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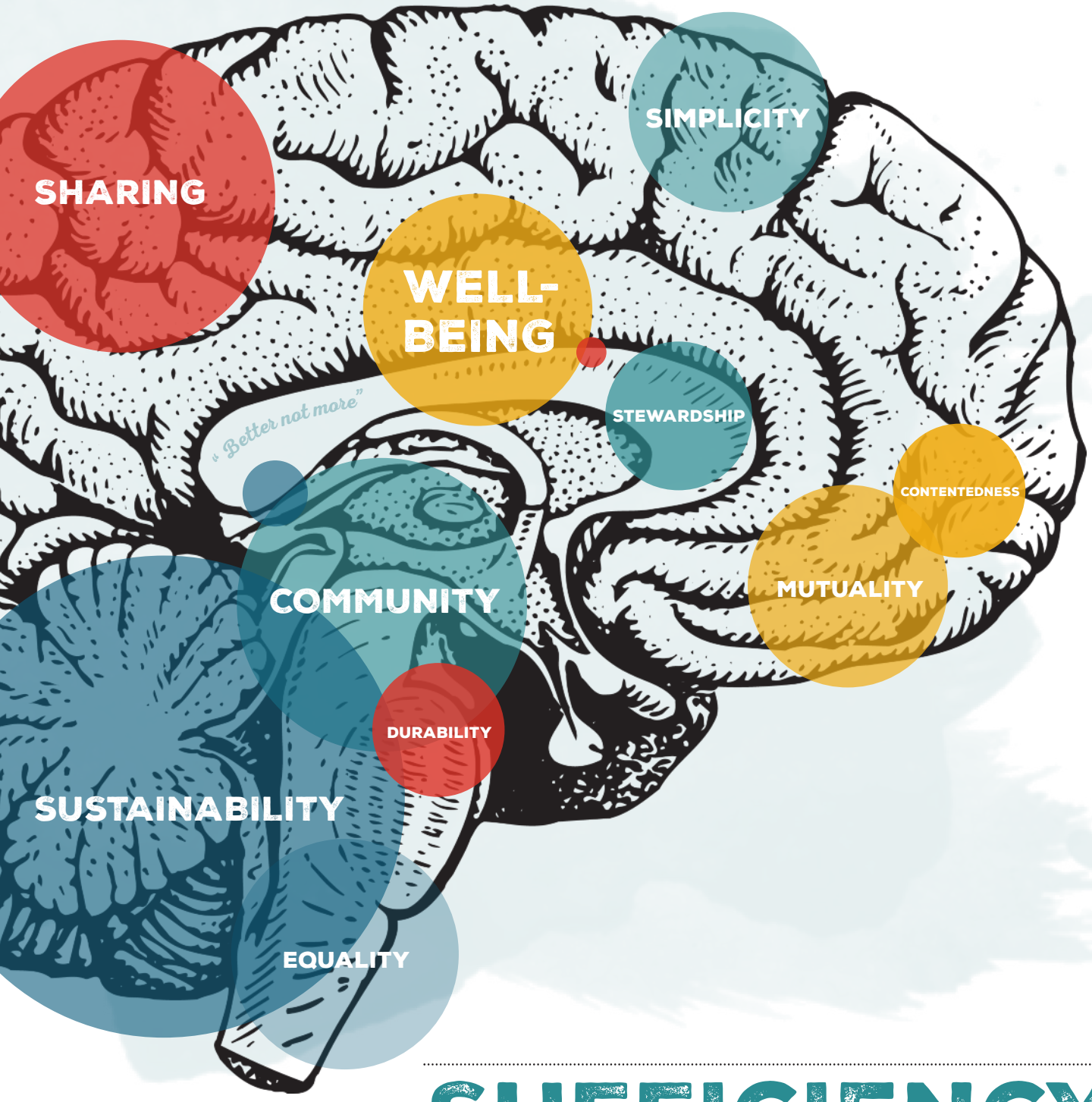

SUFFICIENCY

MOVING BEYOND THE GOSPEL OF ECO-EFFICIENCY

FULL REPORT | March 2018

SUFFICIENCY

MOVING BEYOND THE GOSPEL OF ECO-EFFICIENCY

Friends of the Earth Europe is the largest grassroots environmental network in Europe, uniting more than 30 national organisations with thousands of local groups. We are the European arm of Friends of the Earth International which unites 74 national member organisations, some 5,000 local activist groups, and over two million supporters around the world. We campaign on today's most urgent environmental and social issues, challenging the current model of economic and corporate globalization, and promoting solutions that will help to create environmentally sustainable and socially just societies. We seek to increase public participation and democratic decision-making. We work towards environmental, social, economic and political justice and equal access to resources and opportunities on the local, national, regional and international levels.

Authors: Janez Potočnik, Joachim Spangenberg, Blake Alcott, Veronika Kiss, Anna Coote, André Reichel, Sylvia Lorek, Manu V. Mathai.
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Friends of the Earth Europe
Mundo-B Building, Rue d'Edimbourg 26,
1050 Brussels, Belgium

tel: +32 2 893 1000 fax: +32 2 893 1035
info@foeeurope.org twitter.com/foeeurope
facebook.com/foeeurope

Friends of the Earth Europe

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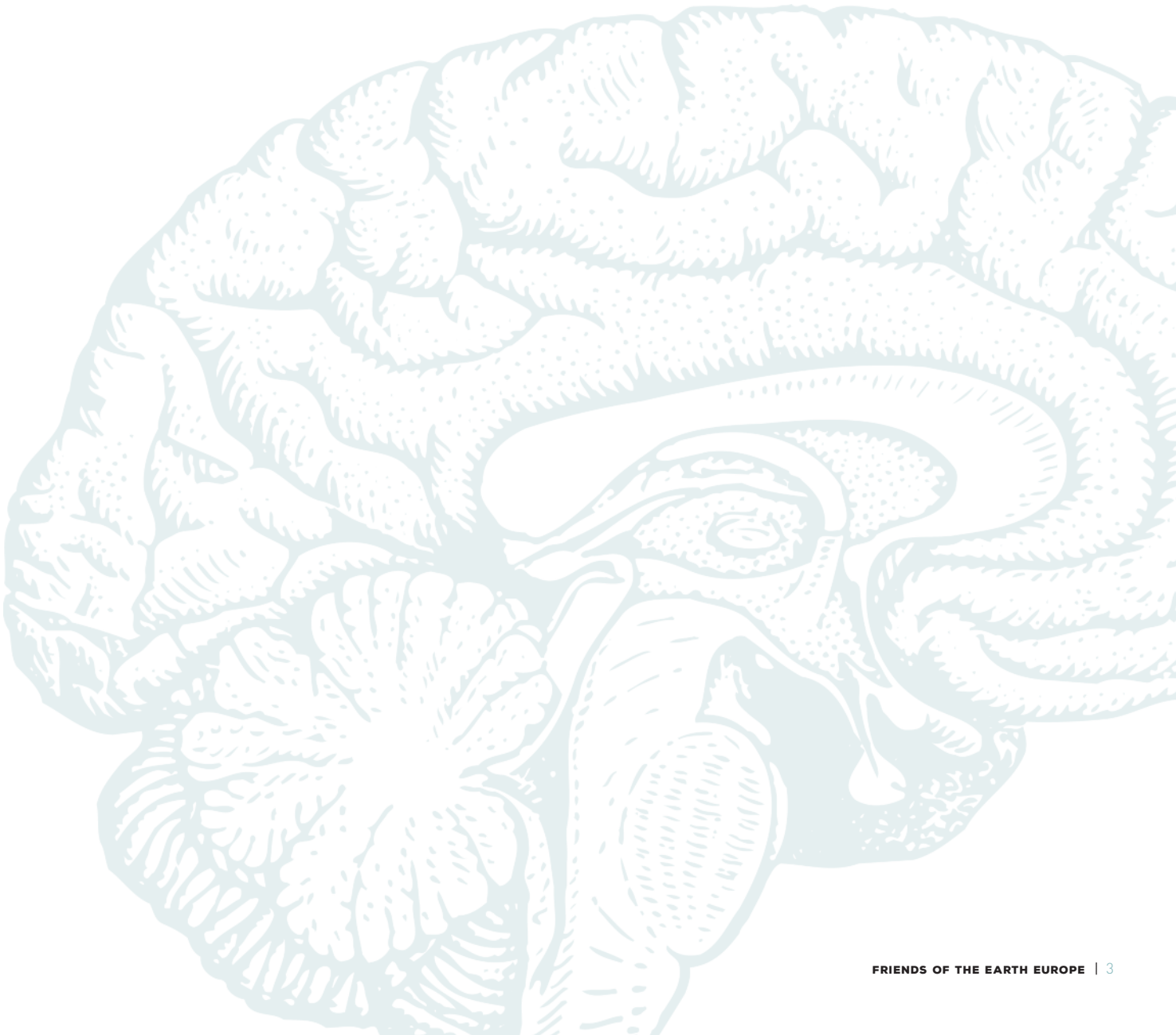


FOREWORD

JANEZ POTOČNIK
(CO-CHAIR OF THE INTERNATIONAL RESOURCE PANEL)

The decade since the International Resource Panel was established in 2007 has been marked by many relevant scientific reports. Two of them, instrumental for the future work of this scientific panel, were dealing with the question of decoupling. We claim that economic activity should be decoupled from resource use (resource decoupling) and environmental impacts (impact decoupling). Developed economies will need to adopt strategies that bring their resource consumption down to globally sustainable levels (absolute decoupling), while developing nations must strive to improve resource efficiencies and cleaner production processes as their net consumption of natural resources increases for a period until they achieve a societally acceptable quality of life (relative decoupling). In short, decoupling should be an imperative of any modern environmental and economic policy, and we in the developed part of the world are the first to show, that we are ready and able to lead that transformation process.

The Sustainable Development Goals, a new global social contract among nations, offer a unique opportunity to move to an integrated, universally relevant, and potentially transformative global development agenda. Trade-offs among various SDGs are unavoidable. Following the principles of sustainable consumption and production is the most efficient strategy to avoid trade-offs and create synergies.

In the mid-term, except in some specific cases, resource shortage will not be the core limiting factor of our (economic) development. However, the consequences of excessive and irresponsible use of resources on environmental sustainability and human well-being, particularly health, are already a limiting factor, and will be even more so in the future. Therefore, it may be most meaningful to analyse resource management and potentially define targets on the level of impacts. How and to what extent one can connect impact-targets to resource-specific targets is a question that deserves serious scientific attention.

In policy-making one needs to take in consideration a lot of different variables, a lot of different stakeholders and a lot of different interests. And it is never easy to promote new policy concepts. Resource efficiency was certainly a new positive concept bringing new kinds of thinking, promoting more responsible policies when it comes to resource use and resource management. But it is no secret that resource efficiency could also lead to dynamics that are not desirable, such as the 'rebound effect'. Thus, potentially negative consequences need to be carefully managed by an active policy approach.

It is obvious that the current economic model, which improved human well-being for many, is not economically, socially, nor environmentally sustainable and needs serious corrections. The price signals received by producers and consumers on the markets are not reflecting this and environmental externalities should be urgently addressed by policy makers. How can one explain the recently published figure in the "OECD Green Growth Indicators 2017" that OECD countries in the years 2000-2014 increased fossil fuel subsidies at a higher rate than their GDP growth? This is especially striking as the majority of these countries were so vocally supporting the fight against climate change. A bit of fundamental honesty and responsibility would are certainly needed and also welcomed.

One of the International Resource Panel's recent reports on global material flows and resource productivity for the period 1970-2010 revealed that consumption has been a stronger driver of material use than population growth, and that the richest countries consume on average ten times more materials than the poorest. The questions "How much is needed for a good quality of life?" and "How much is needed to satisfy human well-being?" are very relevant and I do appreciate and support all the efforts that try to shed light on the responsible use of resources, sustainable consumption, and production.

If we are sincere in our aspirations of delivering the SDGs we have all committed to—such as the eradication of poverty, zero hunger, good health and well-being, clean water and sanitation, affordable and clean energy for all, reduced inequalities, sustainable cities, fighting climate change, and restoring and protecting life below water and on land—then introducing resource sufficiency questions in our academic and policy debates is necessary and relevant. This should become an important part of the political discussion leading to more responsible policy-making without prejudice and fear.

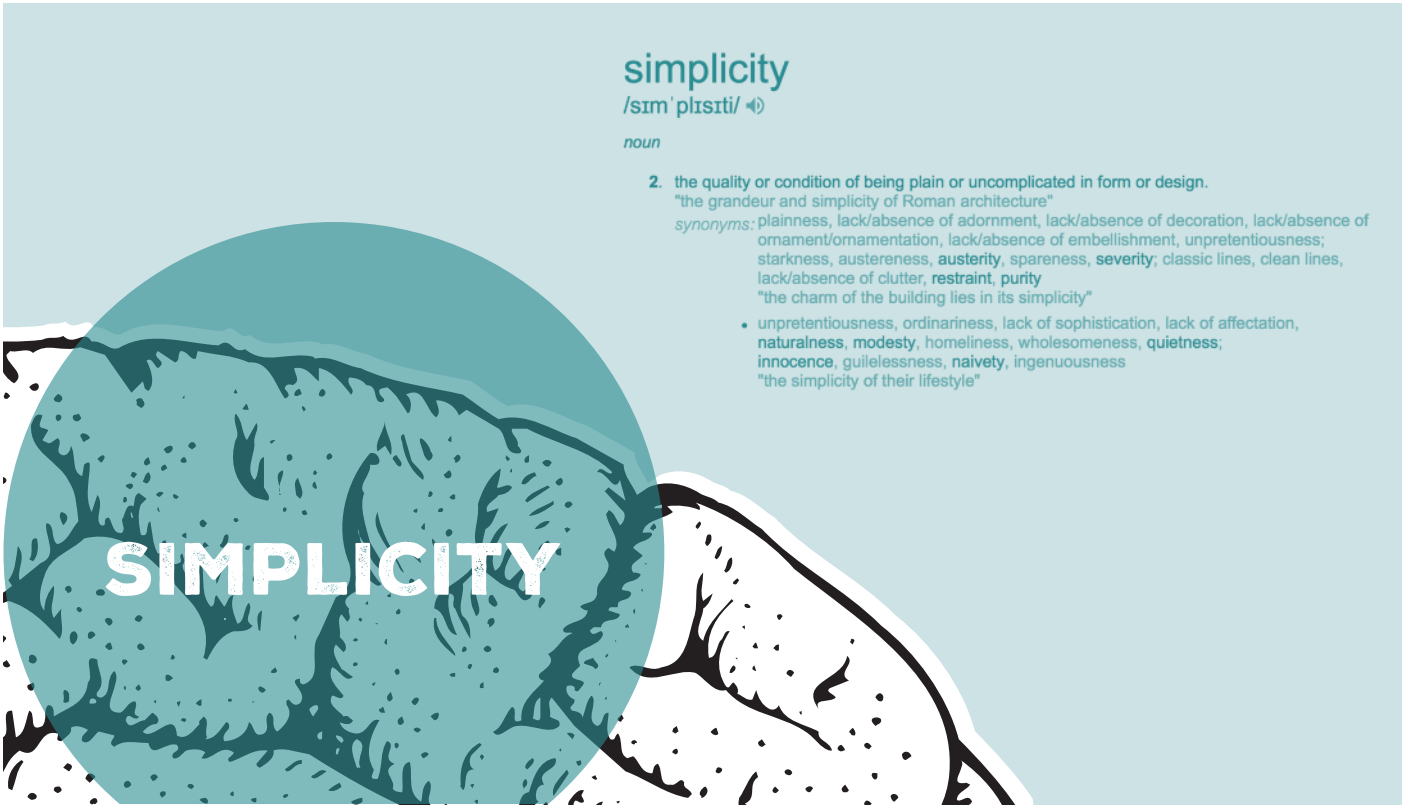
It does not help to walk faster, if we are walking in the wrong direction.

"IN THE PERIOD 1970-2010 CONSUMPTION HAS BEEN A STRONGER DRIVER OF MATERIAL USE THAN POPULATION GROWTH AT THE GLOBAL LEVEL, AND THE RICHEST COUNTRIES STILL TODAY CONSUME ON AVERAGE TEN TIMES MORE MATERIALS THAN THE POOREST."

SUFFICIENCY: A PRAGMATIC, RADICAL VISIONARY APPROACH

JOACHIM SPANGENBERG
(VICE-CHAIR, SERI GERMANY)

01



Rarely in human history have so many things gone so badly wrong in so short a time. The global social and economic systems must make a U-turn if they are not to destroy their own physical basis.

We need to be radical in our analysis. We need to be visionary in finding solutions that are just, benign, and environmentally sound. And we must be pragmatic in their implementation. We must cease to be radical in the denial of problems. We must cease to be visionary in defending the status quo. And we must cease to be pragmatic in undermining all policies of change.

We are living in the Anthropocene now, and no natural mechanisms will come to save us: turning the course to allow nature to turn the tide is of utmost urgency now. For that we need new orientations, and sufficiency is one of the most important amongst them.

Sufficiency is essentially the antithesis to the orientation to permanent "higher, further, faster, more". It instead prioritises quality of life in work, education, and leisure, as well as the freedom of responsible choice and the right to self-determination. Freedom includes not only the *freedom from* suppression and discrimination, but also the *freedom for* an active participation in society. One of its central battle cries is "better, not more!"

1.1 SUFFICIENCY IS NO END IN ITSELF, BUT AN INDISPENSABLE ELEMENT OF ANY EFFECTIVE SUSTAINABLE DEVELOPMENT STRATEGY

Thirty years ago, in 1987, the World Commission for Environment and Development (also known as the Brundtland Commission) defined Sustainable Development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.' It contains within it two key concepts:

1. The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given, and
2. The idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs. Today we would call the latter safeguarding the provision of ecosystem services.

Justice within and between generations and social groups is at the core of it; this, and the two core principles of needs satisfaction and limitations are irreconcilable with neoliberal policies. Little wonder then that decision makers in politics and business love to quote the first sentence, but shy away from the second part of the definition.

For development to be sustainable, we need to create wealth and quality of life, or a 'sufficient psychic income',[1] from the resources we can fairly and sustainably use. Quality of life includes good remunerated work, and acknowledgment of unpaid (caring) work, plus gender equality in both.

1.2 WHY FOCUS ON SUFFICIENCY?

Let's start with the IPAT equation (which as a tautology is always true): Impact = Population x Affluence x Technology:

- **P:** Population is the main discussion in the US. By 2050 we expect about 120% population growth globally.
- **T:** Technological efficiency is the main discussion in the EU. By 2050 we hope for ca. 40% increase of resource use productivity.
- **A:** Affluence is the elephant in the living room – only NGOs active in the environmental justice and degrowth movements talk about it. The OECD expects Affluence (measured as GDP) to grow 300% by 2050.

Impact is then expected to more than double by the midst of the century, a completely irresponsible trend. Increasing the speed of resource productivity growth to 6% p.a. (twice the expected and triple the past rate) would require a permanent supply of new miraculous technologies so far not yet even developed as prototypes. Addressing demographic change does not only take a long time, but it is also of minor importance for the overall impact (although the measures that have proven effective like empowering women, eliminating poverty, and enhancing education are important sustainability contributions in their own right).

So realistically the key variable to be addressed is Affluence, the sheer volume of consumption. This is what sufficiency is all about: reducing the resource consumption per capita. This is not the same as reducing people's quality of life: while human wants are infinite, human needs are limited as an anthropological constant. Few of them are material needs; these can be served by less material intensive goods and services, for instance by sharing instead of privately owning the most inefficient durable private goods: automobiles.

Of course this request for reducing affluence applies primarily to the rich, but not necessarily only to the affluent countries. While economic growth is necessary in the poorest nations, the majority of the world's poor are now living in middle-income countries. As a result, the growth imperative does not apply to countries any longer, but to disadvantaged groups, with redistribution of wealth between the rich and the poor in each country, between countries and between the global consumer class and the rest of humanity a key issue. For instance, while China may still have about 180 million people in poverty, it is home to the largest national group of billionaires, and its greenhouse gas emissions have surpassed those of the EU, even per capita.

1.3 OPERATIONALISE SUFFICIENCY: ENVIRONMENTAL SPACE

The environmental space defines a ceiling of resource consumption and a floor of resource access. To respect the planetary boundaries, consumption must be reduced, thus slimming the physical economy, because we are in overshoot regarding biodiversity loss, global N and P cycles, and climate. Today not only non-renewable sources are depleted, even renewable resources are exploited beyond their regeneration capacities, rendering them non-renewable.

We urgently need a globally just division of resource access within environmental limits. This requires dematerialisation (factor 10), de-fossilisation (phasing out fossil fuel use by 2030), ending land import, and safeguarding the commons. This is much more than a circular economy and ecological modernisation. To make progress, these targets should be fixed in the EU, with policies assessed by the criterion if they are effective strategies to realise them, in combination and with adaptation as often as necessary. For instance, efficiency increases are doubtlessly necessary, but they enhance growth. So they must be combined with sufficiency policies skimming off the surplus and thus eradicating the rebound effects. It is the end that counts, not the means. As there are no effective growth brakes in a free market economy, the limitations must be set from outside the economic system: politically by capping resource throughput with a shrinking cap.

The social protection floor requested by the UN—pursued through measures such as unconditional basic income, negative income tax, and a free energy budget—implies guaranteeing sufficient resource access for leading a dignified life.

1.4 SUFFICIENCY AS FREEDOM

In between the floor[2] and the ceiling is the domain of freedom, the space for sustainable lifestyles, the safe operating space of humankind. Only within this space the concepts of freedom of choice and consumer sovereignty make sense; outside sovereignty turns into irresponsibility, voluntary overconsumption, or imposed underconsumption. However, by exhausting scarce resources, squandering them for dubious purposes like armament and war, repressing systems and luxury goods, and by over-polluting the environment on the one hand, and by global income polarisation on the other, societies are shrinking the domain of freely chosen lifestyles, habits, and products.

FOOTNOTES:

1 Fisher, I. (1906). The Nature of Capital and Income. New York, Kelly.
2 Bachelet, M. (2011). Social protection floor for a fair and inclusive globalization. Report of the Social Protection Floor Advisory Group. ILO Reports. ILO International Labour Office. Geneva, ILO: 32.

In this context, sufficiency is freedom for all to realise a state of being and doing that people have legitimate reason to value; the legitimacy rests on democratic and ethical criteria and constraints. It acts as a protection against the pull of consumer capitalism to keep up with the Joneses, Wangs, and Müllers to use money we don't have to buy things we don't need to impress people we don't like. Consumer capitalism is based on the 'forever more' aspiration. Sufficiency calls for a different kind of social relations, for defining ends before choosing means, and thus for an end of this variety of capitalism we have all been socialised in. Promoting sufficiency, expect the fierce resistance of the beneficiaries from the unsustainable status quo (efficiency promoters do not face these kinds of resistance).

