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Opting out of the growth society?

A socio-ethical analysis and assessment of post-growth strategies

By Johannes Wallacher

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Preface

The key challenges of our time – global poverty, growing social inequality and the destruction of our natural resources – are closely interconnected with one another, and therefore can only be solved collectively. This was made clear by Pope Francis in his encyclical Laudato Si', published in May 2015.1 For him, a comprehensive analysis and solution of ecological and social problems and a new idea of progress are indispensable requirements if 'our common home' is to have a future. The same approach is pursued by the 2030 Agenda for Sustainable Development2 with its 17 Global Sustainable Development Goals (SDGs), through which the international community of nations committed itself to collectively creating the foundations for sustainable development worldwide in September 2015. By doing so the states also concede that there are not only widespread forms of underdevelopment, but also of undesirable development which need to be corrected through suitable countermeasures.

However, the role of economic growth in all this is contested.3 Many support the idea of further growth of gross domestic product (GDP) in order to promote affluence, alleviate distribution conflicts and combat global poverty. And in fact, the greatest advances in the fight against poverty in recent years have been achieved in China and other countries in south and south-east Asia, this means in countries with high growth rates. However, on closer inspection it becomes apparent that in many cases the growth rates are accompanied by increasing social inequality, and that growth is at best a necessary prerequisite for overcoming extreme poverty and mitigating distribution conflict, but not a sufficient one. For these reasons, increasing numbers of people are rejecting the exclusive focus on growth, not just because of the social consequences of a more fiercely competitive and conflictive mindset, but also (and above

[1] Cf. e.g. Wallacher 2015.
[2] Cf. the original document of the United Nations (United Nations 2015)
[3] For pertinent details cf. Todaro/Smith 2015, particularly Chaps. 1–4. 6–8 and elsewhere.

all) by pointing to the boundaries of pressure on the planet and the limited availability of many raw materials.[4]

The 'Global Economy and Social Ethics' expert panel of the German Bishops' Conference has taken up this contentious issue, and investigated the significance of economic growth for sustainable development in its study "Raus aus der Wachstumsgesellschaft? Eine sozialethische Analyse und Bewertung von Postwachstumsstrategien" (Opting out of the growth society? A socio-ethical analysis and assessment of post-growth strategies),[5] presented in Munich at the end of April 2018. For this purpose, the group widened its interdisciplinary circle to include respected economic experts such as Professor Gabriel Felbermayr from the Ifo Institute in Munich or Professor Angelika Zahrnt, one of the best-known representatives of the post-growth movement in Germany, in order to assemble a broad spectrum of different backgrounds and positions to address this question. It is therefore all the more remarkable that, after intensive discussions, it was possible to achieve a broad consensus regarding this question within the group. The following article outlines the results of this study.

1 Ethical basis of sustainable development

1.1 Sustainability as an empty phrase?

This agreement was possible because the group began by formulating common points of departure, most importantly an ethical basis for, and precise definition of, the term 'sustainable development' which, due to the SDGs, has advanced to a more central position in environmental and development policy.

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[4] Giacomo D'Alisaet al. (eds.), *Degrowth: Handbuch für eine neue Ära* (Degrowth: handbook for a new era), Munich, 2016

[5] WA-DBK 2018. The study in German language can be downloaded or ordered at: www.dbk-shop.de/media/files_public/owxmwxsb/DBK_1521.pdf.

Discussion of 'sustainability' has of course been omnipresent for years, but in practice the term mostly degenerates into an empty phrase because everyone understands something different by it, or 'sustainability' is linked to a diverse set of concepts that modify its meaning.6 Thus environmental politicians alert us to 'sustainable use of resources', while economic politicians enjoy speaking about 'sustainable growth', corporate leaders about 'sustainable success', and CFOs or financial directors about 'sustainable finances'. Each of these aims may have its own justification, but they only reflect the meaning of 'sustainable development' very inadequately, even if one takes as one's basis the well-known definition of the so-called 'Brundlandt Report' of 1987 by the World Commission on Environment and Development. Here, as is widely known, 'sustainable development' is defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'7 Even with this definition, however, uncertainties remain – for example, regarding concrete conceptions of needs and how they are to be prioritised.

The frequently mentioned 'sustainability triangle', in which environmental, social and economic concerns are represented as three dimensions or pillars that have to be reconciled with or balanced against one another, does not take us much further either. This cannot be achieved as long as there are no yardsticks with which to measure conflicts of objectives. In practice, therefore, each of the protagonists, depending on where their own interests lie, gives priority to their own pillar or plays off one against another.

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[6] Cf. Stephan 2002.
[7] Hauff 1987, 46.

