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CAN GROWTH BE GREEN?

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Abstract

This short paper, based on a presentation at the LSE in December 2014, criticises the common opinion that 'green growth' offers a relatively painless - some even say pain-free - transition path for capitalist economies. Following a brief summary of the daunting arithmetic entailed in combining fast decarbonisation with continuing growth, the paper advances three propositions. First, market-based carbon mitigation programmes, such as carbon trading, cannot be sufficient and must be coupled with other policy pillars that foster transformative investment and widespread regulation. Second, a political economy of climate policy needs to draw on the lessons of comparative social policy research, which emphasises the role of international pressures, interests, institutions and ideas. Taking these into account gives a more realistic perspective on climate policy making in today's neo-liberal world. Third, more radical policies on both consumption and production are called for, to ensure that carbon mitigation is not pursued at the expense of equity and social welfare. These include policies to restrain high-carbon luxury consumption, and a transition towards shorter paid working time. The conclusion is that a realistic programme of green growth will be immensely difficult and entail radical political change.

My short answer to this question is: ‘possibly, but it will be immensely difficult and entail radical political change’. It is almost the opposite to Paul Krugman’s answer: ‘saving the planet would be cheap; it might even be free’.¹ Perhaps he is talking about another planet; certainly not this one now....

My background has been in social policy, studied and researched from different angles: economics, political economy, political and normative theory, and public policy. Six years ago I decided to devote myself to studying the interaction between climate change and social policy, broadly construed. This has led me into numerous byways but I am now writing a book to try to pull this together. I want to develop a perspective on the intersection between climate change and its mitigation and the pursuit of sustainable and equitable welfare. This would necessarily be *interdisciplinary*; hence the attraction of engaging with this group. But it certainly involves taking a position on ‘green growth’. I am no expert on this topic but I have read around it and would like to start with some comments on it, drawing on an earlier report written for the British Academy.²

In one sense green growth is the only game in town. The only logical alternatives are, on the one hand, that more growth *per se* is the solution to dealing with climate change and severe environmental threats – the Bjorn Lomborg and Matt Ridley perspective; and on the other hand, that growth is *the* problem and we must move towards degrowth or post-growth. The first seems to me incoherent, and the second politically impossible. But the middle ground of green growth covers a vast terrain, which needs unpacking.

In this brief presentation I shall concentrate on just one aspect of ‘green-ness’: the mitigation of climate change, but this is the most stringent current test of green growth. I focus on the rich world, though recognising that this cannot be divorced from global climate policies and the global issues of justice, need satisfaction, equity and governance. My research concerns the rich world within the OECD, where current emissions per head are several times that necessary to stabilise global climate.

Climate change scenarios

167 countries have endorsed the Copenhagen Accord agreeing that the safest maximum amount that global temperatures should be allowed to rise above the pre-industrial revolution level is 2°C. Some scientists claim that this is too lenient a target, but let us accept it for the time being. Carbon Tracker, in collaboration with the Grantham Research Institute, has conducted new analysis of the total amount of

carbon that can be burnt to achieve an 80% probability to stay below the 2°C carbon budgets. This came to 900 gigatonnes (billions of tonnes) of CO₂ for the period from 2000 to 2050, of which 14 years have now elapsed.³ This far exceeds present day usable reserves, and the cumulated burning at current trends. And as Bill McKibben points out, “Reasonable” in this case means four chances in five, or somewhat worse odds than playing Russian roulette with a six-shooter’.⁴

Yet global emissions are now accelerating, not declining - they have risen over 3% a year since 2000. The IPCC 2014 Synthesis Report stated: ‘Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems’.⁵ The World Bank warns that the globe is on a path to heat up by 4 degrees by the end of the century - if the global community fails to act on climate change. This would trigger ‘a cascade of cataclysmic changes that include extreme heat-waves, declining global food stocks and a sea-level rise affecting hundreds of millions of people’.⁶ And so on.

The policy implications are clearly stated by Nick Stern: ‘We essentially have to go from around 50 billion tonnes CO₂e per annum as a world now (2013) to well below 20 in 2050. Or in per capita terms, assuming population grows from 7b now to 9b by 2050, from 7 tonnes per capita per annum now to around 2 in 2050. But that is not all: assuming a global growth rate of some 2.5% pa over the next four decades, emissions per unit of output would need to fall by a factor of, not 3.5 but 7-8.’⁷ All in 35 years. And these estimates use a probability of 50% of avoiding 2 degrees: 3 bullets in each revolver!