Forty-five years ago the 'Limits to Growth' report warned about the future risks of the trajectory the world was on; we continued along the pathways the scenarios had warned about.[3] 'Limits to Misery', the South's answer to the report, highlighted the current suffering from poverty, showing that redistribution would solve the environmental alongside the social problems.[4] Today we are beyond both limits, to growth and to misery, right into 'the century of the environment' – which is no promise but a threat: we are losing the freedom of choice as environmental necessities begin to ever more strongly dictate what policies need to be in place as the threats cannot be overlooked.

Good work, paid and unpaid, with the possibility of fulfilment and self-realisation, is a core element of the quality of life in our societies. Sufficiency calls for a de-intensification of work where the quality of life in work is no longer assumed, for self-determined working time reductions, for social safety nets including reliable, public health care and pension systems and thus for ending austerity and paving the way for redistribution of income and wealth. However, under conditions of degrowth the slimming of the physical economy will probably also affect the volume of value generated that has to be distributed between labour, capital, and the state. Reducing inequalities can be achieved through the redistribution of wealth, but afterwards real incomes will no longer rise, and a better quality of life has to be generated from other sources.

There are more imbalances a sufficiency policy has to address in the field of industrial relations. For example, for an ageing society, the current lack of valuing and the mismanagement of the caring economy are devastating. We need more staff per patient (in the health care system) or care dependent (in the age caring system), and we need them to have better wages. We also need more teachers and academic staff, kindergarten personnel, and adequate wages for them (including closing the gender pay gap).

1.5 ADDRESSING THE CAUSES, NOT CURING THE SYMPTOMS

Curing the symptoms won't solve our problems. Politics is not there to act as the rescue force at the bottom of the cliff or the Red Cross unit on a battlefield, but it has to fence off the cliff, change the direction of the march, and avoid the bloodletting.

Globalisation has been described as a source of global change nobody can escape. However, at a closer look, there is not much global change, but ubiquitous local change, driven everywhere by the same ideology and policy. And this change did not occur as a natural disaster: it is human made, and can be undone or, better yet, modified by human intervention again. Globalisation is not a fate but a challenge of shaping the future of global interaction according to human needs and environmental limitations. New ideas grow from the grassroots, but have to permeate the higher echelons of society as well to change the development trajectory. This is not a matter of good will, or knowledge, but of power and interests!

1.6 CHANGING SOCIETY AND THE LIMITS OF FREE MARKETS

Changing society includes its institutions, like the social security system (organisations), the economy, policy, labour rights, legal options and economic incentives (mechanisms), and consumer culture, growth obsession and gender roles (orientations). Piketty[5] has shown that without active political intervention income polarisation increases permanently. Wilkinson and Picket[6] have shown that societies with fairer sharing of assets face less social erosion, violence, crime etc. – an insight that needs to be applied to global society, to close and distant neighbours. We need global cooperation instead of competition, not a revitalisation of 19th century Great Games. As stated by Willy Brandt in his Nobel Peace Prize acceptance speech, we need a transition from classic power politics to peace politics, a change of objectives and methods from enforcement to a fair balancing of interests. Sufficiency as an organising principle of society that, by replacing growth, offers the opportunity to overcome the distributional dynamics and reap the benefits of a more equitable society.

The sufficiency transformation is not a new industrial revolution. Unlike past industrial revolutions where a new technology shaped society in unpredictable ways, we know what the outcome should be, but not what the technical means available for pursuing it will be. And we know the culprits, heroes, and villains.

FOOTNOTES:

3 Meadows, Do., Randers, J., Meadows, De. (2004). Limits to Growth. The 30-Year Update. White River Junction, Vermont, USA, Chelsea Green Publishing Company.
4 Gallopin, G.C. (2001). The Latin American World Model (a.k.a. the Bariloche model): three decades ago. Futures 33(1): 77-89.
5 Piketty, T. (2014). Capital in the Twenty-first Century, Harvard University Press.
6 Wilkinson, R., Pickett, K. (2009). The Spirit Level: Why More Equal Societies Almost Always Do Better. London, Allen Lane.

According to Adam Smith, a dignified life for all is the purpose of the economy. However, markets have no other way of expressing such qualities than through changing quantities, i.e. through prices signals: sustainable development, dignity and quality of life essentially escape market measurement. Commodification and monetisation of nature and society are the fatal decision to ignore their qualities: no blessing but a curse. This does not rule out using economic instruments to define incentives for market agents, but it rules out letting the market set the policy goals. Laws and plans are the basis for a functioning state. Therefore, target setting and responsibility remain a task of legitimate, elected decision makers.

1.7 THE ROLE OF TECHNOLOGY

Sufficiency does not imply neglecting technology, to the contrary: sustainable development will require the most all-encompassing system innovation the world has ever seen, if we are to reach the reduction targets necessary while sustaining the quality of life. However, innovation must serve sustainability, reduce resource consumption, and empower citizen control: the orientation for a good life (not for a better life, which implies more of the same) is towards better goods and services, not more. So, it must combine innovation with (i) social and environmental permissibility criteria, (ii) 'exnovation' (replacing unsustainable technologies and structures instead of complementing them), (iii) institutional innovation, like resource use capping, and (iv) social innovation.

"WE URGENTLY NEED A GLOBALLY JUST DIVISION OF RESOURCE ACCESS WITHIN ENVIRONMENTAL LIMITS. THIS IS MUCH MORE THAN A CIRCULAR ECONOMY AND ECOLOGICAL MODERNISATION."

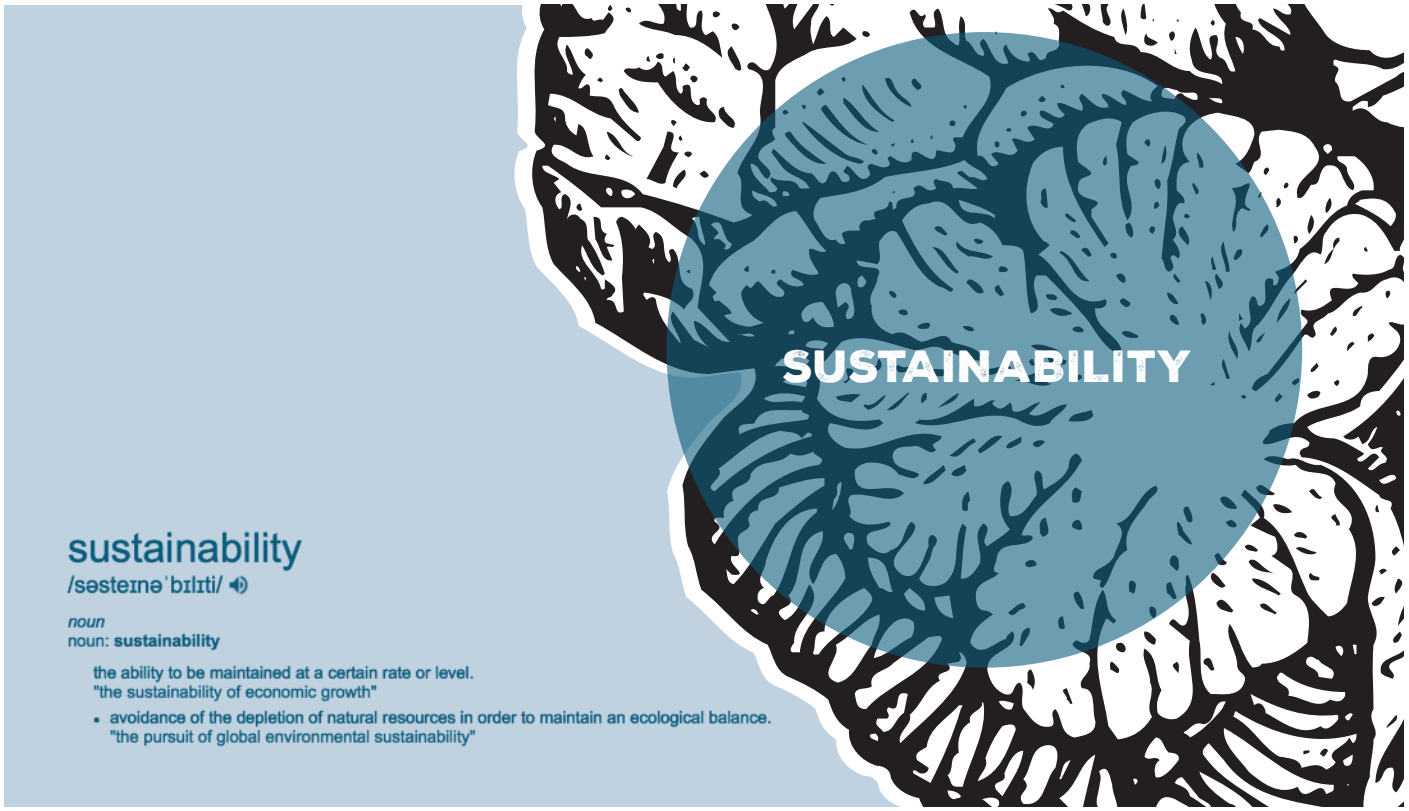
Regarding social and environmental permissibility criteria, the current hype regarding the 'Internet of Things' (also called 'Industry 4.0') is an example of innovation that has never undergone an impact assessment regarding their impacts on land, material, and energy consumption. Hence, it may easily turn out to have devastating impacts and be aborted, after having done serious environmental and social damage. Big data, besides threatening to establish levels of control which make Orwell's '1984' appear as a paradise of freedom of thought and self-determination, will require volumes of energy and resource consumption easily surpassing the demand of road and ship transport, and probably beyond what can be provided from renewable sources. Sufficiency includes calls for local commerce and advertisement free zones, for public places to loiter without being forced to consume (freedom through sufficiency).

Small steps don't bring enough progress to avoid environmental crises nor to solve the problems of unemployment and social cohesion. Faith in backstop technologies and other technical miracles is just an illusion as are the notions that we can grow out of problems, that wealth will trickle down, or that any overshoot can be undone: social, environmental, and economic systems develop under path dependency: you never cross the same river twice.

ENVIRONMENTAL CAPS AS A SOLUTION TO REBOUND EFFECTS

BLAKE ALCOTT
(ECOLOGICAL ECONOMIST)

02



2.1 INTRODUCTION

Environmental protection is needed because we take useful things out of nature and put useless or harmful things back in. The resulting depletion and pollution have reached harmful, unsustainable levels.[1] Luckily, environmental activists and policymakers can stand on four solid bodies of knowledge. First, the problems are well known and increasingly well quantified, excepting perhaps when they concern that step-child of environmental protection, beauty. Next, it is well understood that a solution must fit the scale of the problem. Many are local, a few are national, and perhaps most are global because resources are traded and pollutants are transported globally. These cannot be solved individually by the 200 or so nations. Third, we know that voluntary behavioural change led by an elite that encourages, fosters, and politely "nudges" the masses won't do it. Legislated solutions are needed on the principle of 'I will if you also have to'.

Fourth and most delightful is that we know how to solve the problems, at least most of them, or at least the big ones. When aquifers, forests, and fisheries are overdrawn, caps on their extraction by definition solve the problem. When problematic gases load the atmosphere to more than a certain extent, overall caps on the use, emission, or combustion of the offending substances solve the problem with absolute certainty. Zoning amounts to caps on kinds of land use, watershed inhabitants have rationed water for centuries, and the Kyoto Protocol operates on the basis of caps by rationing the acceptable level of consumption of carbon fuels.

So policymakers can grab the great fortune of knowing that we know the dimensions of the problems and the basic structure of the answers. The work can now shift to the social marketing of caps, showing that they are necessary, that they work, that permits will be distributed justly, and that there are ways (we hope) to soften some of the harshness of doing with less.

FOOTNOTES:

1 Boulding, Kenneth, 1966. The Economics of the Coming Spaceship Earth. In: Henry Jarrett (ed.), Environmental Quality in a Growing Economy. Johns Hopkins Press, Baltimore.

2.2 OTHER ENVIRONMENTAL POLICIES

If the answer is so simple, why are there a plethora of other environmental policies? I suppose it has something to do with this harshness, with getting up in the morning and knowing we are legally limited in how much water, space, fuel, meat, and mobility we can avail ourselves of. We understandably want to see if we can get results without such unforgiving per-capita limits, to investigate possible painless paths to sustainability. Who wants to 'freeze in the dark', to use Ronald Reagan's phrase? For some, caps might even be existentially dangerous.

I count six basic non-caps strategies for indirectly limiting the depletion of natural resources and the pollution which together are called throughput or environmental impact: renewable energy, voluntary simplicity, structural change, population reduction, environmental taxes, and the universally acclaimed star—praised even by Bushes and Trumps—resource efficiency.

Renewable energy means rendering humanly useful the energy of sun, wind, and water without going through processes of photosynthesis or fossil-fuel formation. Renewables do require silicon, metals, rubber, plastic, water, space, etc., all of which have to be deducted from output and booked as embodied material. They could still replace a lot of fossil-fuel and biomass combustion, but not necessarily: policy-induced renewable-energy infrastructure increases the energy supply, and both renewable and non-renewable energy systems in fact grow in parallel.[2] Even nuclear fusion, on its own, would not prevent nuclear fission or the burning of biomass and fossils.

Voluntary simplicity, sometimes called "individual sufficiency", means consuming less, consuming only "enough" goods-and-services rather than unsustainable amounts (e.g. pullover instead of room-heating, bicycle instead of car, eating less meat and vacationing locally). However, also this behavioural change does not necessarily lead to less resource consumption or pollution: other consumers are able to take up the slack because of the fall in prices that results from the lower demand by consumers who have newly decided to consume less. As long as supply continues at the somewhat lower price, what I voluntarily no longer consume is demanded by my neighbours, or people in poorer countries, or newly-born people.

Structural change means not consuming less but consuming differently: using one's unreduced purchasing power on goods or services believed to have less environmental impact per dollar than other goods. Buy a painting instead of a plane trip, buy local instead of transported produce. This strategy most likely doesn't work either. The hitch is that the artist from whom I buy the painting can then buy the plane ticket I didn't buy. Furthermore, seen empirically, within economies where structural change has in fact occurred in the form of a transition to economic sectors seen as more labour-intensive rather than material/energy-intensive, instead of a reduction, we see an increase in material/energy throughput.

Population reduction might raise the average welfare of others in several ways, but environmentally, on its own, it doesn't work either. Consumption is not necessarily reduced because each remaining person can simply consume more. This would tautologically relieve some poverty, and it is true that not having a child is the single most effective thing you can do to reduce your own ecological footprint. However, as with voluntary simplicity, since lessened demand always means lower prices, and lower prices in turn enable higher demand, overall resource consumption and pollution after population reduction end up back where they started.[3]

Environmental taxes make offending substances more expensive, thus lowering demand for them. So far so good, and every textbook tells you they are equivalent to caps: a tax on petroleum, for instance, raises the price to the level at which demand is reduced to the maximum level that would be prescribed by the caps. The Achilles heel, though, is that the tax revenue gets spent. It amounts to increased purchasing power for the government, in turn amounting to increased demand for all sorts of things whose production requires amounts of the taxed petroleum.[4] Perhaps the whole scheme would merely give the government free petroleum. In any case, without caps, the sky is again the limit; the strategy is uncertain.

FOOTNOTES:

2 International Energy Agency, 2017, pp 30-31, 42 https://www.iea.org/publications/freepublications/publication/key-world-energy-statistics.html

3 Kates, Carol, 2004. Reproductive Liberty and Overpopulation. Environmental Values 13: 51-79; Engelman, Robert, 2010. Population, Climate Change and Women's Lives. Worldwatch Report 183, http://www.worldwatch.org/bookstore/publication/worldwatch-report-183-population-climate-change-and-women%E2%80%99s-lives; Alcott, Blake, 2012. Population Matters in Ecological Economics. Ecological Economics 80: 109-20.

4 Freire-González, Jaume, & Ignasi Puig-Ventosa, 2015. Energy Efficiency Policies and the Jevons Paradox. International Journal of Energy Economics and Policy 5 (1): 69-79, p 75; Font Vivanco, David, René Kemp & Ester van der Voet, 2016. How To Deal with the Rebound Effect? A Policy-Oriented Approach. Energy Policy 94: 114-25, p 121.

Technological resource efficiency means making the same amount of goods-and-services, measured by GDP, with less input of water, metal, energy, soil, space, noise, etc. We can redesign equipment so that boiling water, making lumens or moving one ton one kilometre can be done with fewer joules. But the increased efficiency also enables making a greater amount of goods-and-services with the same input quantities, meaning there is no reduction in impact. Uncontestedly, efficiency increases cause economic growth and by now we know that reducing environmental impact requires economic degrowth. This strategy, too, is weak, uncertain, or even counterproductive.

2.3 I = F(P, A, T)

Before I try a more detailed refutation of this efficiency strategy (energy-saving lightbulbs!) please bear with some tedious paragraphs about an equation that usefully categorises environmental policies by categorising causes of presently unsustainably high *environmental impact* about which we have such solid knowledge. Actually there are many varied impacts, each involving different natural inputs and involving either depletion or degradation. Some impacts, for instance ugliness, are hard or impossible to measure.

In any case, about fifty years ago pioneers of environmental science and policy came up with a parsimonious answer to the question of what causes environmental impact(s). The three factors are number of people (Population), consumption of goods-and-services per person (Affluence), and natural-resource inputs per unit of goods-and-services (Technology). A and T are ratios, while P and I are absolute amounts. The inputs in the "technological efficiency ratio" (T) are the same things whose depletion or degradation appears on the left, Impact side of the equation. The metric for Affluence is GDP.

We write I = f(P, A, T) rather than I = P x A x T because changes in any of the four factors cause changes in the others. To be sure, to calculate actual Impact we can simply multiply: if 10 people drive 1,000 tonne-kilometres each and with a given technology it takes 3,300,000 joules to drive one tonne-kilometre, then Impact is 33,000,000,000 joules, expressed either as oil taken from the ground or as emissions from its combustion. Or once a desired maximum Impact is agreed, we can calculate combinations of maximum values on the equation's right side. But if for instance policy succeeds in lowering population or raising efficiency, affluence may rise, or if affluence falls population may rise, etc., so we need simultaneous equations.

2.4 JEVONS' PARADOX

Most technological-efficiency increases are 'autonomous'. They happen independently of governmental policy, because they result in higher sales and profits. But if governments enact efficiency policies, they must be able to judge their effectiveness. If white goods, lightbulbs, boilers, and cars become on average more energy-efficient, is energy really saved? If someone starts driving a more fuel-efficient car he or she can, with the same budget, either consume more tonne-kilometres or buy other energy-consuming things or services. If the production of steel becomes more energy-efficient, its price falls and more steel is sold.

Thus, to the extent that efficient processes reduce demand for an input, the input's price falls, and this in turn boosts demand. This is called the *rebound effect* and if consumption of the now more efficient input ends up at the level it was before, rebound is said to be 100%; all the energy that, say, could have been saved due to the more efficient kettles was used up for other things. Should more people wanting greater affluence leave some of the temporarily fallow-lying input untouched, after all, rebound is between 1 and 99%.

In 1865 as first inklings of planetary limits appeared, William Stanley Jevons wrote a book to refute the efficiency strategy. He argued empirically and theoretically tha the the more efficient use of coal in steel manufacture or steamship transport meant that coal's price falls, and as long as supply remains profitable we can make more steel, fuel more ships and even find new uses for coal. He noted the same effect with labour inputs: with the help of machines and better organisation more and more was being produced per hour, yet population and employment were skyrocketing.

He even claimed that in the end we consume even more coal than before the efficiency increases (i.e. rebound >100%) admitting this is a "paradox". But policymakers needn't concern themselves with whether efficiency measures thus 'backfire', because as rebound approaches 100% the policies become first cost-ineffective then simply futile. Policymakers are furthermore entitled to ask economists for proof that efficiency policies bring real savings. For while there seems to be an engineer inside each of us thinking that lower specific input-output ratios must translate into lower such ratios economy-wide, in the policy realm the burden of proof lies not with those who argue rebound is at or close to 100%, but with those who counter-factually claim real savings.

Furthermore, empirically measuring total rebound micro-economically has to date proven impossible. Definitions and methodology are as unclear now as when rebound research took off in the early 1980s: 'direct', 'indirect' and 'economy-wide' rebounds have been identified, each on its own difficult to measure, and it remains murky how they might add up to the policy-relevant 'total' quantity of rebound. After hundreds of micro-economic studies measuring the price, supply, and demand changes amongst individual consumers and producers that are triggered by efficiency increases, estimates still range from a bit over 50% to well over 100%.[5] One direct-rebound study of lighting efficiency even discovered long-term 'direct' rebound of several hundred per cent![6]

On two points, however, consensus has emerged: total rebound is higher in developing economies and lower in the developed economies where the vast bulk of the studies are made;[7] and it is so high that dozens of studies conclude by calling for the new category of 'rebound policy' to 'mitigate', 'minimise', 'offset', 'limit', 'counteract', or 'tackle' rebound effects – usually through taxing the problematic inputs which are being used more efficiently.[8]

The whole issue thus remains theoretical. Many engineers and economists assume low rebound unless proven otherwise, while most historians and anthropologists easily imagine that as long as population grows and demand for goods-and-services is not satiated, whatever is saved during one process will get demanded for either more of that process or other processes.

"ENVIRONMENTAL CAPS ARE SIMPLE IN CONCEPT AND PLANNING. THEY ENSURE EFFECTIVE, EFFICIENT, AND FAIR SOLUTIONS TO MANY ENVIRONMENTAL ISSUES. WE JUST HAVE TO WORK ON MAKING THEM SOCIALLY ACCEPTABLE."

The macro-economic empirical route to measurement does remain: one can regress the total consumption of an input, say primary energy, on that input's efficiency in producing a unit of output (GDP/Joules). A few studies of long time series have done this at world or multi-national scale, thus avoiding difficulties country-scale studies face due to international trade; they regard 100% rebound as probable.[9]

Other drivers of the input-consumption must of course be tested for, but the two such drivers usually considered (population growth and economic growth) cannot be treated as 'exogenous' because they are themselves in part driven by technological efficiency increases. In fact, technological efficiency increases, along with inventions, help us maintain affluence and population at the highest possible levels within the limits that would be set by the input caps. There are, however, thermodynamic limits to efficiency increases. It could be that sustainable levels of depletion and pollution are so low that some combination of lower population and affluence is painfully unavoidable. I think that focusing on limits and caps as soon as possible will enable us to face this likely humanitarian dilemma sooner and deal with it better.

