# Growth Sustainable

### Growth Is Sustainable

#### Growth overcomes scarcity—ingenuity outweighs finitude.

Ben-Ami 11 — Daniel Ben-Ami, journalist and author, regular contributor to *spiked*, has been published in the *American*, the *Australian*, Economist.com, *Financial Times*, the *Guardian*, the *Independent*, *Novo* (Germany), *Ode* (American and Dutch editions), *Prospect*, *Shanghai Daily*, the *Sunday Telegraph*, the *Sunday Times*, and *Voltaire* (Sweden), 2011 (“Growth is good,” *Ode*, June, Available Online at http://www.odemagazine.com/doc/print/75/growth-is-good, Accessed 08-16-2011)

There are many reasons why the notion of scarce resources is mistaken. Take energy as an example. For almost a century, authorities have warned that oil is on the verge of running out. Yet the exhaustion of oil supplies is still a long way off. New sources of oil have been discovered, including under the seabed, and extraction techniques have been improved. In the future, it may also be possible to extract huge amounts of oil from tar sands or produce plentiful gasoline from coal.

Perhaps one day, oil will be close to running out or it will be considered too dirty to use. That still leaves plenty of options. As technology improves, electric cars could become much more viable. It is also already possible to generate huge amounts of energy from nuclear fission, the process that powers the sun, while in the future, nuclear fusion could provide unlimited energy.

Perhaps other technologies will turn out to be better, but the point is that apparently insurmountable resource shortages can be overcome. Human ingenuity is unlimited. It is not a question of needing, say, three planets to sustain humanity, but of making this planet more productive.

#### Their authors rely on discredited Malthusian predictions—they don’t account for new technology and price mechanisms.

Friedman 5 — Benjamin M. Friedman, William Joseph Maier Professor of Political Economy at Harvard University, former Chair of the Department of Economics at Harvard University, holds a Ph.D. in Economics from Harvard University, 2005 (“Growth and the Environment,” *The Moral Consequences of Economic Growth*, Published by Knopf Publishing Group, ISBN 0679448918, p. 377)

The Limits of Growth authors made such faulty predictions because they underestimated the power of technological advance, and ignored altogether the role of initially higher prices both in encouraging substitution by users and in stimulating new supplies. 23 The conceptual framework they took as their model was essentially that of Malthus, who nearly two centuries before, living in what was still a predominantly agricultural economy, had focused on the tension between the arithmetic increase of food production and exponential population growth. (The first two chapters of The Limits to Growth were titled “The Nature of Exponential Growth” and “The Limits to Exponential Growth.”) But Malthus had failed to see the implications of the technological revolution that was beginning to take place around him, including advances in agricultural methods as well as new modes of transportation that opened the way to grow food on land previously too far away to be useful.\* On the evidence of the three decades since the Club of Rome report appeared, its authors similarly failed to anticipate the power of new technology, or to understand the functioning of the price mechanism.

#### Growth solves all resource shortages and makes itself sustainable – we can grow for thousands of years

Worstall 7/6 (Tim Worstall, Senior Fellow at the Adam Smith institute in London, expert on rare earth elements, "We are nowhere near hitting 'peak oil', because we keep inventing new ways of extracting the stuff", 7/6/12, blogs.telegraph.co.uk/finance/timworstall/100018350/so-thats-the-end-of-peak-oil-then//Aspomer)

Peak oil always was a silly thing to panic over and now we've the UK's very own High Priest of the Church of Gaia telling us so. George Monbiot used his column this week to point out that we're not running out of oil and the wells are not going to run dry anytime soon. Supply is increasing rather nicely. As he says: The constraints on oil supply over the past 10 years appear to have had more to do with money than geology. The low prices before 2003 had discouraged investors from developing difficult fields. The high prices of the past few years have changed that. Any economist could have told him that. Resource constraints are always an economic problem: solved by the price mechanism. It was never true that we would run out of oil – it just gets more expensive. At a higher price, people use less and go and hunt for more. Both have happened: the amount of oil (or energy of any kind) used to produce one dollar of GDP has been falling for decades now. Techniques to extract more have been developed as those prices rise. And I'm afraid that people don't seem to understand the implications of those new techniques. Take the Macondo field drilled by BP. Yes, a disaster in the Gulf: but also the deepest well ever drilled. Having developed the technology to drill so deeply we have not only discovered one new oil field – we've also discovered a whole new Earth that we can explore for oil. That part of the entire globe that between 4,000 and 5,000 feet below the surface. Inventing fracking does not mean just extracting gas from Pennsylvania or oil from the Bakken. It means prospecting the whole planet again for such deposits. New technologies mean we have invented whole new planets to explore for resources. This does not apply only to peak oil or peak gas. There are those out there who worry about peak copper, peak indium and even peak tellurium (an odd one when we use 125 tonnes a year and there's 120 million tonnes in the crust). None of these are geological problems, they are all plain and simple economic ones. This is not to say that the world is free from problems. As Monbiot points out, if you care to worry about such things, having so much more oil might boil us all. But we already know the solution to that, a simple carbon tax. For we are not running out of the things that are subject to the price system. We are finding problems with things like the atmosphere, clean water, fisheries, which are not subject to it. The answer is therefore to introduce the price system to those natural resources so that we don't run out of them.

# Economic Growth Good

## Growth Good—Generic

#### Economic growth is vital to effectively confront every global problem—*additional resources* are needed.

Silk 93 — Leonard Silk, Distinguished Professor of Economics at Pace University, Senior Research Fellow at the Ralph Bunche Institute on the United Nations at the Graduate Center of the City University of New York, and former Economics Columnist with the *New York Times*, 1993 (“Dangers of Slow Growth,” *Foreign Affairs*, Available Online to Subscribing Institutions via Lexis-Nexis)

Like the Great Depression, the current economic slump has fanned the firs of nationalist, ethnic and religious hatred around the world. Economic hardship is not the only cause of these social and political pathologies, but it aggravates all of them, and in turn they feed back on economic development. They also undermine efforts to deal with such global problems as environmental pollution, the production and trafficking of drugs, crime, sickness, famine, AIDS and other plagues.

Growth will not solve all those problems by itself. But economic growth – and growth alone – creates the additional resources that make it possible to achieve such fundamental goals as higher living standards, national and collective security, a healthier environment, and more liberal and open economies and societies.

