and habitat, and other indicators it is clear that limits exist and at some point will be stretched. An absolute decoupling, looking beyond growth to more varied and nuanced approaches to progress, should be on the agenda. The continuing and exponential increases in rates of economic growth make a strategy of only relative decoupling through eco-efficiency insufficient in the long run. As argued here, however, the case for reducing economic inequality may be as important as or more important than that of constraining or reversing growth. How growth occurs matters far more than the fact of growth on its own.

The challenge of living a good life on a finite earth is far more difficult than the old one of living a good life without worrying about biophysical limits (Meadowcroft, 2005). Clearly, all nations must redesign policies and institutions to meet human needs in less ecologically stressful ways, although the political hurdles are formidable. Still, rethinking the idea of human well-being should be central to the idea of the green economy. Some people disagree with an emphasis on economic incentives and institutional restructuring. They want the case for ecological well-being to be made on moral grounds and a promotion of virtue. I see no conflicts between the economic and moral cases. Moral issues should be debated and asserted. If we look realistically at current trends, however, it is clear that virtue alone will not win the day. The concept of the green economy defines an approach to reframing the relationships among economic, ecological and even social goals. It may, in sum, be the best way to live a good life on a finite earth, now and well into the future.

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