1.2 Further development of the 'common good' principle as the basis for a normative guiding principle for 'sustainable development'

One should, therefore, understand sustainable development not simply as a concept but as a normative guiding principle,[8] which needs to be precisely defined and given a socio-ethical basis.[9] A suitable starting point for this is the principle of the common good which, according to the traditions of Catholic social teaching, refers to 'the well-being of all human beings and of the whole human being.'[10] Pope Francis' encyclical Laudato Si' provides important stimuli for developing this idea. According to this, the common good must be thought of in a comprehensive sense, not just globally but across generations. It is therefore not just a question of material well-being, but of health, education and culture, successful relationships to fellow human beings and the entire creation. Nature's great diversity of plants and animals is not just worth protecting in order to satisfy human needs now and in the future, but also because 'they have value in themselves' (LS 33). This guiding idea of a holistic, inclusive common good corresponds to a similarly all-embracing understanding of integral development, which cannot be reduced to economic development, and even less to economic growth. Integral development, as Pope Paul VI had already affirmed in his encyclical Populorum Progressio of 1967, means accomplishing the 'transition from less than human conditions to truly human ones' (PP 20) both nationally and globally, and progressively realising the common good in all its dimensions.

To achieve the goal of an all-embracing common good of this kind, integral development can be described as a process that affords all people now and in the future the possibility, at least, of living a life worthy of human beings. Regardless of all socio-cultural differences, three key preconditions for this can be specified, which are also expressed in the

[8] Cf. Löffler 2004
[9] Cf. Vogt 2009.
[10] Pontifical Council for Justice and Freedom 2006, 165

various 'generations' of human rights.[11] First, each human being must be able to satisfy their basic needs. Secondly, in order that human beings can do this as independently as possible, fairly distributed opportunities for action and participation are required, e.g. in the areas of education or the employment market, as well as, thirdly, an appropriate level of involvement in fair procedures and processes for making and implementing decisions.

A key aspect of the normative principle of the common good is the basic concept of the 'common allocation of resources', according to which the entire creation, the earth and what it provides in terms of goods and possibilities, is intended for all. From this it follows that, according to the Church's social doctrine, not only private ownership, but also nations' rights to dispose of the resources on their own territories are subject to social obligations. In the encyclical Laudato Si' this basic principle is extended to apply not just to raw materials but also, for the first time, to the earth's atmosphere ('The climate is a common good, belonging to all and meant for all', LS 23), the oceans and other ecosystems. Since these are of vital importance as natural habitats, food sources and natural sinks for greenhouse gas emissions (forests, oceans etc.), they are global common goods and are subject to a kind of enhanced social responsibility.[12] The use of them, and the benefits that derive from this, must therefore be distributed according to basic principles of justice. It is incompatible with this if single individuals, companies or nations actually secure for themselves a disproportionately high share of raw materials or emit excessive proportions of pollutants on the basis of unjust political, economic or social structures.

This expansion of the idea of 'common good' enables one to make a direct connection to resource economics[13] and the politico-economic theory of common goods[14] that can be used in the debate on sustainable

[11] For more details cf. Edenhofer et al. 2010, 56–69.
[12] Cf. Edenhofer/Flachsland 2011.
[13] Cf. e.g. Conrad 1999.
[14] Cf. Helfrich/Heinrich-Böll-Stiftung 2014.

development. Among other things, resource economics pursues the basic question of what proportion of natural resources should be exploited and used today by comparison with the future. The same issue can be investigated analogously with regard to the present and future use of natural pollutant sinks. Economically speaking, common goods are goods that are important for all, and nobody should be excluded from using them. Therefore, it is not just the overuse of such goods that poses a threat – e.g. if too many greenhouse gases are emitted into the earth's atmosphere – but there is also the danger that each individual leaves the production or protection of common goods to others for the sake of their own personal advantage. If everybody 'takes a free ride' in this way, no common goods are preserved or produced. The 'enhanced' social responsibility to which common goods are subject, can therefore also be justified on the grounds of market failure. Institutional agreements (local, national, global) are therefore needed in order to manage common goods on a trustee basis, so that all human beings can use them in a fair way.

Some further perspectives on this topic are opened up by the work of Elinor Ostrom, an American political scientist who, in 2009, became the first woman to be awarded the Nobel Prize for Economics. On the basis of extensive empirical research, Ostrom comes to the conclusion that a person's own actions depend not only on expectations of the way others will behave, but also on established, tried and tested processes, standards and rules.15 The latter may favour cooperative behaviour, or impede it. Additionally, direct communication and the possibility that selfish behaviour may be sanctioned increase the chances of reliable cooperation. It follows from Ostrom's research that behaviour directed towards collective action can be learnt, but may also be unlearnt – depending on whether the processes and rules a society has internalised promote cooperative or opportunistic behaviour.

Against this background, the three dimensions of sustainable development referred to above not only stand on an equal footing with regard to

[15] Ostrom/Walker 2005

one another, but also refer to different levels and categories. The ultimate goal of development is freedom for all people to live lives worthy of a human being. The economic dimension points to the economic requirements necessary for this, and in this way represents a necessary means and medium for development. Finally, the ecological dimension indicates the natural basis and the natural limits of development – which are also co-determined by culture, social organisation and technology.

A clear indication of these natural limits to development is provided by the research of environmental scientists into the planetary boundaries.[16] Global threshold values have already been exceeded in the areas of climate change, land use, loss of species diversity and nitrogen and phosphorus cycles even today. This demands swift and consistent change, because if all people worldwide were to use as many resources and emit as many pollutants as large parts of the population in affluent countries, or the elites and rapidly growing middle classes of the developing and emerging countries, then it would no longer be possible to control the risks posed by overshooting these boundaries. This makes it clear that there are limits to growth – not necessarily limits to the growth of an economic indicator of value such as the gross domestic product (GDP), but to the growth of the environmental burdens and use of resources.