#### Growth massively improves quality of life for *billions of people*—it is a matter of life and death.

Friedman 5 — Benjamin M. Friedman, William Joseph Maier Professor of Political Economy at Harvard University, former Chair of the Department of Economics at Harvard University, holds a Ph.D. in Economics from Harvard University, 2005 (“Economics and Politics in the Developing World,” *The Moral Consequences of Economic Growth*, Published by Knopf Publishing Group, ISBN 0679448918, p. 297-298)

The attraction of economic growth in the developing world, where incomes are mostly very low compared to Western industrial standards, is in many ways straightforward. In more than three-fourths of the world’s countries, encompassing roughly 5 billion of the world’s 6 billion inhabitants, if per [end page 297] capita incomes are higher, people can expect to live longer. Fewer of their children die in infancy. Both children and adults suffer less from malnutrition and disease. They are more likely to have clean water and basic sanitation, and they have better access to medical care. They are more likely to be able to read and write, and they enjoy greater access to education in general. When incomes and living standards are low to begin with, what economic growth means before anything else is enhancement of the most basic dimensions of human life.

#### Growth increases overall quality of life—it solves pollution and disease.

Reich 10 —Robert Reich, Chancellor's Professor of Public Policy at the Goldman School of Public Policy at the University of California-Berkeley, former Professor at the Kennedy School of Government at Harvard University, former Professor of Social and Economic Policy at Brandeis University, served as Secretary of Labor in the Clinton Administration, 2010 (“Why growth is good,” Robert Reich’s blog at the *Christian Science Monitor*, August 20th, Available Online at http://www.csmonitor.com/layout/set/print/content/view/print/320828, Accessed 08-16-2011)

The answer is economic growth isn’t just about more stuff. Growth is different from consumerism. Growth is really about the capacity of a nation to produce everything that’s wanted and needed by its inhabitants. That includes better stewardship of the environment as well as improved public health and better schools. (The Gross Domestic Product is a crude way of gauging this but it’s a guide. Nations with high and growing GDPs have more overall capacity; those with low or slowing GDPs have less.)

Poorer countries tend to be more polluted than richer ones because they don’t have the capacity both to keep their people fed and clothed and also to keep their land, air and water clean. Infant mortality is higher and life spans shorter because they don’t have enough to immunize against diseases, prevent them from spreading, and cure the sick.

#### Growth improves quality of life—affluence is crucial to investment in public goods.

Friedman 5 — Benjamin M. Friedman, William Joseph Maier Professor of Political Economy at Harvard University, former Chair of the Department of Economics at Harvard University, holds a Ph.D. in Economics from Harvard University, 2005 (“What Growth Is, What Growth Does,” *The Moral Consequences of Economic Growth*, Published by Knopf Publishing Group, ISBN 0679448918, p. 12)

Greater affluence means, among many other things, better food, bigger houses, more travel, and improved medical care. It means that more people can afford a better education. It may also mean, as it did in most Western countries during the twentieth century, a shorter workweek, which allows more time for family and friends. Moreover, these material benefits of rising incomes accrue not just to individuals and their families but to communities and even entire countries. Greater affluence can also mean better schools, more parks and museums, and larger concert halls and sports arenas, not to mention more leisure to enjoy these public facilities. A rising average income allows a country to project its national interest abroad, or send a man to the moon.

#### History is on our side—growth is key to human progress.

Ben-Ami 11 — Daniel Ben-Ami, journalist and author, regular contributor to *spiked*, has been published in the *American*, the *Australian*, Economist.com, *Financial Times*, the *Guardian*, the *Independent*, *Novo* (Germany), *Ode* (American and Dutch editions), *Prospect*, *Shanghai Daily*, the *Sunday Telegraph*, the *Sunday Times*, and *Voltaire* (Sweden), 2011 (“Growth is good,” *Ode*, June, Available Online at http://www.odemagazine.com/doc/print/75/growth-is-good, Accessed 08-16-2011)

Most commentators, including many Greens, would accept that, historically, economic growth has played a key role in human advancement since the Industrial Revolution. They generally agree that economies experienced relatively little growth until the late 18th century. After that, the world started to see concerted expansion even if growth was often uneven and there were many crises along the way.

This increasing prosperity was central to human progress. Not only did it fuel enormous improvements in living standards, but it was closely linked to developments in science and technology. It has transformed developed societies and led to significant changes in poorer nations, even though they still have a long way to go to catch up. The incredible improvements in human welfare would not have come about without economic growth.

#### Growth has empirically been hugely beneficial for the well being of all humanity—their argument does not hold up under serious scrutiny.

Ben-Ami 11 — Daniel Ben-Ami, journalist and author, regular contributor to *spiked*, has been published in the *American*, the *Australian*, Economist.com, *Financial Times*, the *Guardian*, the *Independent*, *Novo* (Germany), *Ode* (American and Dutch editions), *Prospect*, *Shanghai Daily*, the *Sunday Telegraph*, the *Sunday Times*, and *Voltaire* (Sweden), 2011 (“Do not knock prosperity that makes the good life possible,” Published Online for *Shanghai Daily* on June 15, 2011, Available Online at http://bit.ly/P9JUus)

EF Schumacher’s Small is Beautiful is widely viewed as a humanistic and radical tract. Nothing could be further from the truth. Viewed in its proper context it is both profoundly anti-human and deeply conservative.

The central idea in Schumacher’s text is that there is a natural limit to economic growth. As he put it: “Economic growth, which viewed from the point of view of economics, physics, chemistry and technology, has no discernible limit, must necessarily run into decisive bottlenecks when viewed from the point of view of the environmental sciences.”

Schumacher objected to organising the economy on a large scale precisely because he believed that more prosperity would damage the environment. He correctly understood that small-scale communities cannot produce nearly as much as those operating on a regional or global scale. A modern car, for example, typically relies on components, raw materials and know-how from around the globe. From the perspective of Schumacher’s “Buddhist economics”, it is better for people to be poorer in economic terms if they can be spiritually richer.

This argument flies against a huge weight of evidence showing that material advance is closely bound up with progress more generally. The past two centuries of modern economic growth have seen huge advances in human welfare along with technological innovation and social advance. Perhaps the most striking single indicator of this improvement is the increase in human life expectancy from about 30 in 1800 to nearly 70 today. Note that this is a global average, so it includes the billions of people who live in poor countries as well as the minority who live in rich ones.

Almost every other measure of wellbeing has increased hugely over the long term, including infant mortality, food consumption and level of education. Most of humanity, even in the developing world, has access to services our ancestors could only have dreamt of, including electricity, clean water, sanitation and mobile phones.