Nick Stern recognises this as a call for a radical transformation, an energy-industrial revolution. This is a long way from saving the planet for free. Green growth is a huge challenge. His work and much of that at Grantham illustrates this.

From prices to path transformation

Michael Grubb’s new book, *Planetary Economics*, also indicates the scale of the conceptual challenge.⁸ He identifies three ‘domains’ embracing different conceptions of risk, different fields of theory, different economic processes and different implications for public policy.

First, the dominant domain, based on neoclassical economics and optimisation theory, stresses the goal of pricing carbon. The policy solution to address climate change is to price carbon so as to impose costs on polluters and thus internalise the externalities they generate, and provide price incentives for sustainable energy. The second domain embraces low recognition of risk, satisficing, and the goal of improving energy efficiency; the dominant policy solutions are enforcement of public standards and citizen engagement. The third domain draws on evolutionary economics and complexity theory to prioritise the goal of economic transformation; the policy solution is radical innovation by large private sector organisations alongside strategic public planning and infrastructure investment.

Grubb is adamant that all three domains must be involved if the goal is to transform the global energy system (his focus here). There is no magic bullet. All three are equally important, operating at different scales in time and space. In particular we must avoid, he says, the 'ideological search' for market solutions. Like others he is critical of neo-classical economics assumptions concerning rationality, equilibrium and its neglect of strong uncertainty. Stern's call for an 'energy-industrial revolution' clearly fits in with this approach.⁹

Yet Grubb's book remains firmly within an economics framework and does not embrace much political economy. There is much evidence that carbon trading and offset schemes attract rent-seeking and gaming by corporations, financial institutions and other market actors.¹⁰ The EU Emissions Trading Scheme, ostensibly a mechanism to help regulated installations cover their CO₂ emissions by trading in allowances, is in practice a financial market used for hedging and speculation.¹¹ And political lobbying will further distort the end-results. The assumption that real-world policies will be optimal is unacceptable. Other critical economists, such as Terry Barker and Frank Ackerman, call for more interdisciplinary study of *practices* and *cultures*, such as those studied by sociologists of climate change, and ways of shifting these to lever change towards lower-carbon lifestyles.^{12 13 14} Only a multi-disciplinary approach will provide adequate policy tools for successful green growth.

The politics of environmental states

One of the strengths of social policy and political science analysis over the past quarter century has been the study of cross-national variations in welfare states, mainly across the OECD world.¹⁵ I am applying some of the frameworks and techniques developed here to the study of cross-national variations in ‘environmental states’: states today that possess a significant set of institutions and practices dedicated to the management of the environment and societal-environmental interactions – a growing area of research.¹⁶

Here I use my ‘5 I’s’ framework, which I developed earlier, to bring together all the factors influencing the rise of welfare systems. These are: industrialisation, interests, institutions, ideas, and international influences.¹⁷ As with variations across welfare regimes, there are many conceptual problems, for example distinguishing policy outputs from final environmental or welfare performance. In a crude count of ‘leader’ and ‘laggard’ countries in several recent comparative researches, Germany, Austria, Switzerland and the Nordic countries are regular ‘leader countries’, and the US, Canada and Australia are the regular ‘laggards’.

Using my framework I advance some tentative conclusions:¹⁸

- International and global influences: are important in driving the adoption of climate change policies. International linkages, both political and economic appear to favour climate action which is then spread via diffusion. This would appear to be a clear contrast with welfare states, which evolved within national contexts and are typically seen to be threatened by globalisation. However, ‘Cameron’s law’ still holds here: more open economies have *larger* welfare budgets, as in the European Union.
- Interests: the balance of power between class interests – capital and labour – has proved important in explaining differences in welfare systems and outcomes across the OECD world, but this has little purchase on cross-national variations in environmental programmes. However, as Robert Falkner has argued, divisions within capitalist groups are important. Countries with substantial fossil fuel reserves generate large economic rents and powerful constituencies wanting to defer climate action as long as possible; the balance between these interests and ‘green capitalist’ interests is important.¹⁹