2 Factors for growth and aims of growth

To understand the growth paradigm, one first needs to become aware what the factors for growth are. Nowadays economic research[17] leaves us in hardly any doubt that sustained growth of per capita income (PCI) cannot be achieved through the accumulation of capital alone, because new investments in the context of a given state of technology, unchanged income levels and constant regulatory frameworks yield ever smaller returns. The use of more resources is not a permanent option

[16] Cf. Rockström et al. 2009
[17] Jones/Vollrath 2013.

either, because many resources are finite and their use is accompanied by negative external effects – for example, because increasing CO_2 emissions accelerate climate change and reduce productivity in land use in many regions of the world.

Therefore, there remain only three drivers for sustainable growth: technological progress, the quality of human resources and the quality of political and social institutions. The latter are accorded a decisive role in the most recent research.18 The form it takes is critical to the question of whether societies invest in long-term projects or not. Legal certainty, clear property rights, free access to markets, good governance, an absence of national despotism, policies that seek to avoid hunger crises where the state of economic development is low and aim at a wide distribution of the benefits of prosperity – these are important, empirically supported factors for explaining economic growth. Classical production factors alone are comparatively unimportant as a growth driver.

Neoclassical economic theory views growth as predominantly a supply-side phenomenon, and frequently neglects the demand side. To ensure that there is a growing demand that equals supply and sustains it, most economists assume, inter alia, that people always prefer to have better quality goods, and more of them. Except in times of crisis, therefore, enterprises in 'well' organised market economies could act on the assumption that they could in fact also dispose of a quantitatively or qualitatively higher production of goods. Companies have an incentive to produce the goods that match their potential customers' 'insatiable' desires for consumption and possession. If they were to succeed in this, then they would also be able to sell their products and realise their profits. The question of whether it is correct to assume that these insatiable needs exist is one of the essential topics in the discussion surrounding alternatives to growth orientation. In any case, the level of propensity to consume is not simply a fixed anthropological value. For example, sociological studies show that different socio-cultural milieus also have different relationships towards consumption. Obviously there is a human urge

[18] Solow 2000.

towards a better life. But while happiness research proves that the fulfilment of material needs is a necessary condition for this, it is not a sufficient one.19

Even if the voices criticising or questioning growth have been multiplying for some time, economic growth continues to be regarded as the foremost goal of economic policy, both amongst politicians and the general public. There are factual reasons for this, but in many cases there is also a rhetoric accompanied by powerfully effective narratives that considers growth to be without any alternative.

Even if there is no automatic mechanism that converts economic growth into a corresponding reduction of poverty in every case, and other factors (in particular the distribution of income growth) play an important role, there is still a close statistical correlation between overall economic growth and rising incomes, even amongst the poor. The reduction of extreme poverty by more than a billion people as part of the millennium goals is largely due to development in east and south-east Asia – above all in China and India, with their high economic growth rates. In comparisons between countries, the size of PCI correlates positively with several values that seek to measure the achievement of other important objectives. For example, there is a clear link with advances in health and education. While it is disputed whether an increase in PCI accompanied by higher average incomes also increases subjective happiness or satisfaction with life, there is no doubt that in any case this is true for poorer countries.20

Additionally, important social institutions (including social security systems, the employment market and public finances) are dependent on growth both in their present form and with regard to future developments, e.g. of demographics. This is why phases of stagnation or even recession often take on the character of crises. Finally, in a growing economy distribution conflicts become mitigated, while in an economy

[19] Cf. Wallacher 2011
[20] Cf. Mattauch et al. to appear.

in recession the economic situation of parts of the population inevitably becomes worse. In the face of a growing percentage of older people in the population, for example, pensions can only remain constant without placing an increasing burden on the working population if the economy grows or other expenditures are restricted. The same applies to the healthcare system.

However, the above arguments for growth are accompanied by multiple caveats. First, growth alone is not sufficient to mitigate distributional conflicts. The last few decades in particular have shown how, even in growing economies, large portions of the population can be excluded from participating in increased wealth.[21] Growth does not necessarily translate into more permanent employment, better working conditions or less poverty. Second, contrary to the theory of a 'trickle-down effect' social development is not simply the result of economic growth, but can be realised through forward-looking investments, for example in health and education.[22] From this point of view, one should not sweepingly declare that there is an absolute necessity for growth, or regard it as having no alternative.

Moreover, not every form of growth and not every political measure that relies on quick growth is really suitable for attaining the desired improvements or objectives as well. Measures that boost short-term growth can diminish the prospects of longer-term growth or inhibit sustainable development. This applies especially, though not uniquely, to the ecological consequences of specific growth strategies. Finally, behind the politically dominant discourse on growth there are not seldom other hidden agendas as well: for example interest in receiving subsidies, or in securing competitive advantages through preferential political treatment. When there are demands for tax relief that unilaterally benefit the well-off or restrictions on social benefits in the name of growth, often particular interests are involved here rather than a macrosocial development

[21] Cf. e.g. Bude 2008.