None of the arguments used by Schumacher’s followers to counter this narrative of progress are convincing. Greens often side-step the broader case for growth by deriding the accumulation of consumer goods and services. Environmentalist arguments have more than a tinge of elitism, with comfortably middle-class greens scoffing at the masses for wanting flat-screen televisions and foreign holidays. It should also be remembered that some consumer goods, such as washing machines, have directly led to huge improvements in human welfare.

Anti-consumerism reveals more about the narrowness of the green vision than it does about economic growth. Viewing rising prosperity simply in terms of consumer goods is incredibly blinkered. Growth provides the resources for much else including airports, art galleries, hospitals, museums, power stations, railways, roads, schools and universities. Popular prosperity provides the bedrock for much that we value in contemporary society.

#### The advantages of growth easily outweigh the disads and new developments will always solve their harms.

Ben-Ami 11 — Daniel Ben-Ami, journalist and author, regular contributor to *spiked*, has been published in the *American*, the *Australian*, Economist.com, *Financial Times*, the *Guardian*, the *Independent*, *Novo* (Germany), *Ode* (American and Dutch editions), *Prospect*, *Shanghai Daily*, the *Sunday Telegraph*, the *Sunday Times*, and *Voltaire* (Sweden), 2011 (“Do not knock prosperity that makes the good life possible,” Published Online for *Shanghai Daily* on June 15, 2011, Available Online at http://www.shanghaidaily.com/nsp/Opinion/2011/06/15/Do+not+knock+prosperity+that+makes+the+good+life+possible/)

WALKING along the banks of the River Thames in my hometown of London it is difficult to believe what it was once like. In the mid-nineteenth century it was full of untreated human waste and a source of widespread cholera. As late as 1957 pollution levels were so high that is was considered biologically dead. But after a concerted clean-up operation it is now home to about 120 fish species and 400 types of invertebrates. It is for reasons such as this that I disagree with Wang Yong’s criticisms of “Ferraris for All,” my book defending economic progress, in Shanghai Daily on June 4 (“There must be more to the good life than a Ferrari”).It seems to me that he grossly underestimates the benefits of economic progress. This is not to argue the world is perfect, far from it, but greater prosperity has on balance made it a hugely better place for humans to live in. Wang Yong’s article is infused with a peculiar nostalgia for the past. At one point he says that “many of our ancestors lived fulfilling and smoke-free lives precisely because there were no Ferraris, or internal combustion engines.” Given the first practical internal combustion engine was invented in 1859, that takes him back over 150 years. Later on he describes the Industrial Revolution, which first emerged in Britain in the eighteenth century, as “the industrial pollution.” But would Wang Yong really want to go back to live back then? Would he like to live in a world without modern medicine? Without vaccinations? If he had a toothache, would he be happy to do without dentists?All reputable figures show that, on balance, humans live longer and healthier lives than ever before. Perhaps the most striking of all is that average global live expectancy has increased from about 30 in 1800 to about 68 years today. That alone indicates a staggering improvement in human welfare. We have also, on average, become better educated, more intelligent (at least as measured by IQ), more mobile, taller and wealthier. The average person today, even the average poor person, has access to opportunities his ancestors could not have dreamed of. Previous generations Wang Yong also romanticizes how previous generations lived. Before the invention of the internal combustion engine, and contrary to his argument, people lived far from smoke-free lives. No doubt large numbers died from indoor air pollution as a result of burning such fuels as dung, straw and wood. Even today, according to figures from the World Health Organization, about two million people worldwide die every year from inhaling such fumes. The vast majority are too poor to be connected to the electricity grid. The important point is not that economic progress is without problems but that over time it brings considerable benefits. Its advantages easily outweigh the disadvantages. In addition, it brings the means to overcome the challenges it creates. The clean-up of London’s formerly polluted River Thames discussed at the start of this article is a perfect illustration. Wang Yong’s specter of Shanghai being over-run by cars shows that he does not appreciate this point. His argument that if everyone in Shanghai had a car it would lead to a monumental killer smog is what I would call “naive extrapolation.” It reminds me of the nineteenth century predictions that London would eventually be covered in manure because of the rising number of horse-drawn carriages. Instead cars took their place. Economic growth not only allows us to have more but also to do things better. So future cars might not produce any smog as they could be powered by alternative energy sources such as electricity or by hydrogen fuel cells. It would also be necessary to improve Shanghai’s infrastructure considerably so it could handle so many more cars.

## Growth Good—Warming

#### Growth is key to the funding of green tech—that’s key to adaptation

Ben-Ami 11 — Daniel Ben-Ami, journalist and author, regular contributor to *spiked*, has been published in the *American*, the *Australian*, Economist.com, *Financial Times*, the *Guardian*, the *Independent*, *Novo* (Germany), *Ode* (American and Dutch editions), *Prospect*, *Shanghai Daily*, the *Sunday Telegraph*, the *Sunday Times*, and *Voltaire* (Sweden), 2011 (“Do not knock prosperity that makes the good life possible,” Published Online for *Shanghai Daily* on June 15, 2011, Available Online at http://bit.ly/P9JUus)

Finally, there is the argument about the environment itself. The most popular variant of the idea of a natural limit nowadays is that growth inevitably means runaway climate change. However, there is plenty of evidence to the contrary. There are many forms of energy, including nuclear, that do not emit greenhouse gases. There are also ways to adapt to global warming such as building higher sea walls. Since such measures are expensive it will take more resources to pay for them; which means more economic growth rather than less. If anything the green drive to curb prosperity is likely to undermine our capacity to tackle climate change.

Schumacher’s fundamentally conservative argument chimes well with those who want to reconcile us to austerity. It suits those in power for the mass of the population to accept the need to make do with less. Under such circumstances it is no surprise that David Cameron, like his international peers, is keen for us to focus on individual contentment rather than material prosperity.

It is hard to imagine a more anti-human outlook than one advocating a sharp fall in living standards for the bulk of the world’s population.