- Institutions: beyond some agreed political factors, such as level of democracy, strength of executive and partisanship, a wider range need investigating. These include corporatist patterns of interest representation: earlier studies of broader environmental legislation consistently find that the organisation of economic interests and the relationship between these interests and the government is significant.²⁰ This supported the argument that coordinated market economies with social democratic welfare states tend to see economic and ecological values as mutually reinforcing; they are better placed to integrate environmental concerns alongside economic and social policy making.^{21 22 23}
- Ideas: can be potent mobilising or demobilising forces according to the dominance of special business interests and the structure of the discourse. In some nations, such as the US and Australia, climate change has become a crucial 'ideological marker' generating strongly polarised positions; whereas in countries like Germany 'ecological modernisation' provides a crucial bridging discourse. A more pessimistic factor in my view is the continuing ideological domination of neo-liberal ideas. There is a strong association between these and climate change denial.²⁴ This was put most pithily by Martin Wolf: 'To admit that a free economy generates a vast global external cost is to admit that the large-scale government regulation so often proposed by hated environmentalists is justified. For many libertarians or classical liberals, the very idea is unsupportable. It is far easier to deny the relevance of the science'.²⁵ This could explain the relative strength of climate change opposition in the Anglosphere. It is a tragedy that climate change agendas have arisen in the era of dominant neo-liberal ideas, a denigration of state capacities and hostility to public initiatives.

This comparative political analysis provides, I think, more understanding of the factors which can facilitate the sort of radical transformations required by green growth.

Reducing consumption and working time

In the light of these structural factors – and there are others – the chances of achieving the transition arithmetic outlined above by Nick Stern sound highly improbable. It is not far away from the arithmetic put forward by Tim Jackson in *Prosperity without Growth*, which he used to challenge the realism of green growth.²⁶ Another part of my research is to consider the arguments for restraining consumption *in the rich world* as a contribution to climate change mitigation. So let me turn finally to this set of issues. I accept the argument that the green growth revolution must take place primarily within the production domain, but that does not mean that consumption is unimportant. It also establishes a strong link with the equity and welfare components of a sustainable society. There are several strands to this research.

First, there is mounting evidence that growth of GDP, above a certain level, does not deliver greater subjective wellbeing - nor various measures of objective wellbeing. I will not pursue that here but the evidence is now overwhelming that GDP is not a good indicator of human wellbeing, especially in rich economies.

Second, there is a nest of distributive issues. As documented by myself and many others, higher incomes are the main driver of emissions within countries, as well as between countries. But necessities (as defined by income elasticity <1) have a higher GHG intensity than non-necessities; this is notably the case for domestic energy and food. Thus emissions as a share of income rise quite steeply as you descend the income scale. This immediately poses a problem for using carbon pricing as a key strategy for improving the greenness of growth: it is inequitable and can present significant political obstacles. It is also the case that *marginal* GHG intensities of expenditure increase with lower incomes; thus income redistribution may increase aggregate emissions.²⁷ This poses a further dilemma: that compensating low income households could undermine emissions.

Third, as Henry Shue has argued, there is a normative distinction to be made between basic and luxury emissions: 'It is not equitable to ask some people to surrender necessities so that other people can retain luxuries ... The costs ought to be partitioned'.²⁸ This argument was mainly advanced at the global level, but it can also be applied within countries. To have purchase on policy making, it requires a rigorous normative distinction between necessities and luxuries. In another strand of writing I have argued that universal basic needs *can* be rigorously identified in terms of human health and autonomy.²⁹ On the other hand, the *satisfiers* to meet those needs will vary enormously with context, wealth and culture. Nevertheless, one can

devise bottom-up methods to estimate these within any given national, social or cultural group, and these have been used to arrive at agreed measures of poverty and of decent living standards.³⁰

Putting these arguments together makes the case for a strategy for *consumption*. This should prioritise need-satisfiers over other preferences, non-material satisfiers over material satisfiers, and low-carbon satisfiers over carbon-intensive satisfiers. (Satisfiers include both goods and services, but also activities and relationships). There are various ways of doing this which I have discussed elsewhere.³¹ It calls for a more thought-through agenda around consumption.

I am arguing here for a curb on consumption in rich countries like the UK as a contribution towards rapid decarbonisation - in other words away from green growth and towards planned degrowth. But is not any step along this road politically nonsensical? When did electorates ever support deliberately engineered declines in consumption and income? ('Over the last five years' might be one answer...). So I will end with a call for a transitional strategy from green growth to partial degrowth which I believe can work: reduced working time.