[22] Sen 2010, in particular the discussion of socially driven versus growth-oriented development processes in Chapter 2.

that serves to overcome poverty, improves working conditions, health and education on a broad front, or prepares society for the upcoming demographic transformation.

Moreover, these arguments must also always be weighed up against other points of view (for example their ecological consequences). If instead growth-orientation is no longer questioned or even becomes an end in itself, then we are no longer dealing with a rational basis for economic policy but rather a growth ideology. The same applies if important measures are neglected that can also be expected to boost growth, but not just growth alone. If investments in education, research and development stagnate and long-term infrastructure measures to combat all too great inequalities are not implemented, there is a justified suspicion that the discourse on growth has become ideological, and that in fact only influential individual interests are hidden behind it.

3 Thoughts from the post-growth movement

The movement criticising growth is seizing on an increasing discontent with an economic policy that is fixated on economic growth without adequately considering the ecological and social consequences associated with it. This movement is not uniform, but rather emphasises different aspects of the question, and therefore also comes to conclusions that differ in places. Degrowth, for example, advocates a reformatory programme that seeks to overthrow the widespread fixation on growth through negative growth in individual industrial sectors and a comprehensive, deep-reaching transformation of society oriented towards ecological and social objectives. This is advocated by authors such as Serge Latouche or Niko Paech.[23] Outlines of such a degrowth-society, it is claimed, can already be detected in numerous social and ecological initiatives and projects (urban gardening, repair cafés, etc.)

[23] Latouche 2015; Paech 2012.

Advocates of the post-growth society such as Irmi Seidl and Angelika Zahrnt[24] back the idea of reforming key social and economic institutions such as social security (above all healthcare and pensions), the employment market, the consumer sector or commercial enterprise in such a way that they become less dependent on economic growth. This clearly shows that, in the different variant forms, it is never solely a question of criticising growth, but always of proposing alternative economic and socio-political concepts as well, and concrete ways of implementing them.

Despite all the differences of detail between the different variant forms, the large majority of representatives of the post-growth movement stress that, besides income, factors that cannot be measured in monetary terms also play a considerable role in influencing contentment and quality of life. Sectors that have a positive correlation with well-being and quality of life have a potential for growth that contributes to boosting sustainable development. These include, for example, nursing and caring work such as voluntary activities, which are crucially important for social cohesion and the social, mental and physical integrity of every single person.

Moreover, the post-growth movement as a whole dismisses as illusory the idea that economic growth and sustainability can be reconciled with one another through technological efficiency and 'green growth'. This is the option favoured by, among others, the above-mentioned 'Agenda 2030' of the United Nations, and also by the 'green growth' strategy of the Organisation for Economic Cooperation and Development (OECD) or the 'green economy approach' of the United Nations Development Programme (UNDP). These aim to achieve further growth of GDP globally without higher use of resources or a greater burden on the environment.

Large sections of the post-growth movement reject this idea, because to date there have been no historical precedents for an absolute, global

[24] Seidl/Zahrnt 2010.

decoupling of resource use (and emissions) from economic growth. In fact, up to now it has never been possible to separate economic growth from more exploitation of resources and pollutant emissions, anywhere in the world. In recent years the quantity of CO_2 emitted per unit of energy production and GDP (carbon intensity) has even clearly risen again worldwide, since in the 21st century many emerging and developing countries have been relying principally on cost-effective coal for their energy supply.[25]

However, this view overlooks two important aspects. First, although a global separation of resources use (and emissions) from economic growth has so far been impossible (and has never been comprehensively attempted), that does not mean that it would not be possible in future if the political will were present, and were implemented with effective instruments.

In order to be able to reduce resources use and pollutant emissions to the necessary extent, cost-free exploitation of the environment –and thus also the offloading of the economic and social costs entailed by production and consumption onto third parties, particularly subsequent generations ('externalisation of costs') – must be swiftly curtailed, even though this will be accompanied by political resistance. Through suitable measures – be these taxes, effective capping of emissions as part of a system of emissions trading or other regulatory procedures – exploitation of the environment must be assigned a price that is fairly related to its causes. This would yield considerable incentives for efficient use of energy and resources and a lowering of carbon intensity (quantity of CO_2 emitted per unit of GDP). As long as politicians shy away from this, technological progress alone will bring no solution.

Secondly, critics of growth overlook the fact that the carbon intensity would still have to be reduced considerably even if the economy were to shrink or stagnate, for example in order to achieve the climate targets of the Paris agreement. There are some grounds for believing that the re-

[25] Cf. Edenhofer/Jakob 2017.

quired improvement in emissions efficiency could be more easily accomplished in the context of a more dynamic, more innovative economy than a shrinking or stagnating one.[26]

However, regulatory structures which assign a price to environmental exploitation that is fairly related to its causes are a necessary precondition for this. Such a regulatory framework is also needed to end the externalisation of social costs as a consequence of global relocation, and to ensure employment conditions worthy of human beings. At present, however, the steps that have been taken so far towards fair, rules-based trade, fair distribution of gains in prosperity and decent work have been totally and utterly inadequate.