#### International cooperation, technology, and growth are key to carbon sequestration and solve warming

CFR '12 (Council on Foreign Relations, "The Global Climate Change Regime", 7/5/12, [www.cfr.org/climate-change/global-climate-change-regime/p21831//Aspomer](http://www.cfr.org/climate-change/global-climate-change-regime/p21831//Aspomer))

After the Copenhagen pledge, the World Economic Forum reported (PDF) that transitioning to a low-carbon economy would require an investment of more than $500 billion, according to various analyses conducted by the Stern Report, New Energy Finance, and International Energy Agency. The situation becomes particularly vexing when the transfer of money from industrialized countries to developing countries comes into play. At the September 2009, G20 meeting in Pittsburgh, leaders proposed significant increases in funding to poor countries, but differences in how to achieve this goal led to a weak statement (PDF) that merely recognized the need for climate change financing (for which there was no follow-through at the Toronto G20 summit in June 2010). More recent pledges made at the UN climate conference in Cancun are short of the aspirations of some world leaders and lack details regarding their source and disbursement. Currently, some (PDF) climate change financing comes by way of official development assistance (ODA). Several multilateral funds have been established under the UNFCCC, the World Bank, and the GEF to provide grants and loans targeting specific aspects of climate change, ranging from adaptation to development of clean technology. However, by and large these funds are voluntary and have limited resources. Many experts have pointed to private investments as a way forward. Private investment has been critical in industrialized countries but much harder to come by in developing countries. The carbon trading market (CDM), initially set up by the Kyoto Protocol, has been applauded for injecting private-sector funding for clean energy projects into developing countries and helping industrialized countries meet their emissions-cutting targets. However, the CDM has brought little benefit to areas most in need of clean energy, notably sub-Saharan Africa. Some economists and policymakers have proposed innovative solutions to the financing deficit such as a Tobin tax on financial transactions or a carbon tax (PDF) on air transportation (the EU instituted the latter in 2012). The Organization for Economic Cooperation and Development (OECD) has reported (PDF) that if all industrialized countries used carbon taxes or auctioned emissions-trading permits to reduce their emissions by 20 percent in 2020 relative to 1990 levels, fiscal revenues could reach 2.5 percent of GDP by 2020. Utilizing carbon sinks: Achievements in deforestation Approximately one-fifth of global emissions come from land use, including deforestation. Mitigating the effects of climate change will require looking at a broad set of alternatives, including leveraging tools inherent to our natural ecosystem. Forests provide natural carbon sinks that help mitigate the effects of carbon dioxide emissions. There are currently few initiatives that compensate countries that promote this natural process. Through the CDM, the UNFCCC regime provides carbon credits for afforestation and reforestation projects. Although this is a positive step, critically missing are incentives for forest conservation activities that would help reduce emissions from existing carbon stocks. In an effort to bridge this gap, numerous (PDF) bilateral and multilateral arrangements outside the UNFCCC framework have been created to provide assistance to developing countries in harnessing their carbon sinks. Negotiations at the fifteenth meeting of states party to the UN climate convention, for instance, secured a pledge for $3.5 billion to combat deforestation in developing countries, which complements an existing UN-REDD program funded by Norway, Denmark, and Spain. Additionally, the World Bank Forest Carbon Partnership Facility provides better forestry management and conservation. At the national level, some governments have established funds, such as Brazil's Amazon Fund and Burkina Faso's cash bonus tree-planting program, which leverage private donations and government resources to provide incentives for the preservation of forests. Additionally, there has been some attention on promoting oceans as a natural carbon sink. However, scientific skepticism on the ocean's ability to absorb carbon dioxide emissions remains. Promoting low-carbon development: Needs coherence, financial support, and developing-country buy-in Low-carbon development must be at the heart of any successful climate change mitigation effort. Yet it faces two distinct challenges. The world is not particularly good at development assistance beyond climate change, and it has no large-scale experience with low-carbon development. The Kyoto Protocol focused on promoting low-carbon development through the CDM. Although the CDM has undoubtedly resulted in some low-carbon investment that would not have otherwise occurred, it has not prompted fundamental shifts in development patterns. Alongside it, traditional development organizations have begun to invest in low-carbon development. The World Bank, for example, has ramped up climate-related spending, and the UNEP has set climate change as a priority in its capacity-building efforts. These efforts are constrained, however, by funding that is not commensurate with the scale of the challenge, as well as by deeper challenges in the development aid model. These international institutions are also not well coordinated, with occasionally weak mechanisms that can fail to complement each other. Another important path to low-carbon development is new technology, such as carbon capture and storage (CCS), which focuses on securing and storing carbon dioxide emissions before they are released into the atmosphere. Although this technology is still in its early stages, successful pilot projects offer hope of developing and implementing it for large-scale projects. Some countries are committed to implementing variations of it, and both bilateral and multilateral cooperation is under way. This cooperation is particularly important because implementing CCS on a large scale can be expensive and offers few obvious economic benefits. One of the major multilateral efforts in this area is the Carbon Sequestration Leadership Forum (CSLF), which supports joint efforts to develop cost-effective carbon sequestration technology. At the bilateral level, the EU-China Partnership on Climate Change (PDF) helps to develop Near-Zero Emissions Coal (NZEC) plants in China using CCS technology. The United States and China have also recently agreed to develop joint projects using CCS technology. Additionally, an international initiative, Futuregen, led by the U.S. Department of Energy, harnesses public and private-sector funds and expertise to help build near-zero emissions plants around the world. Renewable and nuclear energy will be critical in diminishing reliance on fossil fuels and developing low-carbon communities. Expectations for nuclear power as an alternative source of energy are especially high among big emitters such as India, China, and the United States, as well as in a number of developing countries that lack the necessary infrastructure to meet their growing energy needs. After the nuclear incident following Japan's March 2011 earthquake and tsunami, some of the support for nuclear power has declined. Currently, the International Atomic Energy Agency (IAEA) assists countries in determining whether nuclear energy is a feasible option. When nuclear energy is optimal, the agency assists with energy planning and developing relevant infrastructure, such as drafting nuclear legislation and establishing independent and effective safety regulators. However, given its limited resources, the IAEA will find it increasingly difficult to meet the growing demands for its services as more developing countries seek help in establishing nuclear facilities. There has also been significant international action on renewable energy. The International Renewable Energy Agency (IRENA), founded in January 2009, is the first international forum for specifically promoting the use of renewable energy. The UNEP has launched several initiatives, including the Global Bioenergy Partnership (GBEP), to support the deployment of biomass and biofuels, and the Solar and Wind Energy Resource Assessment (SWERA), which seeks to make renewable energy data widely available. Despite these promising international efforts, only about 25 percent (PDF) of the world's energy is produced through renewable and alternative sources (including hydroelectric, biomass, and nuclear). However, investment in these areas continues to increase (PDF) (rising seventeen percent to a total of $211 billion in 2010) and more and more countries are setting policy targets for using renewable energy. Another dimension of the solution is often ignored but is likely, in the long term, to be the most prominent: domestic policy reform in developing countries that encourages low-carbon investment. This might include steps like energy market reform or reduction of tariff barriers to low-carbon technology transfer. International institutions have begun to promote domestic policy shifts through measures like technical assistance provided by organizations like the UNEP and UNDP, discussions (PDF) on tariff reductions for environmentally friendly technologies through the WTO, and processes aimed at phasing out fossil fuel subsidies spurred through the G20. Some existing institutions, though, may incidentally work against positive developments in this area. The Kyoto Protocol's CDM, for example, may discourage countries from making climate-friendly policy changes by rewarding countries only for activities that go beyond existing national policy. Complicating matters, efforts to promote policy shifts and efforts aimed at providing assistance with clean development are rarely coordinated with each other.