FOOTNOTES:

5 Madlener, Reinhard, & Karen Turner, 2015. After 35 years of rebound research in economics: Where do we stand? In: Santorius et al. (eds), Rethinking Climate and Energy Policies. Springer, Cham; Gillingham, Kenneth, et al., 2016. The rebound effect and energy efficiency policy. Review of Environmental Economics and Policy 10 (1): 68-88; Dimitropolous, A., et al., 2016. The rebound effect in road transport: A meta-analysis of empirical studies. OECD Environment Working Papers Nr 113, Paris.

6 Fouquet, Roger, & Peter Pearson, 2012. The long-run demand for lighting. Economics of Energy and Environmental Policy 1 (1): 83-100.

7 Roy; Joyashree, 2000. The rebound effect: Some empirical evidence from India. Energy Policy 28 (6/7): 433-38.

8 E.g. Maxwell, Dorothy, et al., 2011. Addressing the rebound effect: A report for the European Commission DG Environment, 26 April; Van den Bergh, Jeroen, 2011. Energy conservation more effective with rebound policy. Environmental and Resource Economics 48 (1): 43-58; Madlener, Reinhard, & Blake Alcott, 2011. Herausforderungen für eine technisch-ökonomische Entkoppelung von Naturverbrauch und Wirtschaftswachstum. Enquete-Kommission, Wachstum, Wohlstand, Lebensqualität' des Deutschen Bundestages.

9 Polimeni, John, 2008. Empirical evidence for the Jevons paradox. In: Giampietro et al. (eds), Jevons Paradox and the Myth of Resource Efficiency. Earthscan, London; See also Steinberger, Julia, et al., 2010. Global patterns of materials use: A socioeconomic and geophysical analysis. Ecological Economics 69: 1148-58; Alcott, Blake, & Tyler James Marangi, A Granger-causality test for worldwide rebound, available from the author.

2.5 CONCLUSION

The caps solution is simple in concept and planning. It requires biophysical knowledge plus some social or political decisions, for instance concerning how fast to use up non-renewable resources. Coal, for instance, will someday run out, period, but since it is just as stupid to sit freezing on a pile of it as it is to burn it all, we need to employ inter-generational ethics to say how much to leave for the future. Or, how much ecological space do we want to leave for other animals?

Each right-side policy, on the other hand, is highly likely ineffective and in any case requires complex and costly combinations of policies to counteract rebound effects. One wonders, why go to such trouble? Why choose what is uncertain over what is certain? Why not just enact caps? Their effectiveness is guaranteed, they are honest, and they are cheap.

We've put the cart before the horse. While causality does not necessarily operate from the right to the left side of IPAT, in the reverse direction it does. Real input limits must lead to large changes in population, affluence, and technology since individuals, firms, and political units would autonomously and de-centrally adjust their behaviour to maximise their welfare within those limits. Family size might decrease, technology would undoubtedly become more efficient, and a measure of individual frugality would become not only necessary but also acceptable.

"ENVIRONMENTAL CAPS WOULD SUCCESSFULLY LEAD TO CHANGES IN POPULATION, AFFLUENCE, AND TECHNOLOGY SINCE INDIVIDUALS, FIRMS, AND POLITICAL UNITS WOULD AUTONOMOUSLY AND DE-CENTRALLY ADJUST THEIR BEHAVIOUR TO MAXIMISE THEIR WELFARE WITHIN THOSE LIMITS."

This does not deny that in order to set environmental goals (the level of the caps) we can profitably look at the right-side factors. What level of efficiency, for various inputs, is realistic? What amount of goods-and-services per person, given planetary limits, do we regard as healthy and sufficient? What population size and density do we want? From the answers we can derive desired caps based on realistic engineering. Then we judge whether they are ecologically sustainable at global scale.

So drop everything and use your unemployment checks to gain time to read up on caps systems, even if we don't need to re-invent the wheel. Britain and other countries practiced them easily during World War II, we have centuries of experience in water rationing, and systems with individual carbon budgets are being currently discussed. If you have research money to dispense, do not commission any studies of the payback time for solar panels or the exact level of rebound amongst new Smart drivers in Nova Scotia. Seek democratic acceptance of caps; population, material standard of living, efficiency, and renewable energy supply will fall into place.

SUSTAINABILITY

PERSONAL ENERGY AND RESOURCE ENTITLEMENTS

VERONIKA KISS
(POLICY OFFICER,
CEEWEB FOR BIODIVERSITY)

03

3.1 THE CURRENT STATE OF UNSUSTAINABLE AND UNFAIR RESOURCE USE

Limits to biocapacity[1] of a specific area, be it a region or the entire planet, set biophysical constraints on resource extraction and waste disposal, and consequently to human consumption in absolute terms. Humanity, however, currently uses more resources than can be regenerated at the global level.[2] Despite this worrying trend, unlimited economic growth driven by consumption is still the central focus of our socio-economic system. Furthermore, consumption trends in the past few decades have been increasingly decoupled from a clear rise in subjective well-being and reduction in social inequalities.[3,4] This chapter will first list the obstacles to changing these unsustainable trends and find new paths towards a great transition to a truly sustainable society. Subsequently, we touch upon solutions to overcome the aforementioned obstacles, simultaneously introducing concrete policy tools to reach sustainable and just resource use.

3.2 OBSTACLES TO REACH SUSTAINABLE AND JUST RESOURCE USE

Despite many international policy processes, there is no consensus on what constitutes effective sustainable and fair consumption and production. Current policies fail to address the problem, since those addressing resource use only focus on achieving higher efficiency. However, economic growth will relentlessly outstrip efficiency gains, meaning a total rise in resource use and a failure to address scarcity and the accompanying social and environmental problems.

Herman Daly wrote his article *Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable*[5] already in the early 90s. In this paper, he clearly set out the preconditions for a sustainable and just economic model, or in other words the foundations of ecological economics. In order to achieve its aim,

FOOTNOTES:

1 Biocapacity refers to the capacity of a given biologically productive area to generate an on-going supply of renewable resources and to absorb its spillover wastes. Unsustainability occurs if the area's ecological footprint exceeds its biocapacity.
2 EEA, 2015. The European Environment State and Outlook 2015.
3 OECD, 2015. In It Together: Why Less Inequality Benefits All. OECD Publishing.
4 Tóth, I.G., 2013. Time series and cross country variation of income inequalities in Europe on the medium run: are inequality structures converging in the past three decades?
5 Daly, H., 1992. Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable. Ecological Economics 6, 185–193.

ecological economics defines three aspects to tackle: the scale, distribution, and allocation of resources and their use. The scale refers to the amount of resources extracted and traded due to global economic activities. The physical limits of our globe, which are currently far trespassed, define the scale of sustainable resource use. The distribution of resources and the benefits arising from their use require also economic analysis and management considering that fair distribution and tension-free societies are preconditions for sustainability. The third aspect of ecological economics reveals the efficiency of resource allocation.

In the last 25 years, the issues raised by Daly have not caught significant attention. The scientific community of environmental economists still asks the same questions on how to achieve well-being and equity within planetary boundaries, but at the same time does not explicitly stress the need to reduce our collective demand for resources in absolute terms. Other scientific forums are even less likely to discuss these complex issues altogether. In the ecological economics community, however, there is light at the end of the tunnel. Scientific proposals in connection to sustainable and just energy and resource use are increasingly being investigated.

3.3 SOLUTIONS TO OVERCOME THE OBSTACLES TO REACHING SUSTAINABLE AND FAIR RESOURCE USE

The issue of unsustainable and unfair energy and resource use requires a systemic approach. The complex response should tackle several interconnected and multi-layered factors, making it difficult for policy-makers to identify priority areas for action and effective points for intervention. Furthermore, we need to re-adjust our economic model to our environmental space while taking into account social justice.

Without a guiding vision of sustainability it is not possible to target effectively any single issue of global concern, not to mention modelling this complex and interdependent array of ecological, economic, and societal issues.[6] Following a systemic approach based on what Herman Daly proposed,[7] it seems clear that sustainable scale (living within planetary boundaries) is the primary issue. Any sustainable society and economy can only be achieved by respecting the ecological limits (fragility, resilience) of planet Earth. Furthermore, since all economic activities gain meaning in particular social contexts, the economy should be designed institutionally to respect societal concerns, including some conceptions of social justice. Consequently, the issues of ecological sustainability and fair distribution prevail over that of economic efficiency.

Notwithstanding the mainstream scientific disinterest to reach *sustainable scale, fair distribution, and effective allocation*, there have been plenty of scientific proposals to meet these three aspects of ecological economics. For instance, both the Ehrlich equation (I=PAT)[8,9] and the ET=I equation based on the Global Welfare Curve[10] show that all economic activity requires throughput that implies environmental impacts, which can be mitigated by appropriate technology, but never eliminated completely.

Even if the need for applying resource use capping tools is accepted, however, some researchers argue[11] that there are implementation challenges to be addressed. These challenges include the difficulty of implementing completely new and quite complicated policy tools, the lack of proper technical infrastructures as well as institutions, cultural expectations, and entrenched everyday practices. All of the challenges have evolved through long historical dynamics that have favoured the substitution of labour with resource- and energy-intensive machinery.

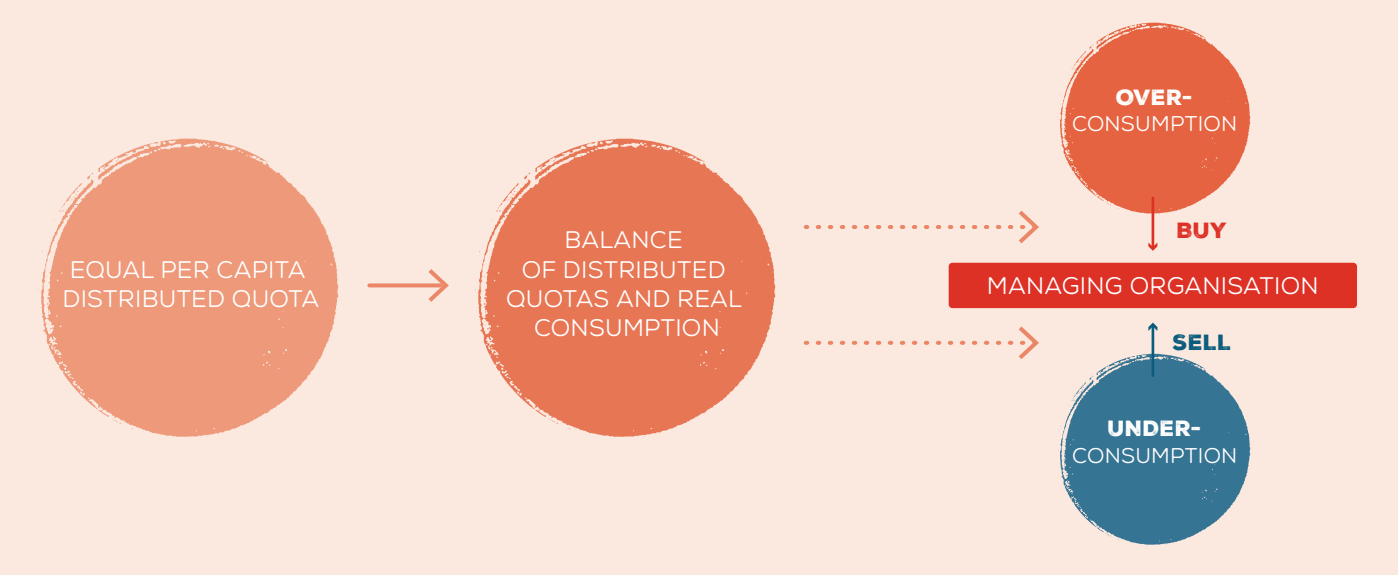
3.4 A CONCRETE, EUROPE-WIDE POLICY TOOL FOR ENERGY USE CAPPING

There are concrete policy tools developed in the past 5-10 years, which would underpin the realization of a resource-capped economy. These include a Europe-wide policy tool developed by experts from NGOs and scientific think tanks in the past decade aimed at sustainable scale and fair distribution of energy and resources. The so-called Energy Budget Scheme[12] is a means to deliver absolute reduction of energy use at the EU level, progressively reducing each year, guaranteeing every citizen access to the same fair share and involving all business and public entities. The scheme aims to cap the EU economy's fuel and electricity consumption in line with the EU carbon emissions targets, and then essentially rationing out the energy available under the cap. The tool ensures that every individual receives energy units covering their fair share in using energy. Over- and under-consumption can be traded as illustrated in Figure 1.

FOOTNOTES:

6 Luda, S., 2013. Sustainable Rural Entrepreneurship: A Case in Hungary. Journal of Environmental Sustainability 1, 7. doi:10.14448/jes.01.0007
7 Daly, H., 1992. Allocation, distribution, and scale: towards an economics that is efficient, just, and sustainable. Ecological Economics 6, 185–193.
8 Ehrlich, P.R., Holdren, J.P., 1971. Impact of Population Growth. Science (American Association for the Advancement of Science) 171, 1212–1217.
9 Pogutz, S., Micale, V., 2011. Sustainable consumption and production An effort to reconcile the determinants of environmental impact. Society and Economy 33. doi:10.1556/SocEc.33.2011.1.5
10 Wetzel, K.R., Wetzel, J.F., 1995. Sizing the earth: recognition of economic carrying capacity. Ecological Economics 12, 13–21.
11 Ropke, I., 2015. Complementary system perspectives in ecological macroeconomics — The example of transition investments during the crisis. Ecological Economics 121, 237–245. doi:http://dx.doi.org/10.1016/j.ecolecon.2015.03.018
12 http://www.ceeweb.org/wp-content/uploads/2012/03/energy_budget_scheme_short.pdf

FIGURE **3.1** | THE FLOW OF QUOTAS (ENTITLEMENTS) IN THE SYSTEM



This trade preserves what is good and popular about rationing, in other words it guarantees minimum shares for all. At the same time, the trade (while considering absolute limits) allows people to consume based on their choices regarding their lifestyles. The alternative to this "cap-and-trade" approach is our current system of "rationing by price" (i.e. the richest get whatever is in short supply), with the consequent issue of unfairness.

The accompanying tools of the Energy Budget Scheme would make to deliver the absolute reduction of energy and material use economically and socially feasible, while ensuring that the competitiveness of the European economy ultimately benefits from it. The aims of the scheme are to:

- Tackle the root causes of climate change and overconsumption;
- Gradually reduce and phase out high-carbon energy use in Europe;
- Boost innovation and create jobs through providing incentives and interest free loans to realise energy efficiency and renewable energy investments;
- Generate a shared sense of common purpose in reducing energy demand;
- Create a predictable business environment for energy use, security, and affordability;
- Allow for changing environmental trends in the future;
- Promote social justice through allowing transfers from over-consumers to under-consumers;
- Encourage value change in society.

Within the scheme consumption entitlements would be allocated among households and public and private organisations, covering high-carbon energy use. The total number of entitlements issued would equal Europe's agreed energy budget (which should be established in the light of Europe's carbon budget), and decrease annually in line with the phase-out of fossil fuels. Consumers who use less than their allocated entitlement could sell them to the issuing body. Those who need more could buy them from the issuing body, thus effectively paying those who use less for the privilege of consuming more than the average.

The Energy Budget Scheme also contains a Transition Fund, which provides the opportunity for everyone, both energy producers and consumers, to be able to achieve savings through energy efficiency and renewable energy investments. It also supports research and innovation in pursuit of new technologies. The Transition Fund provides interest free loans with a payback period adjusted to the anticipated energy savings or income generation. The Transition Fund can also facilitate investments where beneficiaries are unable to contribute financially.

There is also the possibility of incorporating a dedicated market for environmental goods and services. This would be a market open only to retailers achieving certification on environmental and ethical criteria, e.g. retailers of outstandingly energy-efficient appliances, organic food products produced with low-carbon energy input, electric vehicles, solar panels, or those offering insulation of buildings, installation of local renewable energy capacities, or the building of passive houses. Income from the sale of energy entitlements would then be given in the form of 'quota money' that could only be exchanged for products and services in this secondary market. Furthermore, a supplementary Support Service would provide advice to all energy consumers on lifestyle, planning, and social and environmental issues, as well as information on the functioning of the scheme.

The environmental impacts of the scheme would contribute to reach a sustainable scale as defined by ecological economics. The scheme has, at the same time, profound implications for social justice by delivering varied distributional impacts to different social groups. Energy and resource use caps not only influence the size of the economy and thus contribute to sustainable scale, but, combined with allocation/distribution mechanisms, they also facilitate the necessary transformation towards a fairer distribution of resources.[13]

TIME TO PAY UP FOR YOUR FOOTPRINT
JAN JUFFERMANS (DUTCH FOOTPRINT GROUP)

The implementation of a cap system for the consumption of environmental resources or the emission of CO_2 would be made easier by using electronic payment technology. Some interesting proposals have already been put forward.

For instance, the Dutch Footprint Group proposed the use of a 'footprint currency' called Terra. Their objective is a fair global distribution of CO_2 emissions and land use through a cap system. This cap would be lowered year by year to reach a sustainable level within the carrying capacity of planet Earth and to leave enough for future generations. The idea is that the government will give every citizen over 18-years of age an amount of Terra currency every year and will establish a footprint price tag for each product on the market. Companies that sell products build up a footprint deficit that they have to pay off in order to stay in business. For doing so, they have to earn units of Terra from the public when they provide consumer goods, or transfer their deficit to another company if they are suppliers. The total amount of Terra currency available will be reduced to a level according to the Earth's biocapacity over a 20-year period.

Fair distribution was done in the past with, for example, postage stamp-like coupons. With the present technology it would certainly be possible to make it just a matter of double paying at once. When you go shopping after the introduction of a quota system, you will be able to pay at the same time the cost of the product in Euros and the units of Terra with your smartphone.

A Dutch design group developed in 2012 a similar mechanism for the implementation of a quota system with double paying. They participated in a challenge of the city of Arnhem to make proposals for a sustainable economy in the year 2050. The project is called 'Eco-Balance' and they also made an exhibition for the Future City Festival 2012 and the Dutch Design Week 2013. It consisted in a dinner table with many products that have two prices: a Euro price and a footprint price. Spanish tomatoes were cheap, but their footprint was large, while locally grown tomatoes have a small footprint but are more expensive. At the exhibition visitors could compile their own meal and measure its impact. Since the footprint budget for each individual is limited by the amount originally allocated to them, people were expected to choose products and services that are competitive both in Euros and footprint currency units.

Further readings:

"Balansgeld – Een vitale economie binnen ecologische grenzen" by Bert Vink (2009), translation: "Balance Money – A vital economy within ecological bounderies". (Download from www.voetafdruk.eu/onzevoetafdruk/quoteren)

"De Ecobalans - Nieuwe waarden, juistschaligheid en de kracht van samen. Arnhem voorbeeld voor de wereld" by Camila Pinzon Cortes, Pepijn Verpaalen and others (2012), translation: "The Ecobalance – New values, optimal scale and the power of together. Arnhem as example for the world". (Download from https://mjvdl.files.wordpress.com/2012/10/manifest-de-ecobalans-energetic-city-2050-definitief-17sept2012-incl-fig.pdf

"The road to global sustainability" by the Dutch Footprint Group (2013). (Download from www.voetafdruk.eu/onzevoetafdruk).

"Change everything: creating an Economy for the Common Good" by Christian Felber (2015).

FOOTNOTES:

13 Spangenberg, J., 2013a. Pick Simply the Best: Sustainable Development is about Radical Analysis and Selective Synthesis, not about Old Wine in New Bottles. Sustainable Development 21, 101–111.

THE CASE FOR REDUCED WORKING HOURS

ANNA COOTE
(PRINCIPAL FELLOW,
NEW ECONOMICS FOUNDATION)

04

The idea that we should all spend less time in paid work attracts increasing interest and debate these days. Some envisage a new standard 30-hour week; others a three-day weekend, additional national (or 'bank') holidays, or lifetime accounts that let people vary their hours across the life cycle. In any event, what is envisaged is spending less time earning money, leaving more time for unpaid work and leisure.

There are plenty of reasons to embrace the idea. The strongest protagonists tend to be parents and caregivers who want a better 'work-life balance'. For example, in October 2017 Germany's IG Metall, the largest trade union in Europe, proposed not only a 6% pay rise for its members, but also a 28-hour week as an option for shift workers and those with caring responsibilities.[1] As a variation on this theme, women argue that it is especially important for men to have more time to share childcare and other unpaid domestic work and that this is the only viable route to gender equality.[2]

Increasingly, workers' organisations are arguing for reduced hours to avoid redundancies as automation cuts demand for human labour. And there are some who see it as a route to more personal freedom, or a way of rebelling against the demands of contemporary economic systems.

Less widely discussed, but arguably more important, is the ecological rationale. This has three main dimensions. First, a genuinely sustainable economy requires a radical cut in resource-intensive production. Quite aside from the effects of automation, it will need a lot less person time. Reducing per capita hours would make it easier to spread a smaller amount of paid work more evenly across the population. This is not a simple equation, of course: we can't count on an extra 30-hour job being created each time three people give up ten hours of paid work. But it would make it easier to reduce unemployment in a post-growth economy.

FOOTNOTES:

1 https://www.reuters.com/article/germany-wages-ig-metall/update-1-german-ig-metall-union-asks-for-more-money-shorter-hours-idUSL5N1LV4D9
2 Coote, A. and Himmelweit, J. (2013) 'The problem that has no name: work, care and time' in Soundings, Issue 54. Lawrence and Wishart, London

Secondly, reducing hours in paid work would release time for living more sustainably. A great deal of resource-intensive consumption is triggered by our busy-ness. We want things that are quick and convenient because we have too little time at our disposal, so we travel by plane or car rather than by public transport, bike, or foot. We buy processed ready-meals instead of preparing food and cooking it ourselves (let alone growing it). We throw away possessions that are worn or broken and buy new ones instead of repairing them. We haven't got time to hire, lend or borrow, so we and our neighbours have the same mountains of equipment in our homes, although we use most of it very occasionally (if at all). Having more disposable time will not change our habits overnight, but it could start to shift our attitudes and priorities. Instead of clinging to life in the fast lane, where we live to work and work to earn and earn to buy stuff we don't really need, we could learn, in our newly liberated time, how to value everyday relationships, places, and pastimes, where collaborative being and doing are more life-enhancing than competitive buying, having, and displaying.

Thirdly, shorter hours imply less pay, which in turn constrains consumption. This is complicated because few people would choose to reduce their income and far too many are already forced to work intolerably long hours to make ends meet. Yet at the same time, we know that people in the rich world consume far more than is good for the planet and most have carbon footprints that are many times bigger than they need to be to achieve a sustainable future.[3] We also know that the life-styles and consumption patterns of those who are well-off generate aspirations among lower income groups, who understandably want things that others already enjoy: holidays abroad, second cars, household gadgets, and so forth.[4] This calls for parallel strategies: for social justice and sustainability.