4 Elements and spheres of activity of socio-ecological transformation

With regard to sustainable development, therefore, there is equally little justification for rejecting growth in general as there is for pursuing it as the dominant strategy of economic policy. Most problems connected with growth fixation can be traced back to problematic incentive mechanisms and regulatory frameworks.

Instead, a fundamental transformation of economy and society through socio-ecological modernisation should be initiated as quickly and resolutely as possible. This is because investment decisions today have long-term effects on future use of energy and resources, and every delay will demand ever swifter and more radical changes in future.[27] Three elements, or levels, are of decisive importance for such a transformation.

[26] Jakob/Edenhofer 2014.
[27] Cf. WGBUD 2018.

4.1 Three levels of socio-ecological transformation

1.) The basic requirement for socio-ecological modernisation is comprehensive structural reforms that provide better incentives for more efficiency and technological innovation. Regulatory requirements such as gradual increases in energy standards, bans on particularly emissions-intensive products and production methods, or a concrete phaseout date for coal power stations are basically feasible. The disadvantage of such stipulations is that they make precise quantity control scarcely possible. By contrast, regulation via price signals for environmental exploitation and pollutant emission possesses several advantages. Such price signals are more just, because those who are responsible for the costs of environmental exploitation must also bear them. In addition, environmental damage could be mitigated considerably more efficiently and effectively by this means than through bans that have numerous exemption provisions. By means of a uniform, cross-sector CO_2 price, for example, emissions could be reduced where it is cheapest to do so.[28]

2) The deep-reaching transformation process will be accompanied by considerable effects on distribution if specific sectors of industry, e.g. the fossil fuel industry, shrink as a result of the faster rate of structural transformation. Poorer households too would be particularly disadvantaged by this, because they would then have to spend a greater proportion of their income on energy and emissions-intensive goods. To this extent it is important to design the structural transformation fairly ('just transition'), for example by temporarily supporting regions particularly affected by means of innovations and an active employment policy, or by implementing suitable measures to cushion the extra burden on low-income households with few assets in a way that is socially acceptable.

At the same time, any pricing of environmental exploitation or pollutant emissions must be agreed internationally, as a safeguard against 'free-riders' who knowingly choose lower levels of environmental protection

[28] German Federal Ministry for Economic Affairs and Energy 2016

in order to achieve advantages for themselves in international competition.

3) The post-growth movement rightly points out that a policy of socio-ecological modernisation must be supplemented and accompanied by a far-reaching transformation of culture, consciousness and values even today.[29] This is because the potential of technological possibilities might currently be overestimated, and the costs of a consistent environmental and climate policy underestimated. The danger that the reforms of political structure required for the transformation described here will fail or be further delayed by the resistance of powerful interest groups, or a lack of acceptance by the general public, is probably greater still.

Values and awareness that ascribe a higher importance to actions directed towards the future and the common good promote an idea of the good life that is not limited to 'always more and cheaper'. This could be contrasted by Aristotle's ethical virtue which follows the doctrine of the mean or the idea that many goods which are important for the human good cannot be bought with money. This is what is meant by the guiding principle of sufficiency. The experience of nature, care for family members and fellow humans in need, engagement with culture and commitment to ideals such as humanity and justice often cannot be compensated for by money – and yet they are the basis of our society, and they make growth and economic prosperity possible in the first place.

4.2 Spheres of activity of social-ecological transformation

On the basis of these fundamental considerations, the study Opting out from the growth society? develops a whole series of concrete demands for a socio-ecological transformation in various fields of activity, of which the following may be taken as examples:

[29] Cf. Seidl/Zahrnt 2010.

4.2.1 Climate protection and decarbonisation of industry and energy supply

The key to a globally sustainable economy lies in carbon-neutral industry and energy supply, and to achieve this a phaseout of the fossil energy industry and promotion of energy efficiency through appropriate regulatory structures must be speedily introduced and driven forward. This is because the crucial regulatory tool for reducing greenhouse gases is not – as many theories (e.g. 'peak oil') have long tried to suggest – the slender reserves of available fossil resources, but rather the limited absorption capacity of the earth's atmosphere, which to date has been used as a cost-free depository for greenhouse gases. As Pope Francis correctly pointed out in the encyclical Laudato si', the earth's atmosphere is therefore a global common property (common good), since its capacity for absorption is extremely limited. To limit the warming of the global mean temperature to two degrees and thus prevent dangerous climatic change – with consequences for the poorest in the world in particular that would scarcely be manageable any more – only around 800 gigatons of CO_2 may be emitted worldwide, according to experts' estimates.[30] Therefore instruments of climate policy are needed that cap the absolute quantity of emissions with a clear limit. For this reason, a considerable proportion of the reserves of coal, oil and gas in the earth must remain there, even if extracting them remains profitable under the present conditions. Thus, in order to effectively achieve the protection of the earth's atmosphere as a global common good, mandatory reduction obligations, that can also be enforced with the support of sanctions, are necessary in as many countries as possible.