# Transition Fails/Bad

### Transitions Bad

#### Alternatives to growth kill hundreds of millions and cause global conflict—we can’t “*turn off*” the economy.

Barnhizer 6 — David R. Barnhizer, Emeritus Professor at Cleveland State University’s Cleveland-Marshall College of Law, 2006 (“Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government,” *Georgetown International Environmental Law Review* (18 Geo. Int'l Envtl. L. Rev. 595), Available Online to Subscribing Institutions via Lexis-Nexis)

The scale of social needs, including the need for expanded productive activity, has grown so large that it cannot be shut off at all, and certainly not abruptly. It cannot even be ratcheted down in any significant fashion without producing serious harms to human societies and hundreds of millions of people. Even if it were possible to shift back to systems of local self-sufficiency, the consequences of the transition process would be catastrophic for many people and even deadly to the point of continual conflict, resource wars, increased poverty, and strife. What are needed are concrete, workable, and pragmatic strategies that produce effective and intelligently designed economic activity in specific contexts and, while seeking efficiency and conservation, place economic and social justice high on a list of priorities. n60

The imperative of economic growth applies not only to the needs and expectations of people in economically developed societies but also to people living in nations that are currently economically underdeveloped. Opportunities must be created, jobs must be generated in huge numbers, and economic resources expanded to address the tragedies of poverty and inequality. Unfortunately, natural systems must be exploited to achieve this; we cannot return to Eden. The question is not how to achieve a static state but how to achieve what is needed to advance social justice while avoiding and mitigating the most destructive consequences of our behavior.

#### The transition is impossible, but attempting it causes disaster—their argument is wishful thinking.

Barnhizer 6 — David R. Barnhizer, Emeritus Professor at Cleveland State University’s Cleveland-Marshall College of Law, 2006 (“Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government,” *Georgetown International Environmental Law Review* (18 Geo. Int'l Envtl. L. Rev. 595), Available Online to Subscribing Institutions via Lexis-Nexis)

Some advocates of sustainability think they can slow the world down to a point of elegant stasis. n48 Because such people are invariably humane, I conclude they simply do not understand the consequences to human societies and the ordinary residents of those societies that would flow from their positions if the nightmare that they mistake for a dream were accomplished. The naive attitudes underlying [\*614] such positions are similar to the "deep ecology" movement where nature is accorded only benign intentions. n49 The fact that we inhabit a savage and unheeding natural world in which species consume each other, earthquakes destroy, tsunamis overwhelm, and volcanoes spread ash, creating years without summers, is conveniently ignored.

Sustainability represents a wide and diverse variety of functions, methods, and values that on many levels are incompatible. On the idealized plane this includes the values of ecological, economic, social, and political harmony. These values are used to support an argument in favor of a form of economic and social stasis writ large on the global stage. As an ideal, this form of sustainability stands for such principles as the precautionary principle and embodies the warnings about overuse of resources found in Garrett Hardin's Tragedy of the Commons, the Club of Rome's Limits to Growth, or Lester Brown's Twenty-Ninth Day, where Brown argued that an exponential progression in abuse and overuse of natural resources will generate a catastrophic collapse of systems. n50 These predictions of disaster are well worth heeding, but there are countervailing social disasters that can result if we take too aggressive a stance in our efforts to prevent the ecological harms. These trade-offs include the need to generate wealth sufficient to sustain existing social justice and equity obligations and the need to create jobs and opportunities to alleviate the tragedy of abject poverty and denial of fair opportunity.

#### Transitioning now is bad—we’re not ready.

Trainer 2k — Ted Trainer, Visiting Fellow in the Faculty of Arts at the University of New South Wales, 2000 (“Where are we, where do we want to be, how do we get there?,” *Democracy & Nature: The International Journal of Inclusive Democracy*, Volume 6, Number 2, July, Available Online at http://www.democracynature.org/dn/vol6/trainer\_where.htm, Accessed 10-05-2008)

If there is a boom we in the Eco-village Movement should welcome it, through gritted teeth, because it will give us the time we desperately need. The last thing we want is a collapse of the system in the immediate future. We are far from ready. Hardly any of the hundreds of millions of people who live in rich world cities have any idea of an alternative to the consumer way and their settlements have no provision for anything but maximising the throughput of resources. By all means let’s have a collapse a little later, but the prospects for The Simpler Way depend greatly on how extensively the concept can be established before the mainstream runs into serious trouble. We need at least two more decades to build the understanding, and the most effective way to do that is by developing examples.

### Transition Fails

#### Transitioning back to local economies is impossible—globalization is too entrenched.

Barnhizer 6 — David R. Barnhizer, Emeritus Professor at Cleveland State University’s Cleveland-Marshall College of Law, 2006 (“Waking from Sustainability's "Impossible Dream": The Decisionmaking Realities of Business and Government,” *Georgetown International Environmental Law Review* (18 Geo. Int'l Envtl. L. Rev. 595), Available Online to Subscribing Institutions via Lexis-Nexis)

Globalization's ability to produce wealth for a particular group simultaneously produces harms to different people and interests and generates unfair resource redistribution within existing cultures. This is an unavoidable consequence of globalization. n62 The problem is that globalization has altered the rules of operation of political, economic, and social activities, and in doing so multiplied greatly our ability to create benefit and harm. n63 While some understandably want the unsettling and often chaotic effects of globalization to go away, it can only be dealt with, not reversed. The system in which we live and work is no longer closed. There are few contexts not connected to the dynamics of some aspect of the extended economic and social systems resulting from globalization. This means the wide ranging and incompatible variables of a global economic, human rights, and social fairness system are resulting in conflicts and unanticipated interpenetrations that no one fully understands, anticipates, or controls. n64 Local [\*622] self-sufficiency is the loser in this process. It can remain a nostalgic dream but rarely a reality. Except for isolated cultures and niche activities, there is very little chance that anyone will be unaffected by this transformational process. Change is the constant, and it will take several generations before we return to a period of relative stasis. Even then it will only be a respite before the pattern once again intensifies.