In the interests of social justice, any move towards shorter hours must be accompanied by efforts to combat low pay. Examples include: a higher minimum wage that is strenuously enforced; obliging employers to publish and progressively reduce pay ratios between high and low earners; a guaranteed minimum income for all, including benefits for children and other dependants; rent controls and regulated tariffs for domestic utilities; robust collective bargaining rights for workers' organisations; and free, universal public services, such as for education, health and social care (which have been called the 'social wage').

However, raising the incomes of poorer groups will also increase their ecological footprint, not least through spending on everyday items such as heating, lighting, and transport, which are both necessary and energy-intensive. In the interests of sustainability, therefore, we must aim to avoid a future where greater income equality means that more people go shopping like the rich, and instead redefine the 'good life' and reach a shared view of how much is 'enough' for everyone.

Anti-poverty measures, as outlined above, will need to be accompanied by measures to limit non-essential and luxury consumption. Examples here include: an overhaul of VAT to shift its burden to unhealthy and luxury consumer goods;[5] heavy restrictions on advertising, especially to children, of non-essential resource-intensive items; and, more radically, individual carbon rationing.

Recent research supports the claim that reduced working time has positive impacts on the environment. It has been calculated, for example, that if the United States followed the same pattern of working hours as the EU-15 (member countries before 2004), it could reduce its energy use by 20%.[6] There is a significant correlation across the OECD between national ecological footprints and average hours per employee: indeed, calculations show that a 1% reduction of work hours per employee will reduce their energy, environmental and carbon footprints more than proportionally – by between 1.2% and 1.3%.[7]

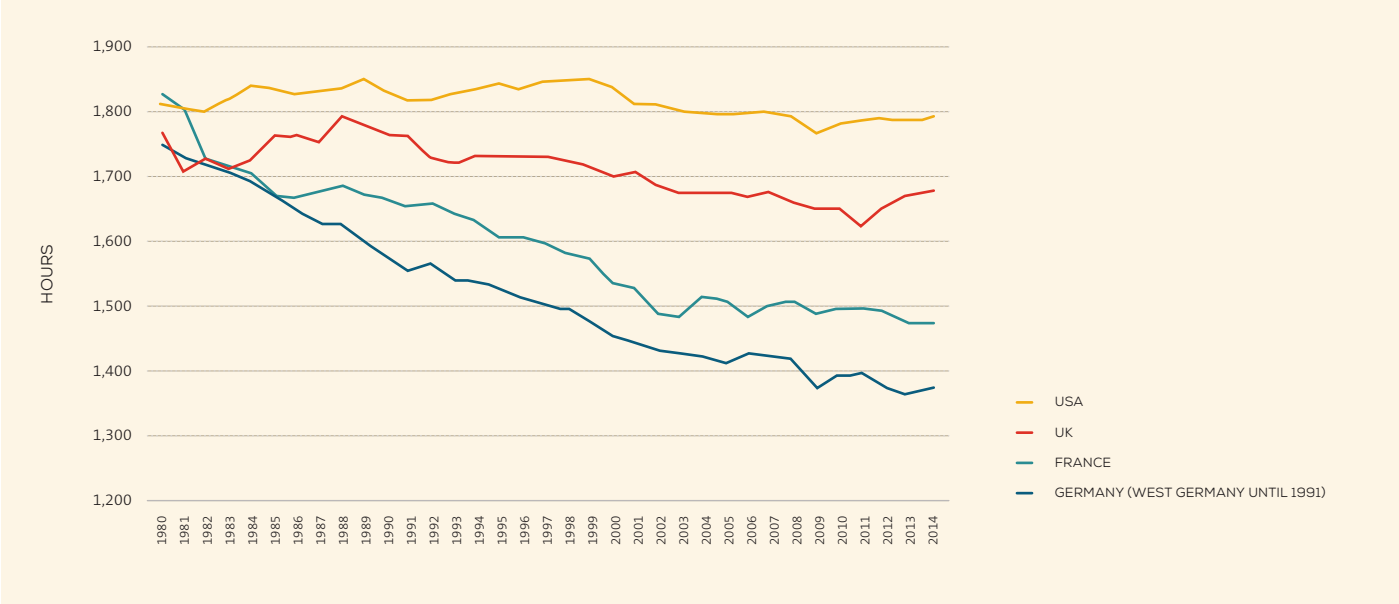
What are the chances of realising a widespread reduction in paid working time? One promising indication lies in the diverging patterns of hours worked in different countries. Figure 1 shows how hours in France and Germany have fallen markedly since 1980, while those in the USA and the UK have hardly changed. What this suggests is that the average length of the working week in any one country is more closely associated with history, culture, and politics than with success or failure in conventional economic terms. The levers for change are not in the lap of global markets, but with people and policy-makers.

"REDUCING HOURS IN PAID WORK WOULD RELEASE TIME FOR LIVING MORE SUSTAINABLY. A GREAT DEAL OF RESOURCE-INTENSIVE CONSUMPTION IS TRIGGERED BY OUR BUSY-NESS."

FOOTNOTES:

3 Gough, I. (2017 forthcoming) Heat, Greed and Human Need, Edward Elgar, Cheltenham
4 Raworth, K. (2017) Doughnut Economics, Penguin
5 Fell, D. (2016) Bad Habits, Hard Choices: Using the tax system to make us healthier. London Publishing Partnership.
6 Rosnick, D. and Weisbrot, M. (2007) 'Are shorter work hours good for the environment? A comparison of US and European energy consumption', International Journal of Health Services, 37 (3) 405-417
7 Knight, et al (2013). 'Could working less reduce pressures on the environment? A cross-national panel analysis of OECD countries, 1970–2007'. Global Environmental Change, 23, 691–700.

FIGURE **4.1** | COMPARING USA, UK, FRANCE AND GERMANY 1980-2014



SOURCE: OECD DATA.

The 40-hour week prevails across many countries today, but several in Europe have lowered the average as a result of legislation or negotiation. France pioneered laws in 1998 and 2000 to cut the standard working week from 40 to 35 hours. Though much criticised and weakened by incentives to work overtime, the principle of a 35-hour standard has not been rescinded in France. Other countries have cut working time via collective negotiations, including the Netherlands, Denmark, Norway, Belgium, and, in some sectors, Germany. The EU has a directive that stipulates a 48-hour maximum working week (although Bulgaria, Cyprus, Estonia, Malta, and the UK opt out of it).[8] The recession following the 2008 crisis has boosted variants of reduced working time in several countries, notably Germany.[9]

Inevitably, there are objections. I have debated the case for shorter paid working hours in many different countries and settings, and two main counter arguments arise. One is that it will impede economic growth and competitiveness. However, OECD data comparing average hours worked and GDP per capita in different countries shows no correlation between longer working hours and higher GDP. Most studies show that reducing hours of work improves hourly productivity and it is productivity that mainly determines national competitiveness, not total output. This means that the carbon savings from reduced working time will be somewhat less than shown in studies that assume no such productivity effect – but they will nevertheless be substantial. In any case, the argument is futile if we accept the persuasive evidence that continuing economic growth in the rich world is incompatible with ecological sustainability.[10]

The other, more challenging argument is that it will intensify inequalities. Low earners would earn even less if they worked fewer hours with a pro rata pay cut. Without measures to combat low pay, such as those outlined above, many would be forced to take on additional jobs, while those on higher earnings would be better able to forgo some earnings to enjoy the benefits of more disposable time. Furthermore, some people have a lot less control over their unpaid time than others, notably parents with young children and people with disabilities.[11] So we must pay attention to inequalities in pay, in time and in control of time and tackle these issues strategically as part of the transition to shorter working hours.

FOOTNOTES:

8 Eurofound (2015), Opting out of the European Working Time Directive, Publications Office of the European Union, Luxembourg.
9 Hayden, A. (2013)'Patterns and purpose of work-time reduction: A cross- national comparison.' In Coote, A. and Franklin, J. (eds), Time on Our Side: Why We All Need a Shorter Working Week. New Economics Foundation.
10 Jackson, T. (2009/17) Prosperity without Growth, Routledge.
11 Burchardt, T. 'Time, income and freedom' in Coote, A. and Franklin J. (eds) (2013) Time on our Side: Why we all need a shorter working week, New Economics Foundation, p.69-82.

How could the transition be brought about? It would preferably be gradual (over ten years or more) to encourage a shift in perceived norms, underpinned by government regulation. During this time there would need to be a parallel campaign to reduce inequalities, not only through measures to combat low pay, but also by redistributing unearned income (for example, from rents, inheritance, and financial transactions).

Where automation threatens redundancies, workers should be able to reduce their hours without loss of pay, especially where they are on below-average earnings. In all work places where there is an annual pay review, there should be an option to trade in part or all of a future wage increment for a reduction in hours. No one would suffer an actual pay cut, and over time it could help to re-shape aspirations, as progression at work becomes associated with earning more time rather than just more money. There are two caveats here. One is that it will be much harder to shift the consumption patterns of higher income groups (which are also the most resource-intensive) without constraints on unearned income. The other is that lower income groups may be less willing to take up this option, widening the gap between those who have more time and money and those who have less of both. These problems underline the importance of tackling inequalities at the same time as reducing paid working hours, to ensure that outcomes are both fair and sustainable.

There are two further measures that could contribute to a gradual transition. Older people could be encouraged to reduce their paid working time by one hour per week each year. So if, for example, they begin this process at 55, when working 35 hours a week, they could reach 30 hours by 60, and even 20 hours by 70 for those who choose to work beyond the standard age of retirement. At the same time, change could be introduced at the other end of the age scale by encouraging young people entering the labour market for the first time to opt for a 30-hour week, or its equivalent in hours spread across the year. Each year new cohorts would add to the numbers on shorter hours so that over time it becomes the new 'normal'.

These measures would require some legislation – for example, the right to request shorter hours that employers are obliged to accept with only limited exceptions. There would also need to be statutory limits on overtime as well as laws to prevent discrimination against workers on shorter hours.

Where there are statutory provisions, it is important that they allow as much flexibility as possible. The French experience is instructive. When the 35-hour week was first introduced by law in France in 1998, it was widely popular, especially among parents of young children. It became a lot less popular after 2001, when a second law gave employers more control over how workers used their time. As I have noted, the 35-hour week has not been abolished in France, but politicians have continued to chip away at it, claiming they want to boost growth and purchasing power.[12] They would doubtless have encountered stronger resistance if workers had retained the flexibility they enjoyed under the 1998 law.[13]

The move towards shorter paid working hours has a long history, marked by such events as the UK Factory Act of 1803 that called for a 12-hour day, the US May Day march in 1886 that launched the campaign for an 8-hour day, and the report of the International Labour Organisation that called for an 8-hour day and became part of the 1919 Treaty of Versailles. The great British economist John Maynard Keynes famously predicted in 1930 that by the 21st century there would be an age of leisure and abundance, where no-one would need to work for more than 15 hours a week.[14] He underestimated the strength of capitalism's accumulative urges and its hegemonic power, which have brought us to this point where money and things have such strong appeal that they seem to override our concerns for human wellbeing and the finite boundaries of our planet.

My more cautious estimate is that, in spite of set backs, the trend will continue and that something equivalent to a 30-hour week is achievable within a decade. But this will depend on building popular support, which in turn depends on how far people feel able to control their time in ways that make it easier, rather than more difficult, to meet their needs and flourish.

Pressures for change will have to come from the top down as well as from the bottom up. The former will include measures that encourage the trend by redesigning incentive structures for employers to make shorter hours more attractive to them, as well as offering flexible arrangements that suit the diverse needs of employees and the work regimes of different kinds of employing organisations. At the same time, trade unions and other civil society organisations have a crucial role to play in pressing for jobs with shorter hours and decent pay and conditions, while raising awareness about the need for much greener patterns of consumption.

A range of schemes may work better than simply a specified reduction in hours per week: for example, job-sharing, term-time shifts, sabbaticals, long weekends, work compressed into three 10-hour days. All these could be offered as part of the move towards more humane and equitable working conditions, and more sustainable living.

FOOTNOTES:

12 See for example http://www.reuters.com/article/us-france-sarkozy-work/sarkozy-plans-new-blow-to-french-35-hour-work-week-idUSL3035802820071130
13 Meda, D. (2013) 'The French experience' in Coote, A. and Franklin, J. Time on Our Side op cit.
14 Keynes, J.M. (1930) Economic Possibilities for our Grandchildren, National and Atheneum, London.

WELL-BEING

SUFFICIENCY IN BUSINESS STRATEGIES

ANDRÉ REICHEL
(PROFESSOR OF INTERNATIONAL MANAGEMENT & SUSTAINABILITY, INTERNATIONAL SCHOOL OF MANAGEMENT)

05

5.1 INTRODUCTION

Sufficiency as one of three sustainability-oriented strategies—the others being *efficiency* (relative reductions of energy and material use) and *consistency* (recycling, re-use and circular economy)—is often spelled out from a consumer perspective.[1] From there it is all about *consuming differently* and, most importantly, *consuming less*.[2] Sufficiency presents us with the question: how much is enough? However, individual consumer decisions are taken within a political-economic environment consisting of legal regulations and specific products and services offered by companies. Placing all responsibility for living a lifestyle of sufficiency on the consumers might prove to be both too much responsibility as well as being not feasible in the first place. Unless industrial strategies at the macro-level (i.e. regulations) as well as on the micro-level (i.e. corporate actions) are evolving towards sufficiency, the question of using just enough cannot be addressed in a meaningful way.

5.2 MACRO-LEVEL INDUSTRIAL POLICIES FOR SUFFICIENCY

On the macro-level of industrial policies, we have to take a step back and understand what sufficiency can mean politically. Instead of focusing on individual choice and individual ethics, a political perspective re-constructs sufficiency as a mandate for policy makers: to ensure the right to want what you truly want and no more.[3] In other words, it becomes a form of protection from the pull of consumer capitalism, from the need to 'keep up with the Joneses'. When it comes to industrial policy, this right of wanting enough (and no more) can be assured in different ways, some of them connected to the other sustainability strategies, namely efficiency and consistency.

FOOTNOTES:

1 Huber, J. (2000) 'Towards industrial ecology: sustainable development as a concept of ecological modernization', Journal of Environmental Policy & Planning, 2(4), pp. 269–285. Alcott, B. (2008) 'The sufficiency strategy: Would rich-world frugality lower environmental impact?', Ecological Economics, 64(4), pp. 770–786.
2 Xie, C., Bagozzi, R. P. and Troye, S. V. (2008) 'Trying to prosume: toward a theory of consumers as co-creators of value', Journal of the Academy of Marketing Science, 36(1), pp. 109–122. Figge, F., Young, W. and Barkemeyer, R. (2014) 'Sufficiency or efficiency to achieve lower resource consumption and emissions? The role of the rebound effect', Journal of Cleaner Production, 69, pp. 216–224.
3 Von Winterfeldt, U. (2007) 'Keine Nachhaltigkeit ohne Suffizienz: Fụnf Thesen und Folgerungen', vorgänge, (179), pp. 46–54.

Cost-neutral ecological tax reforms that increase the prices of energy and material consumption while at the same time giving tax breaks on labour-intensive services and ancillary wage costs can incentivise a shift in consumption to less ecological footprint while at the same time boosting employment in the service sector. Calculations by the Sustainable Europe Research Institute (SERI) found that, in the case of the Austrian economy, such a policy would ensure high employment and reduced energy and material use even under overall low economic growth.[4] Along the same line of thought, there are calls for 'reducing subsidies that promote environmentally harmful behaviour'. What immediately comes to mind is the lower taxation of diesel fuel as compared to petrol in many European countries: Germany, Austria, the Netherlands, and the UK. But also relaxed taxation on company cars, enabling companies to save on taxes when handing out even premium cars for their employees, prevent a different kind of consumption. Carefully reducing these subsidies can enable a more sufficient behaviour. However, in order to soften negative social side effects on low-income groups, subsidies need to be at least partially transferred to them in some form of tax breaks.

This leads us to another promising form of sufficiency-oriented industrial policies. *Tax breaks on public transportation* (in most European countries this would be the VAT on tickets for buses, trams, and trains) would change relative prices between individual mobility focused on cars, regardless if propelled by petrochemical fuels or electricity, and public mobility. This strategy most likely is easier to implement than tax increases on petrol and diesel and could work well with a reduction of environmentally harmful subsidies. A fascinating idea that is currently discussed in Sweden is *tax breaks on repairs*. While most of the policies we discussed so far had a link between sufficiency and efficiency, this policy links to consistency (i.e. circular economy). Tax breaks on repairs would make it attractive to keep products longer in use for consumers but also create a push on producers for long-lasting, reparable products that, in turn, could probably be priced more. Tax breaks on repairs would also strengthen local initiatives like repair cafés or 'makerspaces' which would then also have an impact on social aspects of sustainability, strengthening local communities, and building social capital.

Aside from taxes as a market economic approach to increasing sufficiency, *hard regulations* like the German Circular Economy Law and the Electrical and Electronic Equipment Act can create another push effect, forcing companies directly to change product design, use of input materials, handling of waste material, and re-use/recycling of material.[5] These regulations focus mostly on material efficiency and incentivise so-called eco-effectiveness (i.e. harmonising the use of material resources with natural resource cycles) instead of eco-efficiency. Material efficiency, the reduction of use of input material and the increase in re-using material that is already in the economic process, is a rather charming way to nudge companies towards more sufficiency and make do with less. How this plays into issues like the rebound effect, using savings on material or energy costs to consume and produce more, remains to be seen.

Finally, *reforming laws on competition* can also enable and strengthen lifestyles of sufficiency by changing the rules for companies in markets. Until now, negative environmental externalities of production are not part of laws on competition. If a company causes environmental damage that is not covered by an environmental law, it has no obligation whatsoever to reduce this. This could be changed if our current laws of competition would be amended to mark any competitive advantage due to negative externalities as 'unfair competition'. The burden of proof would rest on the company. At the same time, collusions between producers and consumers to enhance ecological sustainability should be allowed. Such an ecological collusion would allow consumers to be relieved of having to buy too many products when it comes to ecological footprint, while at the same time producers could reduce their production capacity and optimise cost structures without fear of a competitor out-producing and out-selling them.

All of these macro-level industrial strategies have of course an impact on the micro-level and what companies are doing 'on the ground' when it comes to sufficiency.

5.3 MICRO-LEVEL CORPORATE ACTIONS FOR SUFFICIENCY

Until recently the notion of sufficiency as a corporate strategy would have seemed rather strange. Producing and selling less appears to be at odds with mainstream business logic. However, there is a growing body of work studying companies that make do with less. It has to be noted that sufficiency on the micro-level of corporate actions does not necessarily mean that those companies pursuing sufficiency strategies are less profit-oriented. They could also aim to take over the market with services substituting for products, thus both increasing their own sales and value added while at the same time reducing sales and value added in the market or industry itself. The success of Uber might be a good example. Uber is pricing out competitors in the classical taxi business, thus transferring their market shares to itself, leaving Uber with a higher value added than

FOOTNOTES:

4 Stocker, A. et al. (2014) 'A low growth path in Austria: potential causes, consequences and policy options', Empirica, 41(3), pp. 445–465.
5 Ongondo, F. O., Williams, I. D. and Cherrett, T. J. (2011) 'How are WEEE doing? A global review of the management of electrical and electronic wastes', Waste Management, 31(4), pp. 714–730. doi: 10.1016/j.wasman.2010.10.023.

each individual competitor had before. Given the lower prices of Uber's business model, however, the entire value added in the market is lower than before. And given that Uber cars are better utilized than the taxis before, Uber can deliver the same service with fewer cars. Of course, there is the open question of rebound effects and if people now use more of the service than before. This cannot be answered here but the example might show that sufficiency can also be a very aggressive strategy for companies when it comes to competition in the market place.

On a corporate level, sufficiency is not just about producing and selling less physical products and having less ecological footprint; it first and foremost means to provide those kinds of products and services that enable consumers to live a lifestyle of sufficiency. It is all about reducing energy and material use on the consumer side in an absolute manner, including prevention of the rebound effect. A corporate strategy with a focus on sufficiency is intended to help consumers to make responsible choices and thus turns the company into a partner for sustainability. In general, companies can aim to maximise material and energy efficiency; create value from waste; substitute with renewables and natural processes; deliver functionality rather than ownership (sharing solutions).[6]

Connecting to the industrial policy of tax breaks for repairs is the strategy of *extending product life, ensuring repairability and encouraging re-use*.[7] In the clothing industry, Patagonia is one prime example here. As a producer of outdoor clothing it ensures via cooperations with iFixit and eBay that consumers can either repair clothes themselves or resell the product through an established marketplace. Its marketing campaign from a few years ago 'Don't buy this jacket' shows a new form of 'non-marketing' that is aimed at making consumers reflect about their choices. This sufficiency approach is thereby rather competitive, it aims to direct consumer demand to one source in order to build market share on the back of competitors. Another example that comes up many times when talking about sufficiency is Fairphone. Starting as a foundation-based project, in effect a civil society initiative, to prove that smartphones can be built in a more eco- and socially-friendly fashion, Fairphone developed into a company designing and selling smartphones on an industrial scale. While the first generation of Fairphones had their focus on supply chain issues, the second generation introduced a modular concept where consumers can replace broken or outdated parts of the smartphone without the need to buy a new one. The recent introduction of a new camera module proves that point.

A second sufficiency-oriented strategy is *dematerialisation* and *tertiarisation* of products into services. What immediately comes to mind here are examples from the *sharing economy*. We have to clarify this notion, as it has become something of a buzzword with lots of potential for reducing ecological footprint, yet also great uncertainty if it can truly deliver.[8] The predominant feature of the sharing economy and its business models and applications is not sharing alone but ensuring access to a product that you do not have to necessarily own. Of course you can own the product and let others use it, like your private rooms through AirBnB, but the focus here is on providing safe access and use for both sides. While the sharing economy is predominantly commercially oriented, with services provided by profit-oriented companies in formal markets, the commons economy is a different concept. Going back to Elinor Ostrom, the commons economy is based on bottom-up, localized, and democratic organisation of ownership, access, and use of common-pool resources.[9] The sharing and commons economies are joined with each other through the idea of access and the lack of focus on individual ownership; but the commons economy is predominantly community-oriented and works beyond formal markets. The boundaries between the two are somewhat fluid and ideas cross freely, mostly from the commons to the sharing realm. Carsharing is a good example here that started out as a civil society initiative more than thirty years ago and, since the last eight years, has been introduced in the mobility market by automotive manufacturers like Daimler (car2go) and BMW (DriveNow). While these kinds of sharing solutions are focused on the business-to-consumer market, we can see similar approaches on the business-to-business market as well. Another example focusing more on services than physical products themselves is Kyocera and their office copier branch. Kyocera's printers are durable and equipped with easy recyclable toner cartridges and come with a copy management service package helping their customers to save paper and energy while using their products. The business strategy here is to shift value added from the physical product itself towards the services around the core purpose of the product, in Kyocera's case providing high quality printing at low costs, material use, and energy consumption.