For this purpose, all economically damaging subsidies for fossil fuels – which in Germany assume forms such as subsidies for coal or aviation fuel and privileges for diesel fuels – must first of all be abolished.

There are principally two instruments for pricing greenhouse gas emissions in a way that relates fairly to their causes: emissions trading, or a

[30] Cf. Edenhofer et al. 2010, 98f.

tax on CO_2 emissions. In both cases this would boil down to establishing a uniform, cross-sectoral price for all activities that release greenhouse gases in as many countries as possible, which is then progressively increased depending on how much of the remaining emission budget has been used. In its report presented in 2017, the Carbon Price Leadership Coalition for pricing CO_2 emissions set up partly by the World Bank, and headed by Nicholas Stern and Joseph Stieglitz, estimates that in order to implement the Paris climate agreement a CO_2 price of 40–80 US dollars per tonne of CO_2 is necessary by 2020, which needs to be increased to 50–100 US dollars per tonne of CO_2 by 2030.[31]

If this pricing is achieved through an emissions trading system, only as many emissions rights may be distributed worldwide as are necessary to achieve the desired climate goal (e.g. 2°C). Trading these rights would then make it possible to reduce worldwide emissions in the most cost-effective way possible. This is because countries where the costs of prevention are high could then buy emissions rights from those countries that can reduce their emissions more cheaply.

A 'CO_2 tax' is not a consumption tax in the conventional sense but a steering mechanism to internalise environmental costs. The advantage of such a tax on CO_2 is that nation states can use the additional revenues to finance necessary infrastructural or promotional measures, in order to manage the structural change associated with the transformation and cushion its social effects. However, it might be crucial for the legitimation and acceptance of such a toll that the incomes from such a steering tax were not used to plug holes in the domestic budget, but rather 'reimbursed' to citizens and companies in the form of infrastructure improvements, innovation and investment programmes, or – as in Switzerland – 'eco-bonuses' from health insurance providers.

To avoid disadvantages in international competition, CO_2 pricing of this sort must be coordinated with as many other countries as possible,

[31] Cf. Carbon Price Leadership Coalition 2017, 5

through which there should at least be agreement on a minimum price for CO_2 emissions.

Realistically, it must be assumed that many countries will decline to pay an appropriate contribution, at least initially. Therefore a situation will arise where a coalition of compliant countries assumes a pioneer role in the introduction of a 'CO_2 tax'. The initiatives taken by the French President Emmanuel Macron in this area should be promptly seized upon by Germany and other EU countries. Such pioneers should consider suitable measures to protect themselves against 'free-riders'. In a similar way to value added tax, such a climate tax could also be taken into consideration during import and export transactions, without having to wait for every country to participate. Game theory[32] shows that in the medium term there are positive incentives even for 'egoistic countries' to take part in such a CO_2 pricing system, if some strong countries courageously take the lead as pioneers.

The following also applies to the decarbonisation of industry and energy supply, and particularly so: the necessary transformation will be easier to accomplish if it is prepared for and co-supported by a transformation of awareness that includes reflection on 'the right measure', and which helps to change the production methods of companies and the lifestyles and consumption patterns of a high proportion of citizens.

4.2.2 Mobility and sustainable consumption

A further key area of activity is the socio-ecological transformation of goods and passenger transport, because traffic-related emissions are contributing to global climate change and local air pollution to a growing extent. A mobility transition that considerably reduces traffic volumes, and thereby also traffic-related emissions and land use, would therefore be an important step towards sustainable development.

Here too the first step should be to abolish the various state subsidies, above all those for air traffic and diesel fuels. The same also applies to

[32] Heitzig/Kornek 2018.

other questionable promotion mechanisms and incentive systems, which should be discontinued or at least reconfigured so as to be noticeably more environmentally friendly. This could involve subsidies for the private use of company vehicles, commuter allowances, and targeted promotion of energy production from renewable raw materials (biofuels).

However, here too the basic requirement for sustainable mobility is an appropriate price for CO_2 emissions, which then provides suitable incentives for correcting the downwards distortion of global energy prices, increasing energy efficiency in transport, and transferring goods traffic to more energy-efficient forms of transport. Indeed the growth of car, ship and air traffic, both nationally and internationally, can mainly be traced back to the fact that transport costs, which are significantly determined by energy prices, do not reflect ecological costs.

At the same time it is also necessary to change the nature of both goods and passenger traffic through various political measures, as far as possibly coordinated internationally. Important instruments for this purpose are promoting energy-efficiency technologies and alternative fuels (including electricity, hydrogen cells / fuel cells), which includes expanding the required infrastructures. As a means of containing the manifold social damages caused by high traffic volumes in cities the idea of a 'congestion charge' suggests itself, an initiative with which cities such as London or Stockholm have had positive experiences. By means of such a cause-related pricing system for motorised traffic, the social costs of urban car traffic can be effectively and efficiently reduced, and traffic bans avoided. In addition, redesign of urban transport infrastructures and adaptation of settlement structures provide the key to a sustainable urban transport system.