#### Just because we can *imagine* alternatives to growth doesn’t mean we can *implement* them—their authors are naïve.

Greer 8 — John Michael Greer, certified Master Conserver, organic gardener, and scholar of ecological history, current Grand Archdruid of the Ancient Order of Druids in America, and author of The Archdruid Report—a blog covering peak oil and environmental sustainability issues, 2008 (“Looking for Roong Thisdara,” *The Archdruid Report*, November 26th, Available Online at http://www.energybulletin.net/node/47356, Accessed 11-27-2008)

A double helping of irony surrounds all this flurry of planning. If the crisis we face could be met by making plans, we’d have little to worry about; the difficulty is that making plans is the easy part. Go digging in the archives of most American municipalities and you’ll find an energy plan drafted and adopted, after extensive citizen input, in the 1970s, calling for exactly the changes that would have made matters today much less dire: conservation standards, public transit projects, zoning changes to reduce the need for cars, and so on. You’ll have to brush a quarter inch of dust off the plan to read it, though, since nobody has looked at it since the Reagan years, and not one of its recommendations was still functioning when the housing boom began in the early 1990s. A certain skepticism toward another round of plans may thus be in order.

Yet there’s a second dimension to the irony, because the recurrent gap between plan and implementation is not the only difficulty that has to be faced. The assumption common to all these plans is that it’s possible to anticipate the process of transition to a deindustrial society in enough detail to make planning meaningful. I suggest that this assumption is badly in need of a hard second look.

There are two widely held beliefs these days about how we can deal with the end of the age of petroleum. The first claims that we simply need to find another energy source as cheap, abundant, and concentrated as petroleum, and run our society on that instead. The second claims that we simply need to replace those parts of our society that depend on cheap, abundant, concentrated energy with others that lack that dependence, and run our society with them instead. Most people in the peak oil scene, I think, have caught onto the problem with the first belief: there is no other energy source available to us that is as cheap, abundant, and concentrated as petroleum; the fact that we want one does not oblige the universe to provide us with one, and so we might as well plan to power our society by harnessing unicorns to treadmills.

The problem with the second belief is of the same order, but it’s much less widely recognized. Toss aside the parts of our society that depend on cheap, abundant, concentrated energy, and there’s nothing left. Nor are the components needed for a new low-energy society sitting on a shelf somewhere, waiting to be used; we’ve got some things that worked tolerably well in simpler agrarian societies, and some promising new developments that have been tested on a very small scale and seem to work so far, but we have nothing like a complete kit. Thus we can’t simply swap out a few parts and keep going; everything has to change, and we have no way of knowing in advance what changes will be required.

This last point is often missed. One of the people who commented on last week’s post, a software designer by trade, pointed out that he starts work on a project by envisioning what the new software is going to do, and then figures out a way to do it; he argued that it makes just as much sense to do the same thing with human society. A software designer, though, knows the capabilities of the computers, operating systems, and computer languages his programs will use; he also knows how similar tasks have been done by other designers in the past. We don’t have any of those advantages in trying to envision a sustainable future society.

Rather, we’re in the position of a hapless engineer tasked in 1947 with drafting a plan to develop word processing software. At that time, nobody knew whether digital or analog computers were the wave of the future; the handful of experimental computer prototypes that existed then used relays, mechanical linkages, vacuum tubes, and other soon-to-be-outmoded technologies, while the devices that would actually make it possible to build computers that could handle word processing had not yet been invented, or even imagined. Under those conditions, the only plan that would have yielded any results would consist of a single sentence: “Invest heavily in basic research, and see what you can do with the results.” Any other plan would have been wasted breath, and the more detailed the plan, the more useless it would have been.

The difficulty faced by our imaginary engineer is that meaningful planning can only take place when the basic outlines of the solution are already known. A different metaphor may help clarify how this works. Imagine that you suddenly wake up in a hotel room in Edinburgh. A mysterious woman tells you that you have been drugged and brought there secretly, it’s now December 30, and you have to get a message to someone you will meet beneath the statue of Nelson in Trafalgar Square in London at midnight on New Year’s Eve. If you succeed, Earth will be saved and you will get 100 million Euros. Since you know where you are, where you have to be, and how much time you have – the clock by the bed says 10 am – you can easily make plans and carry them out.

Now imagine the same scenario, except that the hotel room could be anywhere and you have no idea what day or time it is. Until you know where you are and how much time you have, planning is impossible. When the mysterious woman leaves, rather than heading for the door, the first thing you might logically do is to throw open the curtains. The results determine your next step. If you see the familiar skyline of Edinburgh, you can proceed at once to make and implement plans; if the vista before you is the clutter and bustle of an industrial town in Asia, you may need to learn more before planning becomes possible; if you see two moons setting in a pink sky above a cityscape of glittering domes, and the beings walking alongside the canal nearby have pointed ears and green skin, the one thing you know for certain is that the trip to Trafalgar Square is going to be interesting!

Now imagine the same scenario, except that the landscape outside has the pink sky, two moons, and alien promenaders, and the mysterious woman tells you that you have to get to the local equivalent of Trafalgar Square by the local equivalent of New Year’s Eve. All hope of planning has just gone out the window. Your only option is to improvise as you go, try as many options as possible, collect tidbits of information, and attempt to piece together what you learn into a workable mental model. Nor will you have any way of knowing whether your model is right or wrong until you fling yourself out of an ornate airboat, sprint up to the giant bas-relief of Gresh the Omnivorous at Roong Thisdara right at the purple of the high red of twelfth Isbil past Eshrey of the rising calendar, and find the person you need to meet waiting there for you.

Conventional ideas of planning tend to assume situations like the first scenario I’ve just outlined, where the problem and the potential solutions are both clearly visible and the only issue is how to connect them. More innovative ideas of planning – and it’s to the credit of the peak oil scene that these latter have been very well represented there – tend to assume situations like the second scenario, where investigation must precede planning, and then follow along the planning process to keep it on track, rather like a herdsman’s dog trotting alongside a flock of sheep. As I see it, though, the situation we face at the end of the petroleum age most resembles the third scenario, where all we have to go on is a relatively vague idea of what a solution might be like, success or failure can be known only in retrospect, and improvisation is the order of the day.