FOOTNOTES:

6 Bocken, N. M. P. and Short, S. W. (2016) 'Towards a sufficiency-driven business model: Experiences and opportunities', Environmental Innovation and Societal Transitions, 18, pp. 41–61.
7 Gelbmann, U. and Hammerl, B. (2014) 'Integrative re-use systems as innovative business models for devising sustainable product–service-systems', Journal of Cleaner Production.
8 Heinrichs, H. (2013) 'Sharing economy: a potential new pathway to sustainability', Gaia, 22(4), p. 228.
9 Ostrom, E. (2010) 'Beyond markets and states: polycentric governance of complex economic systems', The American economic review, pp. 641–672.

Taken together, both avenues for corporate sufficiency actions are requiring a stronger connection between producers and consumers, turning a market relation into something like a learning relation. Sufficiency products and services need to be accompanied by a communication strategy that teaches consumers how to use them, what benefits they can get from them, and also what kind of knowledge and skills they need in order to e.g. repair and re-use them. This calls for a shift in the industrial marketing logic, from creating consumer needs to creating consumer awareness, understanding, and skills to use products and services for increasing their own sufficiency. Christian Felber's economy for the common good might factor into that need, especially when we focus on its core as a more holistic form of accounting for ecological and social value added of economic activity.[10]

"SUFFICIENCY IS NOT AS STRUCTURALLY COMPATIBLE WITH THE EXISTING MARKET LOGIC AS ECO-EFFICIENCY IS. SUFFICIENCY FORCES BUSINESSES TO THINK HOW TO MAKE DO WITH LESS AND STILL BE ECONOMICALLY SUCCESSFUL."

5.4 CONCLUSION

Sufficiency is the hard case of sustainability. It is not as structurally and ideologically compatible with the existing market logic as efficiency, which always allows for growth through becoming better at what you are doing. Sufficiency, quite on the contrary, forces you to think how to make do with less and still be economically successful. As efficiency runs into serious limitations due to the rebound effect (i.e. that every efficiency increase acts like a price decrease and thus stimulates growth that might offset the efficiency gains), true sustainability can only be achieved if sufficiency as both macro-level industrial policy as well as micro-level corporate action becomes part of the equation. Taken together, eco-efficiency and sufficiency might deliver what can be termed 'double decoupling'[11]: decreasing the material and energetic requirements of economic growth (eco-efficiency), while at the same time delivering more prosperity with less economic growth (sufficiency).

FOOTNOTES:

10 Felber, C. and Maskin, E. (2015) Change everything: creating an economy for the common good. London: Zed Books.
11 Göpel, M. (2016) The Great Mindshift. Cham: Springer International Publishing (The Anthropocene: Politik—Economics—Society—Science). Available at: http://link.springer.com/10.1007/978-3-319-43766-8 (Accessed: 26 September 2017).

SUFFICIENCY IN SUSTAINABLE LIFESTYLES

SYLVIA LOREK
(CHAIR, SERI GERMANY)

06

6.1 INTRODUCTION

It is constantly highlighted in sustainability debates that unsustainable consumption and production patterns of the global consumer class are the major cause of social and environmental problems. Research proves that planetary boundaries[1] set the limits not only for what is available to consume in the long run but already now. In addition there is proof that societies work better if they are based on democracy and score highly on equality.[2] This calls for facilitating a limited and fair share of the planet's resources for all people on earth. What is required to reach this are changes in the economy, the infrastructures serving our daily lives, the dominant consumer culture, as well as the institutions and power relations which underpin the status quo.

Truly sustainable consumption, therefore, must consider the resource consumption patterns of industries, governments, households, and individuals. In addition to the physical throughput, it also takes into account the social aspects of, for example, labour rights, sustainable livelihoods, and an equal access to and distribution of resources.

6.2 THE PROBLEM

Nevertheless, the majority of policies and initiatives in the name of sustainable consumption still focus on changing a few unsustainable habits and products here and there. The core of our problems is that the hegemonic narrative on sustainable consumption takes the current consumption levels as given and proposes to satisfy them with fewer resource inputs. The concepts of free choice and consumer sovereignty in the market economy are the foundations of this narrative. Governments, but also the majority of research institutions and civil society organisations, emphasize their respect for these principals and point out that market economy systems (as currently structured) need to constantly increase consumption in order to sustain the economy, specifically full employment. Thus interventions are carefully calibrated to address environmental problems while not slowing down the economy. But this reduces the ambitions of fostering

FOOTNOTES:

1 Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E., & Nykvist, B. (2009). Planetary boundaries: exploring the safe operating space for humanity. Ecology and society, 14(2).; Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin III, F. S., Lambin, E., & Nykvist, B. (2009). Planetary boundaries: exploring the safe operating space for humanity. Ecology and society, 14(2).

2 Pickett, K., & Wilkinson, R. (2009). The Spirit Level: Why more equal societies almost always do better. London: Allan Lane

sustainable consumption to merely achieving 'sustainable consumer procurement'.[3] The availability of environmentally or socially superior products in markets and the provision of relevant information to consumers can only be a starting point, because most decisions about sustainable or unsustainable consumption paths take place hidden from the consumers' sphere of influence, making individual sustainable lifestyles less and less possible. Changes in communication technologies, global finance and trade have developed a remarkable influence on the sustainability of consumption long before the consumer ever makes a choice. A similar situation is found with demographic and gender roles that induce shifts in employment and time allocation with remarkable consequences for patterns of household consumption.

6.3 THE SURPLUS OF A SUFFICIENCY PERSPECTIVE

The sufficiency concept and its practical implementation bring fresh wind into the debate. Compared to the state of the art, the sufficiency approach provides a valuable alternative because it is explicitly concerned with the reduction of consumption and 'living well on less'. Sufficiency recognises that we have to limit what is produced and consumed in absolute terms. Opportunities for sufficiency include radical changes, social innovations, and thinking out of the box. It recognises consumers as responsible citizens while also accepting the social embeddedness of behavioural decisions. Additionally, it strengthens social developments to perceive well-being as independent from material commodities and to increase human well-being through convivial activities.[4]

This may to some extent create the impression that sufficiency is about voluntary personal sacrifice. Yet, this would be to misinterpret the concept. While personal values (as well as cultural and societal ones) do indeed play a vital role in sufficiency, the focus instead is on the structural changes that are required. This is important because resource consumption avoided through individual acts of sufficiency is quite likely consumed by other groups of the emerging consumer class and does not increase the amount of resources available for those who need an increase in consumption the most.[5]

6.4 MOTIVATION

Sufficiency essentially implies being satisfied with less material goods than usually consumed today. Being satisfied is an important component here highlighting that no loss of quality of life is implied on the path towards sufficient consumption. Needs are just to be satisfied in a different way.

Needs are few, finite, and classifiable even if economics constantly tries to mix them up with wants which are infinite and insatiable. Needs include physical (nutrition, health, shelter) and non-physical ones (subsistence, protection, affection, understanding, participation, idleness, creation, identity, freedom). The modalities for satisfying these needs can be more or less sustainable. Therefore, it is not human needs as such that cause problems of unsustainability, but the consumer culture offered to people as a surrogate.

The sufficiency context opens up possibilities for choosing suitable satisfiers to fulfil needs. It invites to engaging in life from a sense of personal wholeness, rather than an unthinking longing for material acquisition and the mindless accumulation of wealth. As mentioned, in the current paradigm of commodified societies there is hardly an opportunity to live a sustainable (e.g. low-carbon) lifestyle. Therefore, it seems advisable to pursue sufficiency as a matter of the right to self-determination. Sufficiency implies a new level of consumer freedom: not having to buy what is fashionable, and not to have to keep up with the Joneses (or in other countries with the Wangs or the Müllers) allows individuals to focus on their own preferences.[6] Sufficiency means perceiving energy saving behaviours as a question of not buying the wrong products at all (e.g a car or a tumbler) rather than searching for what is promoted as the right one (an e-car or the A+++ appliance). Contrary to widespread belief, this does not imply that sufficiency consumption is per se technophobic, but rather that it is just risk-averse and favors a precautionary principle in our consumption habits and structures.

At the current state of affairs, the right to choose a lifestyle—in particular a frugal one—and the right of citizens in their communities to have places of self-determined non-consumption (or consumption of non-market goods and services), are grossly violated in consumer societies. Putting it this way, the right to have advertising-free zones becomes a civil rights issue, as the city of Grenoble in France has demonstrated.

The importance of social exchange for the emergence and diffusion of sufficiency practices can hardly be overestimated. However, it is also crucial to include social norms (including positive role models) and cultural meanings to address daily routines and change the way 'things are normally done' within the household.

FOOTNOTES:

3 Fedrigo, D., & Hontelez, J. (2010). SCP: An Agenda Beyond Sustainable Consumer Procurement. Journal of Industrial Ecology, 14(1), 10-12
4 Sekulova F. (2016) Sharing in urban and rural context. SCORAI Europe Budapest Workshop Proceedings [https://d-nb.info/1118784332/34]
5 Alcott, B. (2008). The sufficiency strategy: Would rich-world frugality lower environmental impact? Ecological Economics, 64(4), 770-786
6 Spangenberg, J. (2016) Sufficiency, degrowth and sustainable consumption. SCORAI Europe Budapest Workshop Proceedings [https://d-nb.info/1118784332/34]

6.5 EXAMPLES

To be honest we still do not have a concrete idea of how really sustainable consumption or sustainable lifestyles and livelihoods could look like.

Technology might play a role in a sufficiency scenario, at least to win time. The uptake of e-mobility through e-bikes might serve as an example. As a technological innovation they can pave the way for a modal shift in mobility—as long as they indeed replace cars and not ordinary bicycles. The added value of sufficiency is that the quest for a transition is not restricted to solutions possible within the current system, but it actively envisions a systemic change.

Fortunately countless people have already started on such transition paths by, for example, engaging in local food co-operatives or public gardening, provisioning services with explicit sustainable character, participating in neighbourhood centres, and joining alternative currency schemes. They constitute development projects out of which a sustainable global future will grow and inspire a new narrative where a feeling of contentment builds the mental and emotional models for experiencing a good life for everyone and where caring and responsibility, instead of individual self-interest and consumerism, are the underlying values.

Intentional communities such as eco-villages are ranking high on the sustainability scale and they are recognised as a valid possibility to dematerialise individual and community lifestyles. As part of voluntary simplicity, intentional communities are built on the free choice (rather than economic necessity) to limit expenditures on consumer goods and services. They aim to cultivate non-materialistic sources of satisfaction and meaning. Simplifying, self-provisioning and slowing down production as well as consumption processes are common characteristics of intentional communities. Still we have to be aware that even some members of such communities tend to overstretch their fair share of resources, mainly through high travel patterns.[7] But to strive for sufficiency not only as an individual goal but also as a goal for the community sets us on the right path. Four structural elements appear as important: optimization and resource sharing, reliance on regional products, closing cycles, and responsibility. This holds true also beyond the sphere of intentional communities.

Promoting sustainability by means of localized lifestyles is important for setting examples, for instance in energy production and consumption, food, and housing.

In the context of *housing*, next to the efficiency element of building isolation and the use of renewable energy, limiting the average dwelling floor area per person is promoted as a strong institutional setting from a sufficiency perspective. Flexibility could be introduced by having flats which can shrink to the size needed if the number of people in the household changes overtime, making it easier to maintain and finance a suitable living space in the location and neighbourhood the aging person's are used to. To give another example, new buildings are first designed as vertical villages, limiting private space but offering shared community space for free or for renting. Also financial support for multi-generation houses belongs to some first approaches that experiment with fostering residences of less square meters.[8]

As for energy, a comprehensive approach to reduce consumption was developed by the Swiss initiative for a 2000 Watt society.[9] It aims for a sustained power consumption of 2000 Watt per person (compared to 5400 Watt in 2013) and an output of 1 t CO_2eq per person and year (compared to 7,2 t in 2013). To complement various efficiency activities they explicitly developed and calculated sufficiency instruments for the city of Zürich to reach the goal. Apart from adopting adequate room temperatures in summer and winter and the use of hot water and the purchase and use of electrical appliances, they also explicitly highlight the significant impact of a reduced per capita m² living area on energy consumption.[10]

As for food, a prominent sufficiency example is the well-established Slow Food movement that fosters local food and traditional cooking. The aim is to promote sustainable foods and local small businesses flanked by a political agenda directed against globalization of agricultural products. A more recent phenomenon is represented by the campaigns and activities against food waste.[11] Here sufficiency is to be achieved though better planning and only buying what is needed or in the case of leftovers donating to others in need. However, at least in initiatives launched by public authorities people are not explicitly asked to restrain themselves, possibly because policy does not want to appear to dictate 'appropriate behaviours' or because otherwise retail and restaurants may not have become engaged. Also important is the movement for less meat, and the promotion of a vegetarian or vegan lifestyle. These developments are crucial to stop the climate disruption and water shortage.

FOOTNOTES:

7 Simon, K.-H. and H. Herring (2003). Intentional Communities and Environmental Sustainability. In: Christensen, K. and D. Levinson (eds) Encyclopedia of Community – From the Village to the Virtual World. Sage Publications. (Vol 2, p. 690-693).
8 Lorek, Sylvia & Spangenberg, Joachim (2017). Stocktaking of social innovation for energy sufficiency. EUFORIE - European Futures for Energy Efficiency
9 2000 Watt Society Initiative [https://www.stadt-zuerich.ch/portal/en/index/portraet_der_stadt_zuerich/2000-watt_society.html]
10 Pfäffli, K. (2012). Grundlagen zu einem Suffizienzpfad Energie - Das Beispiel Wohnen. Stadt Zürich - Amt für Hochbauten.
11 https://www.lovefoodhatewaste.com/

6.6 SHARING ECONOMY AND NON-MARKET ACTIVITIES

Whether in food or housing, sharing rarely used appliances or mobility intuitively appears as an activity that contributes to sufficiency. Couchsurfing, apps to give away left over food, or the sharing of cars are prominent examples. But not everything that comes under the name of 'sharing' fits sufficiency criteria, as the case of Airbnb demonstrates. Therefore, mainly non-commercial sharing can lead to sufficiency. This is the case if resource savings are not directed towards increasing consumption elsewhere. In these cases trust, cooperation and social capital seem to be strongly tied to sharing, while being simultaneously drivers and consequence of it.

This brings us to another important aspect. Sufficiency solutions reach beyond consumption as an economic activity occurring in markets based on monetary values. It subsumes a lot of work such as caring and supply, housekeeping and education, voluntary and community activities, and so on, which is carried out beyond the market. For example, it also reflects the way time is used on activities like neighbourhood exchange, community, or subsistence work and involves social dimensions as it helps to integrate, for example, questions of social coherence or gender issues. Sufficient consumption explicitly regards people not only in terms of their function as consumers, but as citizens as such. In this sense, it is also directed towards sustainable lifestyles.

Sufficiency appreciates the fact that well-being to a large extent is generated outside markets via household production and voluntary work. Through these social components sufficiency helps to generate resilience at the community level.

> "SUFFICIENCY IMPLIES BEING SATISFIED WITH LESS MATERIAL GOODS THAN USUALLY CONSUMED TODAY. BEING SATISFIED IS AN IMPORTANT COMPONENT HERE HIGHLIGHTING THAT NO LOSS OF QUALITY OF LIFE IS IMPLIED."

6.7 POLICIES

While sufficiency often is still interpreted as an individual approach, the idea of sufficiency has to be seen as an organising principle for society and as a *leitbild* for transformation. To fulfil this, sufficiency policy solutions have to be desirable on both the macro and the micro/meso level. In some cases when learning from old solutions the cultural heritage may provide enlightening ideas, although usually not blueprints to copy. The Transition Town movement or the already mentioned Slow Food movement may serve as orientation.

More practical for concrete policymaking is to keep in mind that especially investment choices have long-term implications. Provisioning systems that meet essential social needs such as food, energy, housing, and mobility rely on costly and long-lasting infrastructure. Supporting agro-business undermines a flourishing of small and local food provisioning. Building highways serves auto-mobility while bicycle lanes are still a stepchild of urban planning and so on. This makes it essential to avoid investments that lock society into unsustainable solutions, and thereby limit innovation or hinder investments in substitutes.

To advocate in favor of sufficiency-based consumption, NGOs have to stop appealing to consumerist and materialistic values and conceptual frames (e.g. economic growth) for short-term gain, knowing that these tactics create long-term harm by reinforcing a culture of materialistic consumerism.[12] They have to campaign for sustainable lifestyles while rejecting existing modes of advertising and media promotion of wasteful and materialistic living.[13]

NGOs are legitimate and trusted agents to engage and provide opportunities for a wide participatory dialogue around sufficiency. Change agents can be found at all levels and cooperating actively may sow the seeds of a new economy. Such individuals and organisations require support for their innovations to spread and to become institutionalized.

Striving for living well within limits should be high on the agenda for our consumer societies. The earlier we start the less restrictive the limits will be and the more likely it is that living well is still possible in the long term. Whether under the term 'environmental space',[14] 'doughnut economics',[15] 'consumption corridors',[16] or 'prioritising well-being on a finite planet',[17] societal concepts for sufficiency lifestyles are under construction. Such concepts are meant to pave the way for policies like fair rationing or quotas to quicken the development towards sustainable lifestyles.

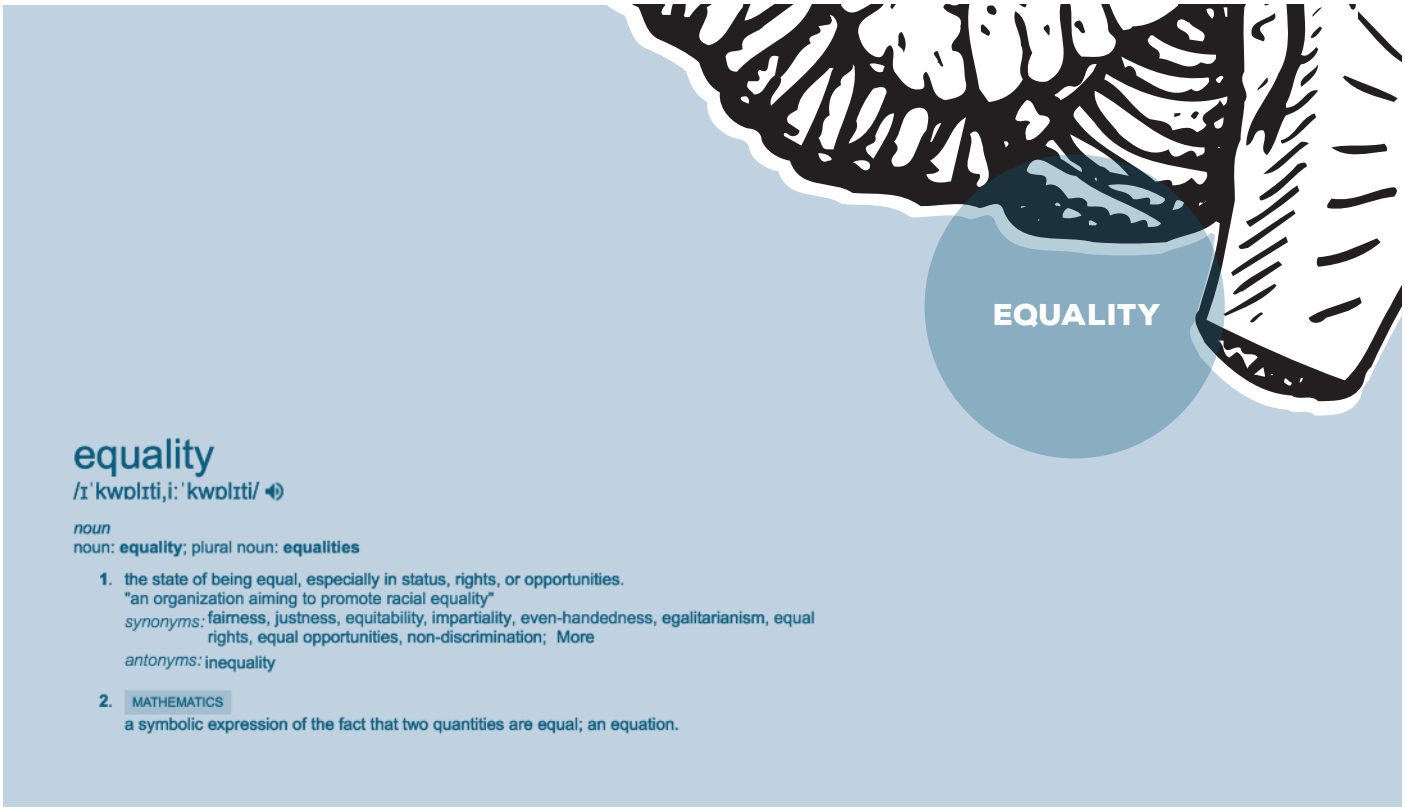
FOOTNOTES:

12 WWF-UK. (2008). Weathercocks & Signposts - The environment movement at a crossroads. Surrey, UK: WWF. WWF-UK. (2009). Simple and painless? The limitations of spillover in environmental campaigning. Surrey, UK: WWF.
13 http://www.smart-csos.org/
14 Spangenberg, J. H. (Ed.). (1995). Towards Sustainable Europe Luton/Bedfordshire: Friends of the Earth Publications
15 Raworth, K. (2017). Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist. Chelsea Green Publishing.
16 Di Giulio, A., & Fuchs, D. (2014). Sustainable Consumption Corridors: Concept, Objections, and Responses. GAIA, 23(1), 184-192
17 Prioritising well-being on a finite planet [https://wellplanetmanifesto.wordpress.com/]

APPROACHING SUFFICIENCY IN THE GLOBAL SOUTH

MANU V. MATHAI
(ASSISTANT PROFESSOR, SCHOOL OF DEVELOPMENT, AZIM PREMJI UNIVERSITY)

07



7.1 INTRODUCTION

The report of the World Commission on Environment and Development (WCED) holds a reputation of saying many things at the same time. Commentators have argued that its ambiguity was necessary to wade through and survive the contentious politics that surround questions on development and the environment. Illustratively, the report asserted that 'growth has no set limits in terms of population or resource use beyond which lies ecological disaster.' But soon thereafter, concluding the same paragraph, it notes: 'But ultimate limits there are, and sustainability requires that long before these limits are reached, the world must ensure equitable access to these constrained resources and reorient technological efforts to relieve the pressure'.[1]

However, emergent environmental governance was, and continues to be, less ambiguous. Bound to ideas of *progress, modernisation, development, and economic growth*, that are deemed non-negotiable, it emphasised 'reorienting technological efforts' to tease out efficiencies in energy and material use across sectors of the economy. This technological optimism obfuscated (intentionally or otherwise) the necessity of political negotiations among diverse values, classes, castes, and interests for pursuing sustainability. As this report and other publications make clear, the techno-economic and managerial emphasis, broadly under the rubric of 'ecological modernisation' strategies, while useful in increasing efficiency, are inadequate when confronted by demands of finding greater fairness in human well-being outcomes within the constraint of limited ecological space available for human appropriation. In fact, despite decades of ecological modernisation and economic growth, critical planetary boundaries have been breached, even as inequality has been exacerbated and destitution and disempowerment persist.