Citizens can also make a valuable contribution to the required decoupling of resources use and high living standards through sustainable consumption, for example by reducing their meat consumption or consuming more fairly traded and sustainably produced products. Politicians must be called upon to support this awareness shift: providers need suitable incentives to produce longer lasting and recyclable products, consumers must be given more scope for choice through simple, trans-

parent labelling of origin and quality, and the infrastructure for environmentally friendly local and long-haul transport must be considerably expanded, in order to make 'sufficient lifestyles' a more attractive proposition.

4.2.3 More suitable indicators for sustainable development

Finally, the necessary reconfiguration of society requires suitable indicators that can provide orientation for consumers, companies, public discussion and policy. The study by the expert group provides an overview of already existing alternative figures and indices for steering sustainable development, which supplement or even, in some cases, replace the preponderating GDP. At the same time, however, the authors also make it clear that these indices cannot exercise their effects until public debate is more strongly influenced by them, and political decision-makers orient their decisions more closely towards them and take them seriously as mandatory targets for specific aims – for example the reduction of emissions or land use.

5 Significance of Churches and religious communities for socio-ecological modernisation

The study concludes with some discussion of the significance of Churches and religious communities for socio-ecological transformation. On the basis of their spiritual traditions and the considerations of creation theology, these can communicate basic stimuli for personal transformation and behavioural change –in kindergartens, schools and universities with which churches and their members are involved, in the education and training of their own staff, in adult education and youth work, in their media, but also in the catechesis and in their religious services. Taking the educational task of a transformation seriously does not only mean informing people about the need for transformation towards a sustainable configuration of industry and society as well as possible roadmaps. It

also means enabling people to change their lifestyles and consumption habits and become active themselves.

In addition, the Churches possess social influence, which they should use to engage as advocates for sustainable (holistic) development. As a community with a global perspective that at the same time is always rooted locally, the Church is the predestined advocate for a global, intergenerational world prosperity. However the Churches' engagement as advocates for socio-ecological transformation is only credible if they lead by example on as many levels as possible in their own sphere of responsibility – in procurement, building projects, management of land and buildings or in their financial investments ('ethical investment').

In all a.m. areas of activity there are many well-meaning initiatives, which are often also convincing. The levels and spheres of activity of socio-ecological transformation described above indicate the scope and extent of the required changes, which besides the redesign of economic frameworks and environmentally friendly technologies also require a far-reaching transformation of culture and values and participatory political processes. This reaffirms the guiding principle of an integral ecology, which Pope Francis develops in his encyclical Laudato si' with his plea for a holistic view. If one takes this as a yardstick, then ecclesiastical activity – both institutionally and in terms of content – is faced with the challenge of coherently connecting its efforts in preaching and education with those in practical (global) ecclesiastical activity and socio-political commitment – the latter, once again, concerned with environmental protection, development policy and fighting the causes of migration – as well as reconciling the division of labour between them and bundling many things more efficiently together, in order to live up to the claim of a 'holistic view' and to display greater effectiveness.

Literature

Bude, Heinz: Die Ausgeschlossenen. Das Ende vom Traum einer gerechten Gesellschaft, Munich: Hanser 2008.

Bundesministerium für Wirtschaft und Energie (Federal Ministry for Economic Affairs and Energy): Die essenzielle Rolle des CO2-Preises für eine effektive Klimapolitik. Gutachten des Wissenschaft-lichen Beirates beim Bundesministerium für Wirtschaft und Energie, Berlin 2016.
https://www.bmwi.de/Redaktion/DE/Publikationen/Ministerium/Veroeffentlichung-Wissenschaftlicher-Beirat/wissenschaftlicher-beirat-rolle-co2-preis-fuer-klimapolitik.pdf?__blob=publicationFile&v=8 [Accessed: 3 August 2018]

Carbon Price Leadership Coalition: Report of the High-Level Commission on Carbon Prices. Executive Summary, May 29, 2017. https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59b7f26b3c91fibbode2e41a/1505227373770/CarbonPricing_EnglishSummary.pdf [Accessed: 3 August 2018.]

Conrad, John M.: Resource Economics. Cambridge: Cambridge University Press 1999.

D'Alisa et al., Giacomo (Ed.), Degrowth: Handbuch für eine neue Ära, Munich 2016.

Jones, Charles I. / Vollrath, Dietrich: Introduction to Economic Growth, 3rd. Edition, New York 2013.

Edenhofer, Ottmar/Wallacher, Johannes/Reder, Michael/Lotze-Campen Hermann: Global aber gerecht. Klimawandel bekämpfen, Entwicklung ermöglichen. – Munich: Beck, 2010.

Edenhofer, Ottmar/Flachsland, Christian/Lessmann, Kai: Wem gehört die Atmosphäre? Nach dem Klimagipfel in Cancún. In: Stimmen der Zeit 229 (2011) 2, p. 75-88.

Edenhofer, Ottmar/Jakob, Michael: Klimapolitik: Ziele, Konflikte, Lösungen, Munich 2017.

Hauff, Volker (Ed.): Unsere Gemeinsame Zukunft – Der Brundtlandt-Bericht der Weltkommission für Umwelt und Entwicklung. – (Brundtlandt Report of the World Commission on Environment and Development: Our Common Future) Greven: Eggenkamp, 1987.