The core fact of the matter, after all, is that what we are trying to invent here – a society that can support some approximation of modern technology on a sustainable basis – has never existed on Earth. We have no working models to go by; all we have, again, is a mix of agrarian practices that seem to have been sustainable, on the one hand, and some experiments that seem to be working so far on a very small scale, on the other. Our job is to piece something together using these, and other things that don’t exist yet, to cope with future challenges we can only foresee in the most general terms. That leaves us, in terms of the metaphor, looking for Roong Thisdara when the only thing we know about it is that it’s roughly equivalent to Trafalgar Square.

Now of course it’s quite possible to imagine post-industrial communities and societies in a fair amount of detail, and several imagined futures of this sort have found enthusiastic followings. The fact that something can be imagined, though, does nothing to prove that it will work. It’s not too hard to envisage a perpetual motion machine, say, or an investment that keeps on gaining value forever, and as we’ve seen, it’s quite possible to build a substantial social movement around belief in the latter, only to find out the hard way that attractive visions and passionate beliefs can rest on foundations of empty air. I recognize that many people find belief in such visions a powerful source of hope in a difficult time, and I sympathize with their feelings, but if we allow the desire for emotional comfort to trump the need to face unwelcome realities, we are in very deep trouble indeed.

#### Psychology makes the drive for growth inevitable—people aren’t satisfied with accepting less.

Friedman 5 — Benjamin M. Friedman, William Joseph Maier Professor of Political Economy at Harvard University, former Chair of the Department of Economics at Harvard University, holds a Ph.D. in Economics from Harvard University, 2005 (“Rising Incomes, Individual Attitudes, and the Politics of Social Change,” *The Moral Consequences of Economic Growth*, Published by Knopf Publishing Group, ISBN 0679448918, p. 80-82)

The key is that while everybody of course wants to have more income [end page 80] so as to enjoy a higher standard of living, better health, and a greater sense of security, our sense of what constitutes “more” for any of these purposes is mostly relative. Whenever people are asked how well off they think they are, they almost always respond by comparing their lives to some kind of reference point. 4 Further, whether most people think what they have or how they live constitutes “more” or “less” depends on how their circumstances compare to two separate benchmarks: their own (or their family’s) past experience, and how they see people around them living.

The principal driving force underlying the positive influence that economic growth has over people’s attitudes, and through the political process therefore over the character of their society, is the interaction between how each of these two respective points of comparison affects people’s perceptions. Obviously nothing can enable the majority of the population to be better off than everyone else. But not only is it possible for most people to be better off than they used to be, that is precisely what economic growth means. The central question is whether, when people see that they are doing well (in other words, enjoying “more”) compared to the benchmark of their own prior experience, or their parents’—or when they believe that their children’s lives will be better still— they consequently feel less need to get ahead compared to other people. If so, then the reduced importance they attach to living better than others leads in the end to more wide-ranging benefits, for the society as a whole, whenever general living standards are increasing.

Happiness depends, of course, on more than just money and the things money can buy. In surveys, most people say that their sense of satisfaction with their lives depends most on the strength of their family relationships and personal friendships, or their health, or their education, or their religious attachment, or their feeling of connection to a broader community beyond their own family, or their sense of being engaged in purposeful and productive work, or even on their everyday work environment. 5 In many surveys the single most important influence on adults’ happiness is whether they are married. (People who are, or who are living together as if they were, are typically happier.) 6 People with “extrovert” personalities also tend to be happier on average, perhaps simply because they have more friends. 7

Money matters too, however. People with more income typically enjoy not just a higher standard of living in terms of food, clothing, and housing but also better health (in part because of better access to medical care, but also because they drink and smoke less and get more exercise). They also have better educations and a stronger sense of security in the face of major life uncertainties. Familiar popular images of the business rat race [end page 81] notwithstanding, people with higher incomes on average also have more leisure time, and they mostly spend it in activities that foster the friendships they then say (in surveys) matter far more than money. Having at least some financial resources is even helpful in maintaining marriages, perhaps because it allows young couples to live on their own instead of with their parents. 8 At any given time, within a given country, people with lower incomes are far more likely to say that they are unhappy. 9

But the essential point is that how much income it takes to enjoy advantages like these is a relative matter, and the most obvious benchmark people have in mind when they draw such comparisons is their own past experience. People who live better now than they did before, or better than they recall their parents living, are likely to think they are doing well. Those who look back on better times— better for them and their families, that is— think they are not. As a result, psychological studies have repeatedly confirmed that people’s satisfaction depends less on the level of their income than on how it is changing. 10 But rising incomes are, in turn, what economic growth is all about.\*

\* (footnote) The idea that satisfaction depends primarily on changes in economic well-being (to the extent that economic factors are important in this regard) is hardly new. Adam Smith observed that “all men, sooner or later, accommodate themselves to whatever becomes their permanent situation.” Hence “between one permanent situation and another, there [is], with regard to real happiness, no essential difference” (The Theory of Moral Sentiments, p. 149). Moreover, Smith claimed no originality for this view but attributed it to the Stoic philosophers of ancient Greece.

### They Say: “GDP Degrowth”

#### GDP degrowth is a bad transition strategy—its net worse for the environment

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The first interpretation of degrowth is striving for negative GDP growth or a reduction in GDP (Gross Domestic Product).1 This is the most logical interpretation and useful one in the sense that it is likely to be understood as such by most economists, politicians and the general public. The reason is that it sounds as the opposite of (economic) growth, which in common use and the media is not a term denoting some vague development pattern but synonymous with GDP growth. According to this interpretation of degrowth, the current economic–financial crisis associated with less GDP growth or even a reduction in GDP is then seen by some as good for the environment (Martínez-Alier et al., 2010). But this conclusion is difficult to draw in general. The direct, short-term effect of reduced GDP growth may be, for example, fewer CO2 emissions as aggregate production falls. However, the long term effect is uncertain, as GDP degrowth may depress investments in cleaner technologies, renewable energy and related research, which can lead to an increase in future CO2 emissions. Even the short-term effect is uncertain, as production during a period of crisis may well shift to cheaper, dirtier techniques. Moreover, as is illustrated by recent events, both governments and firms are likely to pay less attention to environmental considerations and policies during a period of crisis.