This is the burden of contemporary politics across policy domains. It cannot be shunted over to the promise of technological fixes decided by 'free-markets'. It is of necessity first a political contest to craft social relationships in which the salience of a hegemonic, individual-centric, idealised modernity, and open-ended competitive accumulation are vastly diminished.[2] It calls for creativity and enterprise in the realms of politics, economics, and culture to loosen the grip of this political economy. It also calls for engaging public policy first at its normative and discursive levels.

FOOTNOTES:

1 World Commission on Environment and Development (1987), New York: United Nations. p. 45.
2 Polyani, K. (2001 [1944]). The Great Transformation: The Political and Economic Origins of Our Time. 2nd Ed. Boston, MA: Beacon Press. Escobar, A. (1995). Encountering Development: The Making and Unmaking of the Third World. Princeton, NJ: Princeton University Press. Dale, G., Mathai, M.V. & Puppim de Oliveira, J. A. (2016). Green Growth: Ideology, Political Economy and the Alternatives. London and New York: Zed Books.

7.2 USING THE VOCABULARY OF THE CAPABILITY APPROACH

The Human Development and Capability Approach (abbreviated as CA) is a valuable framework for our investigation. The basic formulation of the CA is that the purpose of the economic system is to aid in the advancement of a specific goal: expanding the freedom to realise states of 'being' and 'doing' that individuals have *reason* to value.[3] Going beyond the poverty of the basic needs approach, the CA introduces a capacious notion of *ends* into conversations about development. What is economic development? Merely the promise of more food, or more clothes, or more vehicles, or more choices[4] does not legitimise an economic arrangement. Instead the value of more goods and services is made contingent, within this framework, on them advancing freedoms that individuals have reason to value.

The basic challenge confronting policies in pursuit of sufficiency is that capitalism as an economic arrangement has no notion of ends that individuals have reason to value. The logic of open-ended competitive accumulation is an end in itself. In such a context, scrutinising economic arrangements in terms of 'valuable beings and doings' has the potential to guide them in relation to the pursuit of concrete goals, as opposed to an open-ended pursuit of more. It introduces the space to ask how much is sufficient for me/us to live the life that I/we have reason to value.[5]

The practical question then is how and where this question can be asked. It is easy to see how such reflection plays out at the level of the individual and perhaps also at the level of a family or a small intentional group. But what about a neighbourhood, or town or city and beyond – society at large – knowing as we do that all such venues are today situated on an expansive substrate of open-ended competitive accumulation? For example, even if individuals are keen to use public transport for commuting in cities, they might find themselves in an urban ecosystem geared toward mass private transport options, making high-mass consumption the default option at the expense of shared public infrastructure, public spaces, and sufficiency.

The opposite could also be true: individuals might have reasons to value and pursue private modes of transport, notwithstanding what is available in the public sphere.

While the CA offers a useful vocabulary for moving toward sufficiency, it is clear that the freedoms and the reasons to value them have to be derived through a larger democratic deliberative process. It has to recognise the primacy of what Polanyi defined as "abundant freedom for all".[6] It is at such venues that we come face-to-face with our collective, shared destiny. It is then that shared norms of collective living can be constructed via reflexive accounting of their social and ecological implications. It is also in such commons' spaces that the objective logic of open-ended competitive accumulation that pervade private or state controlled spaces can be surpassed. This is far more complex a process than innovating the latest tech-fix left to free-markets.[7] The fetishisation of the individual[8] needs to be curtailed and memories, experiences, and innovations in the commons and collective life strengthened.

7.3 SUFFICIENCY AND THE GLOBAL SOUTH

Building a policy conversation around sufficiency in the global South has to grapple with a complex reality. A key dimension of this reality is the low (debilitatingly low in some cases, relative in others) level of resource use of the *average* global southerner. For instance, World Bank data for 2013 on CO_2 emissions per capita suggests that the world average was just shy of 5 tons; it was 9.7 tons for OECD economies, while the global South (low and middle income countries) averaged out at 3.5 tons. Speaking in averages, it is difficult to see policy windows for the foreseeable future through which the ruling classes[9] of the global South will forego the advantages (illusory or real) of abundance of commodities, power, and privilege that are taken for granted, despite the financial and economic shocks of the last decade, by the OECD economies. In this regard the ruling classes insist on, and with varying levels of success, have learned from their partners in the OECD. The dramatic case of China and the considerably less dramatic case of India are notable cases in point.

> "THE 'ENVIRONMENTALISM OF THE POOR' CONTESTS VALUES OFFERED BY THE DEVELOPMENT ORTHODOXY. INSTEAD, IT VALORISES LIVELIHOOD SECURITY BY PRIORITISING THE RESILIENCE OF SOCIO-ECOLOGICAL SYSTEMS."

FOOTNOTES:

3 Sen, A. K. (1999). Development as Freedom. New York, NY: Knopf Inc.
4 See John Kenneth Galbraith, quoted in Guha, R. (2006). How much should a person consume? Berkeley and Los Angeles: University of California Press.
5 Mathai, M. V. (2004). Exploring Freedom in a Global Ecology: Sen's Capability Approach as a Response to the Environment-Development Crisis. Presented at the 4th International Conference on the Capability Approach: Enhancing Human Security, University of Pavia, Italy, 5-7th September.
6 Karl Polanyi (1944), The Great Transformation: The Political and Economic Origins of Our Time, Beacon Press [pg. 268, emphasis added]
7 Mathai, M. V. (2012). Towards a Sustainable Synergy: End-Use Energy Planning, Development as Freedom, Inclusive Institutions and Democratic Technics. In Ilse Oosterlaken and Jeroen van den Hoven (Eds.) Human Capabilities, Technology and Design. Dordrecht: Springer.
8 Adam Curtis (2002), The Century of the Self, BBC Documentary
9 Civil society and social movements show less reverence to such considerations. They are already experimenting widely with models of economic and political arrangements that challenge the mainstream. While the strengths and limitations of these initiatives are to be understood and explained, they are representative of a flood of creativity at the grassroots to fashion social relationships beyond the confines of competitive accumulation. See http://www.vikalpsangam.org/

In this reading the creation of policy windows for sufficiency in the global South is influenced heavily by the global North. Creative political platforms, political rhetoric, and actual realisation of absolute reductions in consumption in the global North can build credibility and experience that can then be shared. The degrowth[9] conversation in Europe, albeit not mainstream, is an important start and a good example of this. Yet, government policy in even the most progressive OECD economies on this score are largely invested in ecological modernisation strategies like, say, Germany's brave and technologically brilliant experiment with *Energiewende*. The same spirit, if not the technological sophistication and ambition, are recalled in ongoing Chinese and Indian programs pertaining to renewable energy. Whether such efforts will result in overall reductions required by planetary boundaries is an empirical question to be answered. Our scepticism about the promise of such strategies against urgent constraints of fairness and ecological finitude remains.

The global South is heterogeneous. Significant differences exist in consumption levels between low income, lower middle income, middle income, and upper middle income countries. And more importantly, there are dramatic differences in consumption levels between groups within these countries.[10] Thus a challenge for economies in the global South is to bring all its citizens to a *sufficient* level of consumption that makes the realisation of 'valuable beings and doings' possible. The global South has a tricky manoeuvre to perform. It has to grow for the near future, but must do so without being locked-in to a growth path, increasing concentration of wealth and privilege, and transferring the burdens of resource extraction and degradation onto the same demographic groups that this growth seeks to help. Better targeted economic growth, and growth with effective redistribution are essential for this, as is growth within the rule of law. There is room for this through measures like writing more progressive tax codes, instituting a universal living wage, making health and education universal, quality public services, and effective and timely prosecution of crimes against environmental justice.

An 'advantage' that the global South has vis-a-vis sufficiency is its extant reality of less consumption. Thus, for instance, car ownership is a tiny fraction of what it is in the OECD economies. In this regard the global South can already be read as practising sufficiency, *provided* it succeeds, to continue with the transport example, in making non-motorised modes and public transport the *preferred* mode of transportation. This is far from the case presently. It is the default, but hardly the preferred choice. But that is the challenge. If it can be successfully surmounted, it becomes less a question of transitioning to sufficiency in many sectors, but creatively continuing arrangements that are already characterised by sufficiency.

7.4 SUFFICIENCY AND THE ENVIRONMENTALISM OF THE POOR

The global South has a distinct experience of the post-war development project. While relatively smaller sections of its populations have benefitted immensely from the ensuing industrialisation and urbanisation, large populations within these countries were alienated from socio-ecological realities and arrangements that sustained them. In this respect, experience of development has significant similarities with preceding colonial resource extraction policies. Environmentalism in the global South has been influenced to a higher degree by struggles to stave off threats to livelihood and well-being arising due to alienation from and degradation of socio-ecological realities.[11] Defining environmental struggles like the Chipko movement from the Garhwal region of the Himalayas did not pit preservation of pristine wilderness against degradation. Instead, it was a struggle to assert customary rights of access to a functioning socio-ecological arrangement against the felling of forests to meet industrial demand. Framed as the "environmentalism of the poor,"[12] such struggles contested values and valuations offered by the development orthodoxy. Instead, they valorised practices for livelihood security, collective orientations to social organisation and risk minimisation by prioritising the resilience of socio-ecological arrangements.

There are two possible implications for sufficiency. First, inherent to the 'environmentalism of the poor' is a prioritisation of clearer goals such as livelihoods and well-being, and rights of access to enabling socio-ecological arrangements. This link to a notion of valuable ends offers the possibility to appreciate sufficiency more readily. In contrast, development orthodoxy pays scant attention to valuable ends, and instead focuses on more economic growth as the basic policy orientation. Second, the 'environmentalism of the poor' is inherently participatory and political. Its essential form is one of mobilisation to claim, reclaim, or assert rights to socio-ecological arrangements.

FOOTNOTES:

9 D'Alisa, G., Demaria, F., and Kallis, G. (Eds.) (2014). Degrowth: A Vocabulary for a New Era. New York, NY: Routledge.

10 For example, see the Greenpeace report Hiding Behind the Poor. Available online at: http://www.greenpeace.org/india/Global/india/report/2007/11/hiding-behind-the-poor.pdf

11 This is unlike northern environmental narratives like the influential strain of North American environmentalism concerned with preserving "pristine" nature against the backdrop of rampaging industrialisation and urbanisation.

12 Guha, R. and Martínez-Alier, J. (1997) Varieties of environmentalism: essays North and South. London: Earthscan.

In recent years an effort by civil society groups in India has started recording 'alternatives' under a banner called *Vikalp Sangam* (literally, alternatives confluence). The website[13] records hundreds of stories from a range of sectors across India. An illustrative story on 'environmentalism of the poor' and sufficiency is the case of Swayam Shikshan Prayog (SSP), one of the winners of this year's UN Equator Prize, whose citation notes: "operating at the nexus of nutrition, sustainable agriculture, and gender, Swayam Shikshan Prayog empowers 72,000 women in the drought-prone state of Maharashtra to act as agricultural decision-makers, improving their health, food security, and economic well-being."[14]

SSP's work in the state of Maharashtra demonstrates with clarity how development goals — in this case the empowerment of women, livelihood and income security, and natural resource management through agro-ecology techniques for adaptation to climate change in an arid grassland habitat — are being realised. Rather than prioritising economic growth per se, SSP prioritised empowerment and greater control for women to create their socio-ecological arrangements. From the vantage of sufficiency in the global South, such examples demonstrate the value of (re)creating socio-ecological arrangements that are able to bring economic development to where it is most needed, and to also situate it within ends that individuals and groups have reason to value. They offer the ability to side-step development orthodoxy. But can such local initiatives scale up to bring about systemic change?[15]

> "THE BASIC CHALLENGE CONFRONTING POLICIES IN PURSUIT OF SUFFICIENCY IS THAT CAPITALISM AS AN ECONOMIC ARRANGEMENT HAS NO NOTION OF ENDS THAT INDIVIDUALS HAVE REASON TO VALUE."

7.5 APPROACHING SUFFICIENCY WITHIN INTERNATIONAL RELATIONS

How to live on a shared and finite planet? When faced with this question, we find the practice of international relations is riven with conflicts and contestations across constructed boundaries. Even as our understanding of the environmental crisis points to the need for more shared identities and a collective response, we find environmental governance stymied by narrow "national" interests. Perhaps the iconic image of this was George H. W. Bush's statement before the 1992 Rio Conference: 'The American way of life is not up for negotiations. Period.' This refusal to communicate, to find (or build) shared identities remains with us today, even as the Anthropocene is being acknowledged. Rhetoric of 'Make America Great Again' is met by competing narratives of the 'Chinese Dream'. Neither acknowledges their necessarily shared destiny on a finite planet. Instead each accentuates old tendencies of bolstering differences and competition for power.[16]

This status quo renders international relations to a dog-eat-dog formulation, which impedes sufficiency. Simply put, the size of a country's market is a critical influence on that country's geopolitical standing. The most powerful countries and those that have advanced in geopolitical power and influence most dramatically in recent decades have done so by building economic and political systems to produce and eventually consume more and more. The established, old powers such as those in Europe and North America and the emergent ones like China are illustrations of this. This raises the fundamental consideration of whether successfully addressing the environmental crisis requires the dissolution of nationalisms, more fluid national identities, and greater solidarity among people across boundaries. For the present though, a list of (real or imagined) historical grievances, intense distrust, and manoeuvres to rearrange the geopolitical pecking order preclude these outcomes and, in doing so, preclude sufficiency.

EQUALITY

FOOTNOTES:

13 See: http://www.vikalpsangam.org/article/

14 Retrieved from http://www.equatorinitiative.org/2017/06/28/swayam-shikshan-prayog/ on 17th October, 2017

15 For a more extended discussion of alternatives see the chapters on alternatives to green growth in Dale, G., Mathai, M.V., & Puppim de Oliveira, J.A. (Eds.) (2016). Green Growth: Ideology, Political Economy and the Alternatives. London: Zed Books. Also see Levkoe, C. Z (2012) Book Review. Socialist Studies/Études socialistes. 8 (2), 252-255, for an insightful and critical review of Sharzer, G. (2012). No Local: Why Small-Scale Alternatives Won't Change the World. Winchester, UK: Zero Books.

16 Mathai, M. V. (2013). Will the environment survive international relations? Our World. Available online at: https://ourworld.unu.edu/en/will-the-environment-survive-international-relations

IDEAS FOR SUFFICIENCY

RICCARDO MASTINI & LEIDA RIJNHOUT
(FRIENDS OF THE EARTH EUROPE)

08

8.1 A SUFFICIENCY VISION

The term 'sufficiency' refers to a strategy of introducing hard limitations to unsustainable trends—in particular to overconsumption—plus an emphasis on distributional justice in order for everyone to have access to enough resources to meet their needs.

Sufficiency policy complements the eco-efficiency approach that so far has been the main focus of the sustainable development debate.[1] In order to keep the world economy within planetary boundaries, more must be done than just focusing on eco-efficiency as proponents of 'green growth' have claimed so far.[2] Due to the rebound effects explained by Blake Alcott in his contribution to this booklet, an increase in eco-efficiency does not inevitably lead to a decrease in the use of natural resources and energy in absolute terms. However, a sufficiency approach is not meant to disparage the value of eco-efficiency, but rather it tries to harness its true potential: once sufficiency is accepted as a necessary pre-requisite for sustainability, eco-efficiency is then correctly seen as a tool for affluence maximization.[3] In other words, while sufficiency includes setting an 'ecological ceiling' for the amount of natural resources used by the economy, eco-efficiency aims at generating a maximum of (sustainably produced) goods and services from that capped amount of resources. This is an essential understanding to move beyond the 'gospel of eco-efficiency'.[4]

FOOTNOTES:

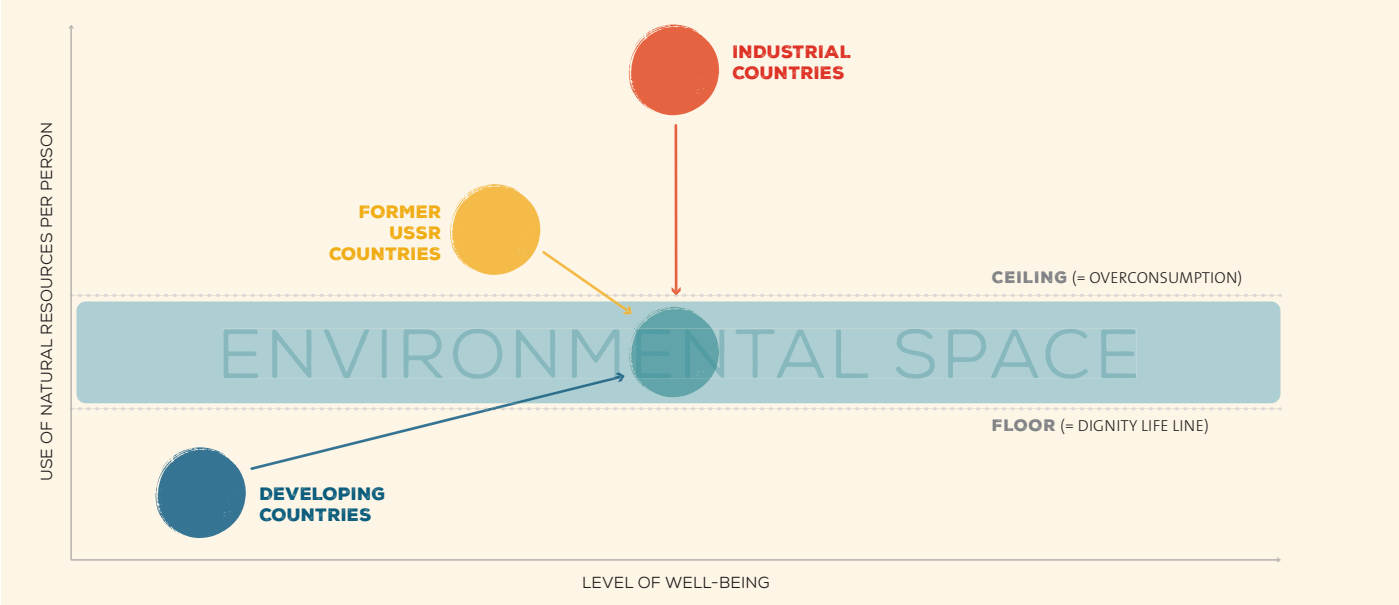
1 FoE Baden-Württemberg, *Ein gutes Leben für alle! Eine Einführung in Suffizienz*, FoE (2017)
2 FoE Germany, „Genug, es reicht!" *Für eine Suffizienzorientierung von Politik, Gesellschaft und Bürger/inne/n*. AGM Resolution (2015)
3 Giorgos Kallis, *In defense of degrowth: Opinions and minifestos*, Uneven Earth Press (2018)
4 Joan Martinez-Alier, *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*, Edward Elgar (2002)
5 George Monbiot, *Too right it's Black Friday: our relentless consumption is trashing the planet*, The Guardian (2017), https://www.theguardian.com/commentisfree/2017/nov/22/black-friday-consumption-killing-planet-growth
6 Paul Wapner and John Willoughby, *The irony of environmentalism: the ecological futility but political necessity of lifestyle change*, Ethics & International Affairs 19.3 (2005)

While embracing environmentally friendly behaviours is a step in the right direction, it must be acknowledged that we are locked in an unsustainable system that encourages overconsumption and limits our ability to pursue low-impact lifestyles. Thus, sufficiency is not predominantly an appeal to consumers, but rather a political challenge, a call for transformative change. As our individual behaviour within the system can bring about only marginal changes, we have to collectively engage in changing our economic model if we want to revert the current ecological overshoot and build a sustainable economy.[5] To this end, personal commitment to 'being the change you want to see in the world' is valuable as it can support social and political actions towards sustainability.[6]

As for poor people in the Global South, it is undeniable that they have a 'right to development'. However, as pointed out by Joachim Spangenberg in the introduction of this booklet, "the majority of the world's poor are now living in middle income countries. As a result, the growth imperative does not apply to countries any longer, but to disadvantaged groups, with redistribution of wealth between the rich and the poor in each country, between countries and between the global consumer class and the rest of humanity a key issue". Hence, the priority should be to enhance material well-being of the poor worldwide while simultaneously reducing global aggregate material throughput. The basic principle of intragenerational equity entails that wealthy households in all countries should consume less to free up the 'environmental space' needed for justifiable consumption increases among the poor.[7,8,9] In fact, at the global level the richest 10% is responsible for almost half of total lifestyle consumption emissions while the poorest 50% is responsible for only around 10% of that.[10]

One way of achieving intragenerational equity is through the principle of 'contraction and convergence'. It consists in reducing the overall use of natural resources to a safe level (contraction), resulting from every country bringing its consumption per capita to an equal level for all countries (convergence). Reducing the resource use of affluent countries opens up the opportunity for the global poor to obtain their fair share of the global commons.

FIGURE **8.1** | CONTRACTION AND CONVERGENCE



FOOTNOTES:

7 William E. Rees, *Wealth redistribution and population management are the only logical way forward*, The Guardian (2017), https://www.theguardian.com/global-development-professionals-network/2017/may/22/wealth-redistribution-and-population-management-are-the-only-logical-way-forward

8 Maria Buitenkamp, Henk Venner, Teo Wams (Eds.), *Action Plan Sustainable Netherlands*. Amsterdam, VMD/Friends of the Earth Netherlands (1993)

9 Joachim H. Spangenberg (Eds), *Towards Sustainable Europe*, A study for Friends of the Earth Europe, Russel Press (1995)

10 Oxfam International, *Extreme Carbon Inequality*, Oxfam Media Briefing (2015), https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/mb-extreme-carbon-inequality-021215-en.pdf

A caveat on this scheme is the fact that it does not consider the 'ecological debt' that exists between the North and the South. This term describes the debt accumulated by Northern industrialised countries towards countries in the Global South on account of resource plundering and use of foreign environmental space to deposit their wastes.[11] There is also strong evidence that the marginal benefit of one more ton of CO_2 emitted increases human welfare of the poor more than of the affluent.[12] Hence, environmental space allocated per capita should take into account historical ecological inequalities.