I remember in introductory economics courses being taught that the productivity dividend can be taken in the form of increased income or increased 'leisure'; yet, as Robert Skidelsky points out, this critical option rarely figures in economic analysis at more advanced levels.³² Reducing hours of work can reduce emissions in two ways: via the scale effect - reducing incomes, expenditures, consumption and emissions - and via the compositional effect, by altering time and expenditure budgets towards lower carbon intensity. Again there are marked variations between capitalist economies; for example, since 1975, when they had similar hours of work, the US has reduced average hours by 4 per cent and Germany by 22 per cent. All other things being equal, Germany has deployed its productivity dividend in a less environmentally harmful way than the United States. A cross-national analysis of 29 OECD countries, finds that 'annual working hours are a large and significant predictor of ecological outcomes'.^{33 34}

Such policies could in principle redistribute employment opportunities, enhance individual choice and wellbeing and save carbon. However, care would be needed to ensure that this policy shift would not raise other distributional dilemmas, including the risk of increasing poverty among the low paid, and growing 'time inequality'

between the higher and lower paid.³⁵ This is a call for new 'eco-social policies' that exploit synergies between decarbonisation and redistribution, some of which I have discussed elsewhere. These include the 'reverse pricing' of domestic energy, properly subsidised retrofitting programmes, and community ownership of renewable energy schemes.

Conclusion

I conclude briefly by reiterating that preventing dangerous climate change is an epochal challenge, ill-served by some comments of Paul Krugman. From social scientists it will require the robust inter-disciplinary approach advocated by Craig Calhoun, not one prioritizing market mechanisms. It will need to be integrated closely with social policies pursuing equity goals. And it should begin to develop a strategy for consumption alongside production.

1. Krugman, Paul. "Could Fighting Global Warming Be Cheap and Free?" *The New York Times*, September 18, 2014. <http://www.nytimes.com/2014/09/19/opinion/paul-krugman-could-fighting-global-warming-be-cheap-and-free.html>.
2. Gough, Ian. *Climate Change and Public Policy Futures*. London: British Academy, 2011. <https://www.britac.ac.uk/policy/Climate-change-and-public-policy-futures.cfm>.
3. Ranger, Nicola, and Ward, Bob. "Unburnable Carbon 2013: Wasted Capital and Stranded Assets | Grantham Research Institute on Climate Change and the Environment." Accessed December 15, 2014. <http://www.lse.ac.uk/GranthamInstitute/publication/unburnable-carbon-2013-wasted-capital-and-stranded-assets-2/>.
4. McKibben, Bill. "Global Warming's Terrifying New Math." *Rolling Stone*. Accessed December 15, 2014. <http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>.
5. IPCC. *Climate Change Report 2013. Synthesis Report. Summary for Policymakers*, November 2014.
6. World Bank, Shannon L. "Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience. A Report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics;2013; World Bank; Washington D.C.;213 Pp.
7. Stern, Nicholas. "Ethics, equity and the economics of climate change Paper 1: Science and philosophy" *Economics and Philosophy* 30, no. 03 (November 2014): 397–444.
8. Grubb, Michael, Hourcade, Jean-Charles, and Neuhoﬀ, Karsten. *Planetary Economics: Energy, Climate Change and the Three Domains of Sustainable Development*. Text. Accessed September 15, 2014. <http://www.routledge.com/books/details/9780415518826/>.
9. Stern, Nicholas. "Ethics, equity and the economics of climate change Paper 2: Economics and politics" *Economics and Philosophy* 30, no. 03 (November 2014): 445–501.
10. Helm, Dieter, and Cameron Hepburn, eds. *The Economics and Politics of Climate Change*. Oxford; New York: Oxford University Press, 2009.
11. Berta,N, and Gautherat,E. "Transactions in the European Carbon Market: A Bubble of Compliance in a Whirlpool of Speculation," 2014.
12. Urry, John. *Climate Change and Society*. Cambridge, UK; Malden, MA: Polity Press, 2011.
13. Seyfang, Gill, and Jouni Paavola. "Inequality and Sustainable Consumption: Bridging the Gaps." *Local Environment* 13, no. 8 (2008): 669–84. doi:10.1080/13549830802475559.
14. Scricciu, S. Șerban, Terry Barker, and Frank Ackerman. "Pushing the Boundaries of Climate Economics: Critical Issues to Consider in Climate Policy Analysis." *Ecological Economics*, New Climate Economics, 85 (January 2013): 155–65. doi:10.1016/j.ecolecon.2011.10.016.
15. Schröder, Martin. *Integrating Varieties of Capitalism and Welfare State Research: A Unified Typology of Capitalisms*. Palgrave Macmillan, 2013.
16. Duit, Andreas. *State and Environment: The Comparative Study of Environmental Governance*. MIT Press Ltd, 2014. <http://www.abebooks.co.uk/State-Environment-Andreas-Duit-Press/13327347626/bd>.
17. Gough, Ian. "European Welfare States: Explanations and Lessons for Developing Countries." In *Inclusive States: Social Policy and Structural Inequalities*, edited by Anis Ahmad Dani and Arjan de Haan, 39–72. Washington D.C: World Bank Publications, 2008.
18. Gough, Ian. "Welfare States and Environmental States: A Framework for Comparative Analysis," Forthcoming.
19. Falkner, Robert. *Business Power and Conflict in International Environmental Politics*. New York: Palgrave Macmillan, 2008.