Heitzig, Jobst / Kornek Ulrike: Bottom-up linking of carbon mar-kets under far-sighted cap coordination and reversibility. In: Nature Climate Change 8 (2018), p. 204–209.

Helfrich, Silke /Heinrich-Böll-Stiftung (Ed.): Commons. Für eine neue Politik jenseits von Markt und Staat. – Bielefeld, Transcript, 2012. – 529 S. https://www.boell.de/sites/default/files/2012-04-buch-2012-04-buch-commons.pdf [Accessed: 3 August 2018]

Jakob, Michael/Edenhofer, Ottmar: Green growth, degrowth, and the commons, in: Oxford Review of Economic Policy, Volume 20 (2014), No. 3, 447-468.

Laudato Si. Über die Sorge für das Gemeinsame Haus (Care for our Common Home)(LS):
http://w2.vatican.va/content/francesco/de/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html [Accessed: 3 Au-gust 2018].

Löffler, Winfried: Was hat soziale Gerechtigkeit mit Nachhaltigkeit zu tun? Philosophische Sondierungen im Umkreis zweier Leitbilder. In: Littig, Beate (Ed.), Religion und Nachhaltigkeit. – Münster: Lit-Verlag, 2004. – p. 41-70.

Latouche, Serge: Es reicht! Abrechnung mit dem Wachstumswahn, Munich 2015.
Mattauch, Linus/Siegmeier, Jan/Funke, Franziska: Wirtschaftswachstum aufgeben? Zur Struktur populärer wachstumskritischer Argumente. Zeitschrift für Wirtschafts- und Unternehmensethik, to appear.

Mercator Research Institute on Global Commons and Climate Change: Deutsche Klimapolitik sozial gerecht gestalten, Berlin 2017.

Stephan, Petra: Nachhaltigkeit: ein semantisches Chamäleon. In: Entwicklung und Zusammenarbeit 43 (2002), No. 4, p. 112f.

Ostrom, Elinor/Walker, James (Ed.): Trust and Reciprocity. – New York: Russell Sage, 2005.

Paech, Niko: Befreiung vom Überfluss: Auf dem Weg in die Postwachstumsökonomie, Munich 2012.

Päpstlicher Rat für Gerechtigkeit und Frieden (Pontifical Council for Justice and Peace): Kompendium der Soziallehre der Kirche. (Compendium of the Social Doctrine of the Church) – Freiburg: Herder, 2006.

Rockström, Johan et al.: Planetary Boundaries: Exploring the safe operating space for humanity. In: Nature 461, 472–475 (24 September 2009).

Seidl, Irmi/Zahrnt, Angelika (Ed.): Postwachstumsgesellschaft: Konzepte für die Zukunft, Marburg 2010.

Sen, Amartya: Ökonomie für den Menschen: Wege zu Gerechtigkeit und Solidarität in der Marktwirtschaft, Munich 2010.

Solow, Robert M.: Growth Theory, 2nd edition, New York/Oxford 2000.
Todaro, Michael P./Smith, Stephen C 2015: Economic Development. Twelfth Edition, London 2015, et al. esp. Chap. 1-4, 6-8.

Vereinte Nationen (United Nations) 2015: Verabschiedung der Post-2015-Entwicklungsangenda, (Adoption of the Post-2015 development agenda), Resolution der Generalversammlung, verabschiedet am 1. September 2015, (Resolution by the General Assembly, adopted on 1 September 2015) www.un.org/depts/german/gv-69/band3/ar69315.pdf, as well as www.un.org/sustainabledevelopment/sustainable-development-goals [Accessed: 22 October 2018.]

Vogt, Markus: Prinzip Nachhaltigkeit. Ein Entwurf aus theologisch-ethischer Perspektive, Munich 2009.

Wallacher, Johannes: Mehrwert Glück. Plädoyer für menschenge-rechtes Wirtschaften, Munich 2011.

Wallacher, Johannes: Laudato Si' – eine „aufklärerische" Botschaft. In: Wissenschaft und Weisheit. In: Franziskanische Studien zu Theologie, Philosophie und Geschichte 78 (2015), p. 9-24.

WA-DBK [Wissenschaftliche Arbeitsgruppe der Deutschen Bischofskonferenz]:Raus aus der Wachstumsgesellschaft? Eine sozial-ethische Analyse und Bewertung von Postwachstumsstrategien, Bonn 2018.

WBGU [Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen](German Advisory Council on Global Change): Zeitgerechte Klimapolitik: Vier Initiativen für Fairness, Politikpapier Nr. 9, (Just & In-Time Climate Policy: Four Initiatives for a fair Transformation, Policy paper 9), Berlin 2018.

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The 'Global Economy and Social Ethics' expert panel of the German Bishops' Conference is a group of scientists that discusses economical matters in a globalized world in the light of Christian Social Ethics. Assembling economists and experts in Christian Social Ethics it follows an interdisciplinary approach.

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[33] WA-DBK 2018. The study in German language can be downloaded or ordered at: www.dbk-shop.de/media/files_public/owxmwxsb/DBK_1521.pdf.

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