For the reasons listed above—the limits of eco-efficiency and of voluntary green behaviours, the need to liberate environmental space for the global poor and compensate for the ecological debt between North and South—new policy instruments should be designed to bring about ecological fair sharing and a new economy based on the concept of 'sufficiency'. These instruments should facilitate an equitable downscaling of industrialised countries' environmental throughput, namely the rate at which they process and transform energy and raw materials.[13] And since a constant increase in the transformation of natural resources into goods and services is ingrained in our current economic system, this downscaling will challenge the current economic structures, mechanisms and their legitimacy, in particular the belief in the feasibility of infinite economic growth.

This implies a new direction for societies, one in which they will organise and live differently from today.[14] The sufficiency transformation would entail that people work fewer hours in paid employment, share jobs and services in many cases, and lead more convivial and less materialistic lifestyles overall. Although economic activity would be more localised, the state would have an important role both to limit material and energy use, and redistribute income and wealth.[15] This last one is an essential element of a sustainable and equitable economic system: if we limit GDP growth then the only way to increase the monetary income for the less well-off in society is through a process of redistribution by reducing the income share of the richest and shifting it to the poorest.[16]

Between the unsustainable extremes of overconsumption and material poverty lays fair sharing and sufficiency, which is about using 'enough' for humans to flourish without compromising the stability of the biosphere.[17]

Many new ideas for an economic paradigm shift have been developed and discussed at the academic and grassroots levels in recent years. We want to build on this rich body of knowledge and bring the ideas to the attention of engaged citizens and policy makers in order to advance the debate towards a post-growth economy that can help achieve the sufficiency vision outlined above. In the rest of this chapter we discuss some policies as food for thought for such a socio-economic transition. All these policies are aimed at increasing social well-being while ensuring environmental sustainability. At the end of the chapter we will present an illustrative system model of the causal pathways that link these policies and make clear how from their interaction we can tip our socio-economic system towards more equality and sustainability. While these policies are hopefully a step in the right direction, this list does not have the ambition of being exhaustive.

We recognise that just focussing on any single policy would not result in system change. It is necessary to implement, in parallel, a variety of policy changes to collectively transform consumption and production patterns, legal frameworks, financial instruments, and individual behaviour. Such wide-ranging transformations will encounter various degrees of resistance from politicians, trade unions, NGOs, and particularly businesses. But the multidimensional crises impacting our world call for visionary thinking and a bold societal debate. The goal of Friends of the Earth Europe is to kick-start such a debate by developing alternatives to existing policies, and to keep them alive and available until the politically impossible becomes the politically inevitable.

"WE ARE LOCKED IN AN UNSUSTAINABLE SYSTEM THAT ENCOURAGES OVERCONSUMPTION AND LIMITS OUR ABILITY TO PURSUE LOW-IMPACT LIFESTYLES. THUS, SUFFICIENCY IS NOT PREDOMINANTLY AN APPEAL TO CONSUMERS, BUT RATHER A POLITICAL CHALLENGE, A CALL FOR TRANSFORMATIVE CHANGE."

FOOTNOTES:

11 Joan Martinez Alier, Andrew Simms, Leida Rijnhout, *Poverty, Development and Ecological Debt*, http://lexicommon.coredem.info/article127.html
12 Henry Shue, *Subsistence Emissions and Luxury Emissions*, Law & Policy (1993); Riccardo Mastini, *A climate of injustice: achieving fairness in a sustainable economy*, openDemocracy (2017), https://www.opendemocracy.net/riccardo-mastini/climate-of-injustice-fairness-in-achieving-sustainable-growth
13 Joachim H. Spangenberg, *The growth discourse, policies and sustainable development: Two thought experiments*, Journal of Cleaner Production (2010); Joachim H. Spangenberg, *World civilisations at crossroads: Towards an expansionist or a sustainable future—Lessons from history*, Futures (2010);
14 Riccardo Mastini, *Degrowth: the case for a new economic paradigm*, openDemocracy (2017), https://www.opendemocracy.net/riccardo-mastini/degrowth-case-for-constructing-new-economic-paradigm; Robyn Eckersley, *From the liberal to the green democratic state: upholding autonomy and sustainability*, Int. J. Innovation and Sustainable Development (2006)
15 Inês Cosme, Rui Santos, and Daniel W. O'Neill, *Assessing the degrowth discourse: A review and analysis of academic degrowth policy proposals*, Journal of cleaner production 149 (2017)
16 Lorenzo Fioramonti, *Wellbeing Economy: Success in a World Without Growth*, Pan Macmillan SA (2017)
17 Joachim H. Spangenberg, *Institutional change for strong sustainable consumption: sustainable consumption and the degrowth economy*, Sustainability: Science, Policy, Practice 10(1) (2014)

8.2 POLICY IDEAS FOR SUFFICIENCY

Environmental cap-and-rationing

The adoption of a hard cap entails that a resource cannot be harvested or a type of waste cannot be disposed of beyond an established amount over a certain period of time. This might sound like a radical proposal to many, but extraction from aquifers and forests has been managed through caps by local communities for centuries as demonstrated by Elinor Ostrom with research that earned her the Nobel Memorial Prize in Economics.[18] Also the Common Fisheries Policy in the EU is based on caps and quotas. As Blake Alcott argues in his chapter in this booklet, the caps solution is simple in concept and planning. It requires biophysical knowledge plus some social or political decisions, for instance concerning how fast to use a resource. Hence, hard and diminishing caps on carbon emissions and resource consumption could be adopted with target levels based on planetary boundaries and just global sharing of resource access.[19]

According to the macroeconomic perspective, environmental caps would be introduced for large economic and administrative units (e.g. nations, economic and political unions). They could be implemented at either the input or the output side of the economy, or both. In comparison, rationing at the entry gates where materials pass from nature into the economy appears to be the easiest option to implement, not least as many flows into the economy are already monitored since they are subject to taxation—and consequently would entail little additional bureaucracy. In particular, the number of flows to be monitored is limited since, for instance, for a large European country, the number of materials entering the economic system is limited to 50 - 100 abiotic substances including energy carriers. On the contrary, product/output control has to handle about 100,000 substances from the chemical industry alone, each of which interacts in various ways with the ecosphere and the other substances emitted.

Instead, implementing caps at the microeconomic level would mean introducing caps per sector, per product group or, when relevant, per capita. These two perspectives can be combined by establishing an overall limit for a society and sharing the capped amount among citizens by an agreed allocation mechanism.[20] This could be called a 'cap-and-rationing' system. It would require an elaborate accounting system determining the resource content of every single product and its changes in each process, an undertaking requiring lots of data and administrative control.

The designing of product/consumption side cap-and-rationing schemes is still in a theoretical phase and mostly focused on carbon emissions. Specifically, a climate policy framework has been suggested—known as Personal Carbon Allowance—combining a hard cap on emissions with the distribution of entitlements beneath the cap. In this proposal, the total number of carbon units issued into the economy would be determined by the national carbon budget. The question on how to divide up the world's remaining carbon budget fairly among nations is a question for negotiation within the UNFCCC.[21] But once this has been agreed, the Personal Carbon Allowance at the national level would cover all sectors within a national economy, including households, with the goal of maximizing well-being under a tightening cap while generating national common purpose toward innovative energy demand reductions.[22] The basic idea is that when fuel or non-renewable electrical energy is purchased, buyers pay for it as usual using money, but must also surrender units corresponding to the carbon content of their purchase.

Equal individual entitlements (quantity-based approach) would ensure a fairer access to energy than a carbon tax (price-based approach) under which consumers that pay more can still consume more than the average. Thus distributing entitlements is a fairer approach than 'rationing by price'. In fact, research reviewing public perceptions on climate change mitigation policies found that 'personal carbon quotas' were often seen in a more positive light than carbon taxation.[23] Calculating and dividing up a carbon allowance for every individual would also reveal the shocking disparity in the carbon footprints of the rich and the poor even within European countries. The reason that a personal carbon allowance is often touted as 'ahead of its time' is that a truly equal division of carbon rights would reveal the carbon gap between the rich and the poor[24] and enforce a drastic reduction of consumption on the rich—unless the carbon rights are made tradable.

"SUFFICIENCY WOULD ENTAIL THAT PEOPLE WORK FEWER HOURS IN PAID EMPLOYMENT, SHARE JOBS AND SERVICES IN MANY CASES, AND LEAD MORE CONVIVIAL AND LESS MATERIALISTIC LIFESTYLES OVERALL."

FOOTNOTES:

18 Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Cambridge University Press (1991)
19 See footnote 9
20 Laura Spengler, *Two types of 'enough': sufficiency as minimum and maximum*, Environmental Politics 25.5 (2016)
21 Simon Evans, *How to divide up carbon budgets fairly*, Carbon Brief (2014), https://www.carbonbrief.org/how-to-divide-up-carbon-budgets-fairly
22 Richard Starkey and Kevin Anderson, *Domestic Tradable Quotas: A policy instrument for reducing greenhouse gas emissions from energy use*, Tyndall Centre for Climate Change Research (2005)
23 Tina Fawcett, *Personal carbon trading: A policy ahead of its time?*, Energy Policy 38.11 (2010)
24 Adam Corner, *Personal carbon allowances - a 'big idea that never took off'*, The Guardian (2012), https://www.theguardian.com/sustainable-business/personal-carbon-allowances-budgets

The latter is the basic idea of some schemes—known as Personal Carbon Trading—envisioning to allow the quotas received by individuals to be traded among them. The scheme 'Tradable Energy Quotas' developed by the Fleming Institute in the UK is one of such schemes.[25] The rationale for this is that it would maximise economic efficiency as emissions would be bought by those who want to emit more than their allocated share and be sold by those who have no need for them. This could generate income for the poor as the rich would literally have to buy carbon quotas to compensate for their larger appropriation of a common-pool resource. However, this is a controversial proposal because of the risk of the poor selling quotas that are necessary for improving their standard of living to compensate for lack of a sufficient income. And, as the political ecologist Joan Martinez Alier demonstrated, 'the poor sell cheap' by making the cost of internalisation of an environmental externality cheaper for those responsible.[26] In a market economy, the access to consumption options including carbon rights is determined exclusively by the price, and allocation occurs according to purchasing power. Given the prevailing distribution of income and—even more unequal—assets/wealth, the result could easily resemble the current distribution patterns. This implies two things: not all goods should be distributed according to purchasing power, and purchasing power must be redistributed. The current distribution of wealth is not reconcilable with a sustainable society.

A possible way of overcoming the contradictions inherent in the tradability of permits is the use of an alternative currency for such trade. The 'Energy Budget Scheme'—developed by CEEweb for Biodiversity and discussed by Veronika Kiss in the second chapter of this booklet—allows the trading of permits, but only in the form of 'entitlement money'. This alternative currency can be used either to pay taxes and social contributions or to buy environmentally friendly products and services, but as such is not convertible to legal tender money.[27]

"CALCULATING AND DIVIDING UP A CARBON ALLOWANCE FOR EVERY INDIVIDUAL WOULD REVEAL THE SHOCKING DISPARITY IN THE CARBON FOOTPRINTS OF THE RICH AND THE POOR EVEN WITHIN EUROPEAN COUNTRIES."

The concept of cap-and-rationing could be established for other environmental pressures as well, such as material flows, water and land consumption.[28] To this end the indicators known as 'Four Footprints' developed by the Sustainable Europe Research Institute on behalf of Friends of the Earth could be used.[29] These indicators assess the consumption of land, water, materials and the generation of GHGs in the economy. The use of four distinct indicators instead of an aggregate one, such as the 'Ecological Footprint', offers the advantage of using the original units to measure and illustrate the different aspects of resource use, rather than transforming them into a single artificial unit of measurement. The way this can be applied to a cap-and-rationing scheme is by calculating citizens' footprint for each one of these four indicators and assessing its sustainability given the availability of that specific resource at the global/national/local level.

Finally, the implementation of cap-and-rationing schemes for natural resources other than carbon emissions entails carrying out a comprehensive assessment of their availability and their environmental impacts. Regardless of the monitoring and allocation mechanisms chosen, these are data which would be necessary to set a scientifically informed level for the size of the cap and its downwards dynamics. This assessment could be carried out by a scientific and intergovernmental body, such as an upgraded version of UNEP's International Resource Panel.

Green taxation

In the shift towards a post-growth economy—after dismantling unsustainable subsidies on energy and resource consumption—taxation policies can be very important. They can be designed as additional incentives operating below the physical resource cap with the goal of redistributing the profits of market activities toward a more just and fair society that exists within the biophysical capacity of its environment.[30]

Currently, citizen and corporate taxes are primarily based on revenue. Hence, one major worry for any government wanting to shift to a post-growth economy is that sources of state revenue will decline, based on the assumption that with shrinking resource throughput the overall values generated, and thus the tax base, will shrink as well. To address this issue, proponents of green taxation argue in favour of transforming the tax system from one based principally on labour to one based on the use of energy and natural resources.

FOOTNOTES:

25 http://www.tradableenergyquotas.net/
26 See footnote 4
27 Resource Cap Coalition, *Non-renewable energy entitlement scheme for Europe* (2012), http://www.ceeweb.org/wp-content/uploads/2012/03/non_renewable_energy_entitlement_RCC.pdf
28 See footnote 9
29 Friends of the Earth EWNI, *Four footprints*, https://friendsoftheearth.uk/page/four-footprints
30 FoEI/AdT Espana, *Ecotaxes for Sustainable Development*, Proceedings of the October 29th, 1992 joint Madrid Conference, (1992)
31 Peter Victor, *Managing Without Growth*, Edward Elgar (2008)

The extraction of natural resources should be measured as accurately as possible directly at its entry point into the economic system as already suggested for the resource use capping. Where this is not possible because natural resources are imported from a country where such ecological policies are not applied, the embodied energy, water and other materials in products should be calculated. These data could then be used for calculating a tax which could be charged as an import tariff. By imposing taxation at the source, the cost of primary extraction is always reflected in every step of the production and consumption process.[31] Lastly, since price increases for energy and resource consumption would lead to additional and disproportional burdens for the poorest households, resource taxation must be paired with the increase of social security levels to provide an increasingly dignified life also for the lowest income levels of societies.

Secondly, as Veblen argued, economic growth is also generated by 'conspicuous consumption', meaning the drive for people to consume commodities because it sets them apart from others and acts as social signifiers. Taxing luxury and resource-intensive goods and services higher than goods of everyday demand—through a 'progressive VAT'—would help address positional consumption. A caveat to be added to this last point is that with higher taxes on luxury products their exclusivity would increase, making them more appealing as 'Veblen goods'. To avoid such unintended consequences, the 'progressive VAT' should be set at a level that ensures that the aggregate reduction in sales of these luxury goods overcompensates for their increase in exclusivity and appeal. Such proposals point in the direction of a new debate in public policy for sustainability: the patterns and levels of production and consumption become as important a subject of public debate as the distribution of incomes.[32]

Thirdly, differential taxation could be introduced on goods and services which are more durable, more useful and less harmful to the environment and health. Tax exemption for repairs could be one example, as argued by André Reichel in his chapter to this booklet. Tax breaks on repairs would make it attractive for consumers to keep products longer in use, but also create pressure on producers to offer long-lasting, repairable products which, in turn, could be priced more. Consequently, the price per service enjoyed would still be decreasing, which is important for a post-growth economy entailing declining purchasing power for consumers. Tax breaks on repairs would also strengthen local initiatives like repair cafés or 'makerspaces' which would then also have an impact on social aspects of sustainability, strengthening local communities, and building social capital. Furthermore, automatisation is much less of a threat to repair and recycling as it is to mass production: REconomy jobs (repair, reuse, recycling, remanufacturing) are qualified and more secure than production jobs.[33]

At the EU level, such tax breaks are ruled through the 'Value Added Tax Directive' which at the moment contains a list of repair activities for objects eligible for reduced VAT rates—including shoes, textiles and bicycles, but not furniture, and electronic equipment. Currently, the European Commission is proposing to extend the VAT exemption to all repair activities, if not otherwise stated. An alternative way to create green price signals would be through 'extended producers responsibility schemes'. Sadly, in this field EU politics falls far behind past policy announcements, although France is an early adopter of the modulation of the fees paid by the producers according to ecodesign criteria. A step in the right direction would be to increase this modulation and to adopt much stronger incentives and penalties to create a strong signal for producers and consumers.

Debt-free (national) currencies

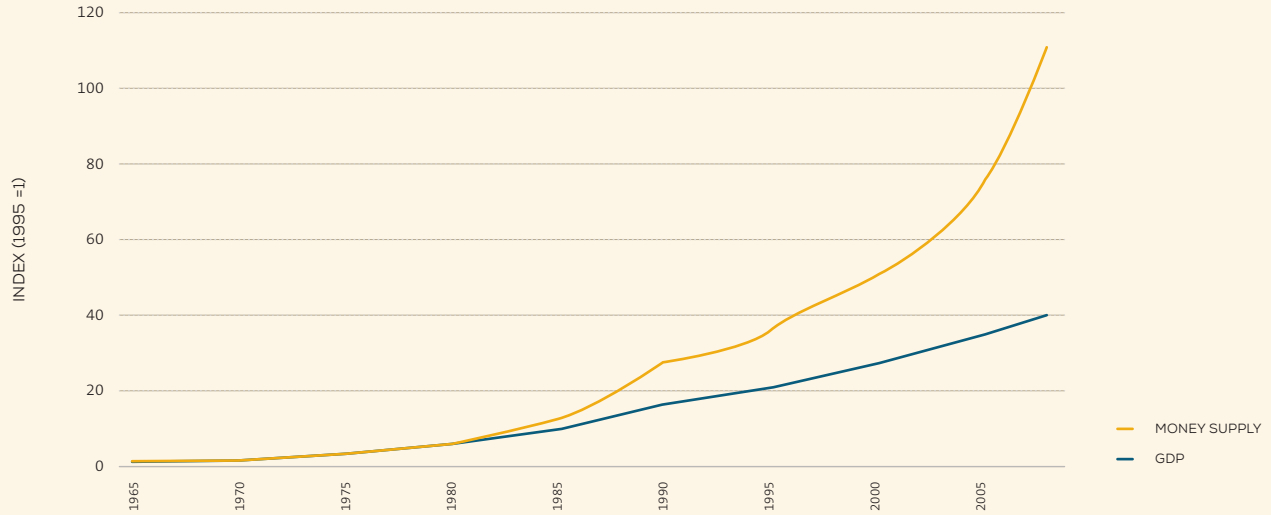
For supporters of this (disputed) concept, money is not real wealth; it's a claim on wealth. Real wealth takes the form of housing, land, fertile soil, medical care, dinners and computers: actual resources, goods and services that we value. Money itself has no intrinsic value. Its value is derived from the fact that we accept it in exchange for real wealth. The fact that money serves as a 'claim on wealth' poses a problem when its supply surpasses the supply of real wealth. When there is too much money in circulation, prices go up (inflation) as more and more money chases the same volume of goods and services. In fact, no physical law prevents the money supply from expanding indefinitely. However, the supply of goods and services can grow only following the laws of physics and ecology. As long as the money supply is growing, and the money is spent as market demand for material goods, there is a strong incentive to produce real wealth to keep pace. Hence, growing the economy has been the strategy for preventing the financial system from collapsing, but this is a case of the tail wagging the dog: money should serve the economy, not govern it as is quite obviously the current case.

"DIFFERENTIAL TAXATION COULD BE INTRODUCED ON GOODS AND SERVICES WHICH ARE MORE DURABLE, MORE USEFUL AND LESS HARMFUL TO THE ENVIRONMENT AND HEALTH."

FOOTNOTES:

32 Ian Gough, *Heat, Greed and Human Need: Climate Change, Capitalism and Sustainable Wellbeing*, Edward Elgar (2017)
33 See footnote 9

FIGURE **8.2** | TOTAL MONEY SUPPLY AND ECONOMIC ACTIVITY (AS MEASURED BY GDP) IN THE UK, 1965-2008[34]



But what's the mechanism that makes the volume of money grow constantly? Most money in modern economies is created and circulated by the banking sector as loans, over 97 per cent in the case of the UK. Every loan is a debt that the borrower has towards the lending bank. When repaying a loan taken out from a bank, the borrower has to pay interest. And the additional money needed to pay the original debt plus the interest can only come from one place: more loans. Since loan recipients must pay back more money than they borrow, the total money supply must expand over time to avoid defaults. Because of this mechanism, the claim on wealth grows indefinitely spurring the real economy to keep on growing to keep pace. Debt-based money creation, therefore, drives a need for unlimited economic growth.[35] This argument struggles to explain the huge discrepancies between the growth and distribution of money circulation and economic growth, but it is one important reason why a post-growth economy requires a different sort of money system.

While some researchers call for an integrated European financial system,[36] others argue for ending credit-money creation by requiring 100% leverage with central bank money, and still others argue for doing so by suggesting that new money could be issued free of debt directly into the economy by the government to meet public needs.[37] This last proposal would, in fact, amount to having a debt-free national currency. As the public reclaims the power of money creation, the priorities for investing newly created money should be determined democratically. New money could be used to finance key public provisioning such as low-carbon energy systems and the welfare state. Then, to prevent inflation, taxation and government spending would need to be linked to the system of money creation. If prices started to rise, money could be removed from circulation using taxes. Conversely, if prices started to fall, additional money could be created and spent into existence. This system would allow the size of the money supply, and hence inflation, to be controlled more directly than is possible with the current money system.

FOOTNOTES:

34 CASSE, *Enough is Enough: Ideas for a Sustainable Economy in a World of Finite Resources*, http://www.steadystate.org/wp-content/uploads/EnoughIsEnough_FullReport.pdf
35 Rob Dietz & Dan O'Neill, *Enough is Enough* (Earthscan, 2013)
36 John Grahl, *Global finance and social Europe*, Edward Elgar Publishing (2009)
37 Fran Boait and Graham Hodgson, *Escaping Growth Dependency*, Positive Money (2018), http://positivemoney.org/wp-content/uploads/2018/01/Escaping-Growth-Dependency-final_print.pdf

Work-related policies

Since the dawn of capitalism, market economies have placed a high emphasis on labour productivity. Continuous improvements in technology geared towards productivity increases lead to more output being produced for a given input of labour. But crucially this also means that fewer working hours are needed to produce the same goods from one year to the next. As long as the combination of economy growth and declining working hours (from 7 x 12 hours to less than 40 hours in Central Europe today) could offset labour productivity increases there wasn't a problem. But since the growth of European economies has slowed significantly over the decades, and shortening working weeks has been a neoliberal taboo ever since the 1980s, there is now a downward pressure on employment. People lose their jobs or are forced to take—involuntarily—low qualification, low paid and part-time jobs. So far economic growth has been necessary within this system just to prevent mass unemployment.[38]

To break free from this vicious cycle it is necessary to decouple employment from economic growth. Changes in the labour market can facilitate the social marketing of sufficiency ideas to citizens who are after all faced with the threat that pursuing sustainability policies that menace the primacy of economic growth may leave them unemployed. We will now discuss three policy ideas that could help stabilise the labour market in a post-growth economy.