20. Scruggs, Lyle. *Sustaining Abundance: Environmental Performance in Industrial Democracies*. Cambridge University Press, 2003.
21. Dryzek, John S, David Downes, Christian Hunold, David Schlosberg, and Hans-Kristian Hernes. *Green States and Social Movements: Environmentalism in the United States, United Kingdom, Germany, & Norway*. Oxford: Oxford University Press, 2003.
22. Meadowcroft, James. "From Welfare State to Ecostate." In *The State and the Global Ecological Crisis*, edited by J Barry and Robyn Eckersley, 3–23. Cambridge MA: MIT Press, 2005.
23. Gough, Ian, James Meadowcroft, John Dryzek, Jürgen Gerhards, Holger Lengfeld, Anil Markandya, and Ramon Ortiz. "Climate Change and Social Policy: A Symposium." *Journal of European Social Policy* 18, no. 4 (November 1, 2008): 325–44.
24. Painter, James, and Teresa Ashe. "Cross-National Comparison of the Presence of Climate Scepticism in the Print Media in Six Countries, 2007–10." *Environmental Research Letters* 7, no. 4 (December 1, 2012): 044005. doi:10.1088/1748-9326/7/4/044005.
25. Wolf, Martin. "Why the World Faces Climate Chaos." *Financial Times*, May 14, 2013. <http://www.ft.com/cms/s/0/c926f6e8-bbf9-11e2-a4b4-00144feab7de.html#axzz3LyEjaexk>.
26. Jackson, Tim. *Prosperity Without Growth: Economics for a Finite Planet*. London: Earthscan, 2009.
27. Chitnis, Mona, Steve Sorrell, Angela Druckman, Steven K. Firth, and Tim Jackson. "Who Rebounds Most? Estimating Direct and Indirect Rebound Effects for Different UK Socioeconomic Groups." *Ecological Economics* 106 (October 2014): 12–32. doi:10.1016/j.ecolecon.2014.07.003.
28. Shue, Henry. "Subsistence Emissions and Luxury Emissions." *Law & Policy* 15, no. 1 (1993): 39–60. doi:10.1111/j.1467-9930.1993.tb00093.x.
29. Gough, Ian. *Climate Change and Sustainable Wellbeing: An Argument for the Centrality of Human Needs*. CASE Paper 182. LSE, 2014.
30. Druckman, Angela, and Tim Jackson. "The Bare Necessities: How Much Household Carbon Do We Really Need?" *Ecological Economics* 69, no. 9 (July 15, 2010): 1794–1804. doi:10.1016/j.ecolecon.2010.04.018.
31. Gough, Ian. "Carbon Mitigation Policies, Distributional Dilemmas and Social Policies." *Journal of Social Policy* 42, no. 02 (2013): 191–213.
32. Skidelsky, Robert, and Edward Skidelsky. *How Much Is Enough? : Money and the Good Life*. New York: Other Press, 2012.
33. Schor, J. *Working Hours in the Debate about Growth and Sustainability*. Paper Presented to nef/CASE About Time Colloquium 12 January. London: London School of Economics and Political Science, 2012.
34. Nässen, J., and J. Larsson. "Would Shorter Work Time Reduce Greenhouse Gas Emissions? An Analysis of Time Use and Consumption in Swedish Households," March 26, 2010. <http://jorgenlarson.nu/wp-content/uploads/Would-shorter-work-hours-reduce-greenhouse-gas-emissions-100326.pdf>.
35. Burchardt, Tania. *Time and Income Poverty*. London: Centre for the Analysis of Social Exclusion - London School of Economics, 2008.