GDP degrowth means a blunt instrument of environmental policy which reverses the causality between policy and growth as it is normally understood. Instead of putting good policy first and then seeing whether degrowth is a consequence, the degrowth strategy is to set the aim of degrowth first and then hope that the environment will come out well. However, this cannot guarantee a very focused, effective and efficient approach to reduce environmental pressure. Worse even, degrowth might turn out to be dirty. In fact, degrowth can be the result of producing less efficiently, i.e. having less output with more inputs, including more resources, energy, pollution and waste. In other words, degrowth is not a sufficient condition for reducing environmental pressure. Smaller is not always more beautiful — although I certainly would not go as far as Wilfred Beckerman in saying that “Small is stupid” in general, or that “large” (growth) is necessary for environmental improvement (Beckerman, 1995).2

I fear that the focus of the degrowth strategy on the scale or size of the economy (measured in GDP) is neglecting the important role of the composition of both consumption and production, which can considerably change in response to stringent environmental regulation (and to a lesser extent the more complicated contribution of technological change). To put it a bit simplistically, we want especially the dirty or dirtiest sectors to “degrow” if they do not succeed in adopting sufficiently clean technologies or realizing a substitution away from dirty inputs. Simultaneously, cleaner production, such as of electricity from renewable energy, may grow, which in turn would add to GDP growth. This illustrates that the relation between environmental quality and economic growth is more complex than degrowth (as well as growth) advocates suggest. Of course, no one can hope to predict and plan for all this differential or selective growth and degrowth of dirty and cleaner activities in the economy. A subtle type of regulation and information provision will be needed, which surely will have to make use of some type of price regulation.

### They Say: “Mindset Shift/Voluntary Restraint”

#### Mindset shifts fail—people wont want to change their consumption patterns voluntarily.

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Supporters of this strategy have the hope that frugality (voluntary restraint or simplicity) will drive consumption down. As identified in the literature on environmental psychology, some people are indeed able to apply voluntary restrictions to their consumption behavior which are environmentally motivated (Gsottbauer and van den Bergh, forthcoming). The question is of course how environmentally effective this is, and in particular whether one can safely assume this to work for a significant proportion of all consumers. Only looking at shopping malls, television, roads and airports should make one very skeptical about this. One can anyway wonder whether it is realistic or even fair to ask from the median consumer that s/he gives up the luxuries of modern life, to in some way go back in time. It is unlikely that hunter-gatherers or Henri David Thoreau (“Walden”) can serve as a role model for them.

#### Turn—Mindset shifts trigger a rebound mechanism—people will just increase other types of consumption or they will save, making borrowing easier for others.

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A problem with focusing directly on consumption degrowth is that it may activate a rebound mechanism. Especially a voluntary reduction of consumption of certain types of goods and services may well lead to an increase in other types of consumption since disposable income will remain the same. Alternatively, it may lead to savings, which in turn implies more money being available for others to borrow and spend (van den Bergh, forthcoming). Generally, people are boundedly rational and lack the necessary information to make decisions that will effectively reduce environmental pressure. Against this background, I think there is much to say in favor of the traditional policy perspective that product and service prices need to reflect much better environmental and climate externalities, which will then force people to change their behavior as well as control or minimize rebound effects (van den Bergh, forthcoming). Without such pricing of environmental externalities associated with all (indirect) production and consumption, it would be virtually impossible for consumers to know or judge which consumption goods and services are relatively much or little polluting. This illustrates the essential informative role of environmental regulation through prices (taxes, levies or tradable permits).

### They Say: “Radical Degrowth”

#### Radical degrowth is a bad idea—no chance of succeeding and it will cause more instability—empirics prove

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2.4. Radical Degrowth

Perhaps for the majority of degrowth proponents the notion of degrowth denotes a radical change of (or many radical changes in) the economy. This may involve changes in values, ethics, preferences, financial systems, markets (versus informal exchange), work and labor, the role of money, or even profit-making and ownership ( [Latouche, 2009] and [Schneider et al., 2010]). Such an approach comprises degrowth notions 2 and 3, but it is broader. Fournier (2008) has called it “escaping from the [capitalist] economy.”

The main problem I see here that this is such a grand, imprecise idea which lacks a good, thorough analysis that it will be impossible to obtain political support for it in a democratic system. More importantly, it is void of a good view on systemic solutions and instrumentation, making it unclear how to upscale radical changes in lifestyles and grassroots initiatives by small subsets of the population (“niches”) to society as a whole. Alternative lifestyles, i.e. outside the cultural norm, have always existed but have never been adopted by the large majority of people. So why would this now suddenly be different? This does, of course, not mean such lifestyles need not exist or do not deserve respect. They may influence slow change in dominant lifestyles, but cannot be expected to be copied by the masses.

Writings on this issue tend to be normative and idealistic rather than analytical and realistic. They seem to be motivated more by political ideology about justice and equity than about solving urgent and threatening environmental problems (an “ecological imperative”). As a result, they do not necessarily offer an effective approach to combat environmental problems. One can certainly be positive about the underlying humanistic ideals of equality, solidarity, citizenship, locality and “good life.” However, a drastic change in the economy upfront seems an overly risky experiment and a diffuse, undirected strategy that is not sure to meet the desired environmental aims. Moreover, it may well result in unintended social and economic chaos and instability. The main historical, large-scale experiments aimed at moving away from market capitalism which we can learn from, namely central planning by communist states as in the former USSR, Eastern Europe and China, certainly do not offer a good record in terms of clean production and environmental regulation — quite the opposite. Here, a lack of market mechanisms and other incentives seems to have given rise to excessive waste and inefficiency, also in relation to environmentally relevant categories of inputs and outputs.

Thinking about radical changes should moreover incorporate received insights about human behavior and its diversity as found in modern psychology and behavioral economics. These are already slowly changing mainstream economics and associated ideas about public policy (Gsottbauer and van den Bergh, forthcoming). Given the urgency of environmental and notably climate change problems it makes sense to think carefully about the effectiveness of strategies in the short and medium term, which should involve taking into account behavioral features and limits of human individuals and organizations. Striving for radical degrowth seems risky in this sense as it does not well integrate received insights about human behavior. Instead, a less risky and more effective strategy is adding new institutions to our economies — to begin with an effective international climate agreement. What we need most of all is a hard environmental constraint on our economy (complemented by price regulation and possibly other types of regulation, like of commercial advertising and taxing status goods with serious environmental repercussions) and then let consumers, producers and investors adapt to it. Possibly, this will go along with fundamental, radical changes in our economy and institutions, but it does not seem necessary to require these and have a blueprint of them upfront.