Work-time reduction

In a shrinking or non-growing economy in monetary terms, working time policies are essential to achieve macro-economic stability and protect people's jobs and livelihoods. The basic idea is that if we want full employment in a post-growth economy, everybody has to work increasingly less and employment has to be redistributed. Work-time reduction is necessary for work-sharing.

Proponents of this policy put forward the following measures:

1. In countries where this is constitutional, governments should set out a programme for gradual reduction of the standard working week with firm limits on overtime;
2. Every individual in paid employment should have the option to apply for shorter and/or more flexible hours of work, similarly to the agreement between IG Metall and employers in Germany in early 2018. Employers should not be able to refuse without good reason and there should be a limited and specific list of such reasons;
3. Discrimination against those working less than the 'standard' working week should be unlawful, bearing in mind that discriminatory mechanisms are often subtle and unconscious;
4. Where employers are taxed per employee (as in the UK's National Insurance system), this should be changed so that they are taxed by the number of hours worked by employees in each wage band, not per individual. This way, they will not be penalised for taking on more workers as a result of reducing working hours.

The thorny question is: who should pay for the work-time reduction? On the workers' side, trading in (part of) the potential salary increases due to growing labour productivity has been a preferred option in the past. On the employers side, sacrificing part of their profit margin to pay for shorter working time without decreasing salaries is adequate when working time reduction prevents work-related accidents, prevents long term absences due to burn-out, and reduces short term absenteeism for health reasons as these phenomena reduce labour cost to them. A potential way to compensate for income losses from reductions in working time is through tax reduction as shorter working times create employment which will (1) decrease the amount of unemployment benefits a country will need to pay, (2) increase the tax returns from income taxes, and (3) more equally distribute purchasing power in an economy.[39]

Liberated time from paid work can have a significant impact on consumption patterns. Firstly, free time can be used for consuming goods and services that otherwise we would not have time to seek out. However, the introduction of green taxation can shift attitudes against resource-intensive goods and provide incentives for less resource-intensive forms of consumption and leisure.[40] Secondly, as Anna Coote argues in her chapter to this booklet, 'reducing hours in paid work would release time for living more sustainably. A great deal of resource-intensive consumption is triggered by our busyness. We want things that are quick and convenient because we have too little time at our disposal.' This claim is backed up by empirical research conducted in Sweden that demonstrated that a 1% reduction in working time may cut energy use and greenhouse gas emissions by about 0.7% and 0.8% respectively.[41] Overall, in the context of sufficiency having more time to spend for leisure, socialising and volunteering is highly desirable, but it is also necessary to have areas where people can stay without consuming. This calls for a de-commercialisation of public spaces and advertising-free areas.

FOOTNOTES:

38 Tim Jackson, *Prosperity Without Growth*, Sustainable Development Commission (2010)
39 European Trade Union Institute, *The Why and How of Working Time Reduction* (2017)
40 Giorgos Kallis et al., *"Friday off": reducing working hours in Europe*, Sustainability 5.4 (2013)
41 Jonas Nässén and Jörgen Larsson, *Would shorter working time reduce greenhouse gas emissions? An analysis of time use and consumption in Swedish households*, Environment and Planning C: Government and Policy 33.4 (2015)

Job Guarantee

A job guarantee is a policy proposal calling on governments to take up the role of 'employer of last resort' by providing a decent job to any qualifying person seeking employment. This policy calls for a universal guarantee, with the national government providing the funds necessary to offer a uniform wage and benefit package to anyone willing and able to work.

The wage and benefit package offered by the government to the people applying for the job guarantee serves as a floor for wages throughout the economy. A job guarantee will also improve working conditions in the private sector: since private sector workers always have the option of entering the job guarantee, private employers will be forced to provide pay, benefits and conditions at least on a par with those of the programme. For example, the job guarantee could initiate a four-day workweek, pressuring private employers to follow suit.

The total amount of labour paid for by the state through the job guarantee floats over the business cycle: in periods of economic contraction more people will get laid off by the private sector and consequently will accept the job guarantee, but in times of economic expansion people will drop out of the job guarantee and seek employment in the private sector. Consequently, the government's deficit automatically moves counter-cyclically in just the right amount to maintain full employment.[42] However, it should be noted that this is not currently permitted under the European Fiscal Compact.

Work assigned through the job guarantee can be directed towards provisioning society with needed public goods and services not produced by the private sector, such as building low-carbon infrastructures and house insulation for energy saving. Besides, people hired through a job guarantee can provide the workforce for maintaining Universal Basic Services. A caveat to this argument is that fluctuations in the number of workers employed through the job guarantee over the business cycle may complicate the reliable provision of services that require a permanent amount of workforce for functioning.

"CHANGES IN THE LABOUR MARKET CAN FACILITATE THE SOCIAL MARKETING OF SUFFICIENCY IDEAS TO CITIZENS WHO ARE FACED WITH THE THREAT THAT PURSUING SUSTAINABILITY POLICIES THAT MENACE ECONOMIC GROWTH MAY LEAVE THEM UNEMPLOYED."

As for the question on how to finance a job guarantee, it is necessary to know that this policy is rooted in Modern Monetary Theory. This is a macroeconomic theory that describes modern economies in which the national currency is fiat money established and created by the government. The key claim of this theory is that a sovereign government is the monopoly supplier of its currency and has an unlimited capacity to pay for the things it wishes to purchase and to fulfil promised future payments without running the risk of inflation and economic collapse. This theory obviously has drastic policy implications and it promises to be more effective in reducing employment than Keynesianism that instead depends on increasing aggregate demand to ensure employment. However, a growing number of economists are investigating how a job guarantee can be financed without relying on the adoption of Modern Monetary Theory. Some preliminary studies in France demonstrated that the state could finance (at least partly) a job guarantee by cutting subsidies to the private sector.[43] In fact, why should the state subsidise the hiring of workers by the private sector when it can hire them directly? Furthermore, hiring workers that would otherwise be unemployed allows the state to save money from the payment of unemployment benefits.

A job guarantee is one suggestion for socially stabilising a post-growth economy because by decoupling employment from aggregate demand it ensures full employment even as growth ceases or becomes negative. However, in the long term, sufficiency advocates may want to pursue a change of the current attitudes towards the concept of work that makes self-esteem dependent of an individual's ability to earn money through paid work. That can be achieved through, for example, a Universal Basic Income. If such a policy is implemented, then pursuing full employment becomes superfluous since people will have a guaranteed livelihood regardless of them working or not. However, work is still an essential value in our society and we should start from here since these are the voters we must convince and since the number of years remaining for a managed, humane transition to a smaller economy preclude waiting until deeper attitudes have changed.[44] Furthermore, work is still for many people an opportunity for social interaction, communication, and gaining satisfaction from completing tasks, the more so the higher the level of self-determination. Hence, the many non-material aspects associated with work are part of the quality of life that a sustainable society should offer.

Maximum Income

To eliminate poverty, capitalist societies generally rely on growing the economic pie rather than slicing it differently. If the pursuit of growth were not to be the main focus of our economic system anymore and a process of planned economic contraction were embraced, poverty

FOOTNOTES:

42 B.J. Unti, *Job Guarantee* (chapter in *Degrowth: A Vocabulary for a New Era*), Routledge (2014)
43 Romaric Godin, *Et si l'Etat créait lui-même les emplois pour combattre le chômage?*, Mediapart (2018), https://www.mediapart.fr/journal/france/190118/et-si-l-etat-creait-lui-meme-les-emplois-pour-combattre-le-chomage
44 Blake Alcott, *Should degrowth embrace the Job Guarantee?*, Journal of cleaner production (2013)

would have to be confronted more directly. This would require a restructuring of the property and tax systems for the purpose of redistributing wealth.[45] Furthermore, this policy can be coupled with an inheritance tax and high taxes on capital wealth. In fact, it may be argued that maximum wealth is more important than maximum income for sufficiency. Consequently, an 'inheritance cap' could be considered. For example, an inheritance cap of 10 million euros per heir would guarantee them with a monthly income of 10,000€ for 80 years: arguably something that most people would consider a good deal.

Maximum income is essentially an income ceiling and there are two main proposals to implement it. One suggestion is to set the income ceiling in proportion to the minimum wage so that the maximum wage would be, for example, twenty times the legal minimum wage. The other suggestion is to implement a progressive tax system, including both income and capital gains, with a tax rate of 100% for the top tax bracket.[46] Both proposals achieve the same purpose, but in different ways.

A ceiling on income can be used to halt positional consumption and eliminate the incentives for excessive earnings. As a consequence it provides less incentive to work and produce in abundance, which would clearly support human health and reduce environmental pressures. It is true that a maximum income has been criticised for not offering as much incentive for profit maximization as the current form of 'shareholder capitalism' does, but in a post-growth economy resource conservation and responsible business should be prioritised. Furthermore, when in 1980 the US top tax rate was 92%, the market economy did not collapse and the economic innovation rate was higher than today.

Moreover, since a maximum income would affect the top 1 to 5% richest in a society, it is likely that the majority of economic activities that would be hampered would be speculations in the real estate industry or the financial sector. In fact, super-rich individuals do not consume their income, stimulating the economy, but invest it in speculation, blowing up stock exchange bubbles and letting them go bust, at the expense of small investors. Thus, fewer innovations coming from these sectors might even be desirable as a contribution to economic stability. Desirable innovations, such as in energy-saving technologies or sustainable practices, do not emerge in the speculative bubbles of the financial industry and will remain unaffected by maximum income policies. Most innovative ideas tend to emerge from small enterprises paying wages well below the maximum income threshold, which means that it is likely that maximum income policies will not affect them. Furthermore, a lot of innovation occurs in the public and civil sectors, where profit maximization does not play a role.

Some researchers have built macroeconomic models in which the maximum income threshold is set at the salary of the prime minister of the country. They acknowledge that some citizens might emigrate as a consequence of this decision (which is probably not a serious loss if they are from the financial industry which has to shrink anyway), but by and large they assume that such a decision will not dampen incentive for executives.[47]

What is the proper range of inequality—one that rewards real differences and contributions rather than just multiplying privilege? Europeans are split about it, with different countries considering different spreads as "fair", but all agree that the current distribution has become unfair. Plato thought a spread of a factor of four was adequate. Universities, civil services, and the military seem to manage with a factor of ten to twenty. In the EU corporate sector it was around 27 to 30 until the 1980s, it has surpassed 50 now and it is over 500 in the banking sector (and in wide parts of US industry).[48] It is to be expected that jobs that entail greater responsibility and skills should be compensated accordingly, but always bearing in mind that in a post-growth economy we are no longer trying to provide massive incentives to stimulate growth and instead we are trying to fairly redistribute a pie that no longer grows and that most probably will have to shrink.

The maximum income policy proposal finds further justification in the sociological research that indicates that once basic material needs are met, further increases in income contribute little if anything to subjective well-being or happiness, although the steeper the social polarisation in a country, the better the rich feel compared to the poor.[49] This research suggests that high average incomes are essentially wasted so far as wellbeing is concerned, while polarisation contributes to social tensions, violence, crime, drug abuse and more modern evils, making a maximum income an extremely important means of avoiding wasteful consumption and creating more sustainable societies.

Universal Basic Services

The Institute for Global Prosperity at University College London developed a proposal for Universal Basic Services (UBS) representing an affordable alternative to a Universal Basic Income advocated by some economists.[50] An expansion of the concept of public services helps solve the problem of social inequality.

The same principles of universal access, free at the point of need, which are already manifested in all EU countries for healthcare, public education and legal services, should be extended to 'shelter', 'food', 'transport' and 'information':

FOOTNOTES:

45 Samuel Alexander, *Basic and Maximum Income* (in *Degrowth: A Vocabulary for a New Era*), Routledge (2014)
46 Claudio Cattaneo and Aaron Vansintjan, *A Wealth of Possibilities: Alternatives to Growth*, Green European Foundation (2016)
47 Philip Lawn, *Facilitating the transition to a steady-state economy: Some macroeconomic fundamentals*, Ecological Economics 69 (2010) 931–936
48 Herman E. Daly, *A Steady-State Economy*, UK Sustainable Development Commission (2008)
49 Ruut Veenhoven, *Greater Happiness for a Greater Number: Is that Possible and Desirable?* Journal of Happiness Studies 11: 605–629 (2010)
50 UCL Institute for Global Prosperity, *Social prosperity for the future: A proposal for Universal Basic Services*, University College London (2017), https://www.ucl.ac.uk/bartlett/igp/sites/bartlett/files/universal_basic_services_-_the_institute_for_global_prosperity_.pdf

- **Shelter:** Adding significantly to the existing stock of social housing. The new units would be offered on a needs basis at zero rent, including a utilities allowance. However, it is important to consider the impact that building new houses would have on land consumption. Various solutions could be adopted to harmonise these two apparently opposite goals. For example, by regenerating the existing housing stock and facilitating the full occupation of houses through very high taxes on empty second houses and though a prioritisation of the social use of housing falling under the post-crash banking restructuring provisions. If this is insufficient, then an option would be to proceed with social expropriation of empty housing from private investors;[51]
- **Food:** This service would provide one-third of the meals for the households deemed to experience food insecurity each year. This would add to existing programmes, such as free school meals;
- **Transport:** Providing free passes to everyone for bus services. The objective being to provide access to free local public transport services that enable citizens and residents access to jobs, education, health care and to participate fully in their community – all of which are currently under threat for the most disadvantaged people in our society. Furthermore, if current trends of increasingly penalising the use of cars in city centres are to continue (e.g. congestion pricing), investing in an affordable, safe, and comfortable network of public transports is essential;
- **Information:** This service would cover the cost of basic phone, Internet and the TV license fee. The objective being to enable access to work opportunities and other services, as well as participation in democracy as informed citizens.

According to the authors, moving from a primarily redistributive model for social security to a primarily service-orientated model meets needs more directly, increases efficiency, reduces costs, facilitates a vibrant private economy, and enhances the institutional fabric of society. The value delivered by services to individual recipients most often exceeds the cost of the service provision because the economies of scale achieved through generalised provision, thus circumventing the premium of satisfying individual requirements purchased individually.

A way of framing this proposal is to think of it as a 'social wage' consisting of essential public services.[52] The social wage can narrow the gap between rich and poor and bring people together. In fact, services revolve around everyday relationships in people's homes and neighbourhoods. An enhanced services model is likely to increase social cohesion, enabling common acceptance of the limits imposed on our societies by the challenges of finance, ageing, productivity and environmental degradation. More obviously than income support, they manifest the collective ideal: people pooling resources and helping each other to stay well and cope with risks they cannot manage alone.

8.3 WHERE DO WE GO FROM HERE?

The policy proposals discussed in the preceding parts of the chapter clearly demonstrate that there are many new ideas that can help us achieve the transition towards a post-growth economy. However, none of them is a silver bullet and it is necessary to understand that the multidimensional crisis our world is going through calls for 'systemic thinking'. If the world wants to ensure a dignified life for all while keeping within the 'safe operating space for humanity' without overshooting the planetary boundaries, multiple eco-social policies must be implemented in unison to avoid negative feedbacks that can destabilise our socio-economic system.

In the illustrative system model below we present how these policies can be implemented for increasing social well-being and ensuring environmental sustainability. In the system model, nodes represent the variables and the arrows represent the causal relationships between the variables. In green are the variables representing the eco-social policies discussed in the chapter, in red are the variables representing the change we want to pursue, and in black are the variables that will be shaped indirectly.

The system model should be read starting from the eco-social policy *environmental cap-and-rationing*. The adoption of this policy would determine a decrease in *energy and material throughput* and ensure *environmental sustainability* for the specific resource on which the cap is applied (e.g. CO_2 emissions). The decrease in the rate of extraction and transformation of energy and materials would slow *GDP growth* since the economy is embedded in the natural world and it is dependent from it for energy/material inputs and for absorbing waste. If these flows are diminished through a hard cap, the rate of economic growth will decrease. *GDP growth* is also negatively affected by the adoption of a *debt-free national currency* as it would stem the 'growth imperative' that is embedded in our current money system. The slowing of *GDP growth* will usher in the two bogeymen of our current public discourse: rising *unemployment* and decreasing *government tax revenues*. But the other eco-social policies discussed in the chapter should be able to ensure an increase in *social well-being* regardless of the slowdown in *GDP growth*. Let's see how.

The increase in *unemployment* can be limited (or even reversed) by adopting policies for *work-time reduction* to redistribute the amount of work available in society and by implementing a *job guarantee* so that every person willing to work has the option to apply for a state-funded job. On the other hand, the decrease in *government tax revenues* can be addressed by adopting a policy of *maximum income*, which applies a tax rate of 100% above a certain income threshold, and *green taxation* to shift tax revenues away from labour and onto energy and resources so that the state receives a steady money inflow even in a situation in which the total amount of worked hours is in decline.

FOOTNOTES:

51 Giorgos Kallis, *Can We Prosper Without Growth?* 10 Policy Proposals, Green European Journal (2015), https://www.greeneuropeanjournal.eu/can-we-prosper-without-growth-10-policy-proposals/

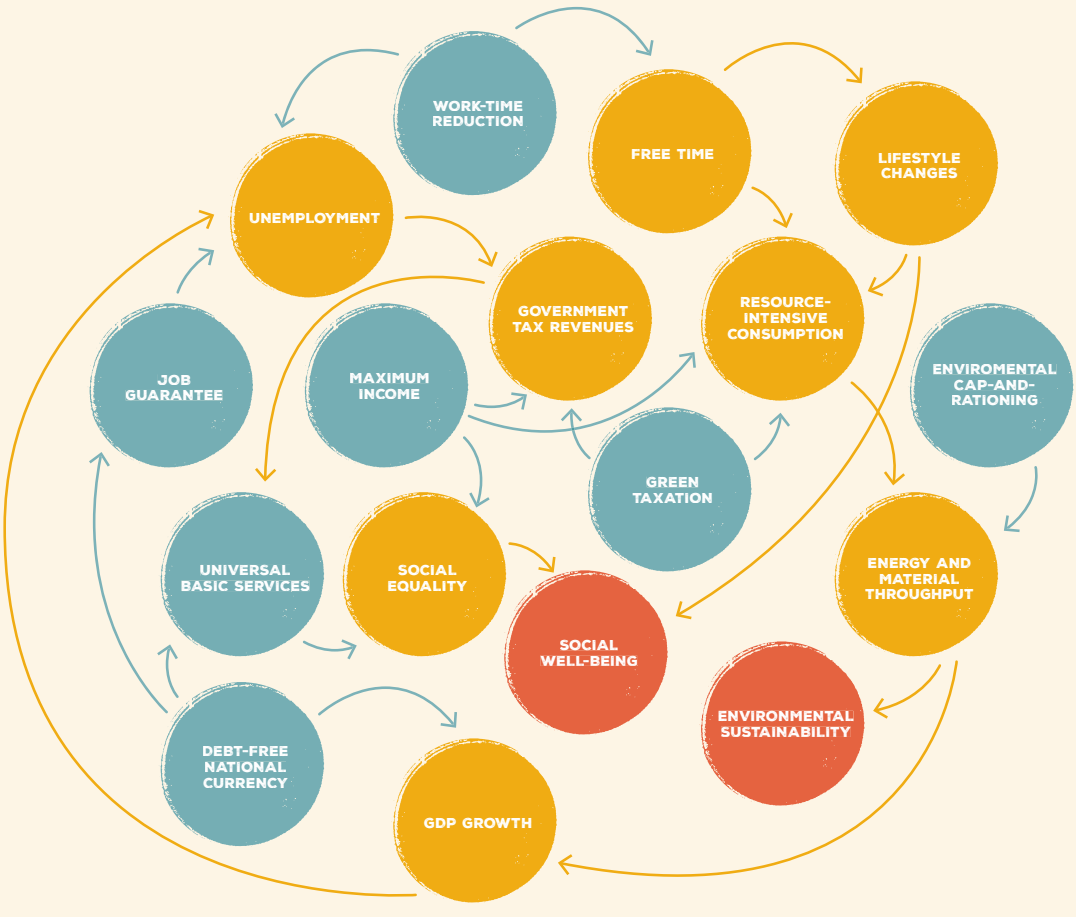
52 Anna Coote, *Are Universal Public Services the answer to Europe's widening inequalities?*, Brave New Europe (2017), https://braveneweurope.com/anna-coote-are-universal-public-services-the-answer-to-europes-widening-inequalities

Social equality is fostered through the implementation of *Universal Basic Services* that act as a 'social wage'. Also, *maximum income* positively affects *social equality* as it reduces wealth concentration and disincentives positional consumption. It is increasingly recognised that above a certain level of income personal well-being stalls and that a person's life satisfaction is more influenced by relative consumption patterns than absolute ones. Hence, taking away the pressure of positional consumption and increasing the degree of *social equality* will positively influence *social well-being*.

Ensuring the financial viability of *Universal Basic Services* depends on a healthy condition of the public coffers and, therefore, on constant *government tax revenues*. The adoption of a *debt-free national currency* would also help in this regard as it allows the state to spend public money directly into the economy to finance public services and a *job guarantee*.

The adoption of a *maximum income* and of green taxation (with a progressive VAT) would drive down *resource-intensive consumption* as less money would be spent on private luxury goods which have embedded high levels of energy and materials. However, adopting a policy for *work-time reduction* will give people more free time that can, at least in part, be devoted to *resource-intensive consumption*. But *green taxation* (with high levies on energy and resource use) can be aimed at shifting people's habits away from *resource-intensive consumption* and towards more environmentally friendly consumption because of the price signal. Finally, the move away from *resource-intensive consumption* will increase environmental sustainability, and *lifestyle changes* can be expected to contribute to *social well-being* as people will suffer less from work-induced stress and will have more time for convivial activities.

FIGURE **8.3** | SYSTEM MODEL



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Friends of the Earth Europe
Mundo-B Building, Rue d'Edimbourg 26,
1050 Brussels, Belgium

tel: +32 2 893 1000 fax: +32 2 893 1035
info@foeeurope.org twitter.com/foeeurope
facebook.com/foeeurope

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