Research results of a study by the
'Global Economy and Social Ethics'
expert panel. No. 22

How socio-ecological transformation can succeed

An interdisciplinary study within the framework of the dialogue project on the contribution of the Catholic Church to a socio-ecological transformation in the light of *Laudato si'*

German Bishops' Conference Commission on International Church Affairs (ed.)

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The interdisciplinary expert panel "Global Economy and Social Ethics" was set up in 1989 by the German Bishops' Conference Commission on International Curch Affairs to advise institutions of the Catholic Church on questions of global economic development. In terms of its objectives and its personnel composition, the panel aims to combine economic and social-ethical expertise.

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Table of Contents

Summary

To achieve sustainable development and the Global Sustainability Goals (SDGs: Sustainable Development Goals) a socio-ecological transformation of the economy and society is indispensable. Despite all the challenges involved with it, the necessary transformation is not an unattainable utopia, but a realistic option for the future. By means of central fields of action, the study identifies obstacles that impede the necessary changes. On this basis, the study identifies parameters that need to be actively adjusted to ensure that the urgently needed socio-ecological transformation can succeed.

Obstacles and conflicts illustrated by three exemplary fields of action: energy, consumption & mobility and agricultural transformation

An energy transition in which all countries would phase out coal combustion would bring the world significantly closer to the emissions target of limiting the global temperature increase to 2 degrees Celsius. Moreover, the mining and burning of coal often not only constitute a burden for the local natural and cultural landscape, but also put a strain on public health in many places. In fact, coal is only a supposedly cost-effective source of energy as long as the ecological and social follow-up costs are passed on to others. The example of coal use also clearly shows the danger of long-term path dependencies. Countries such as China, which rely heavily on coal for their energy supply, have further increased their investments in this particularly climate-damaging form of energy production in the wake of the pandemic. For poorer countries, high finance costs inhibit the expansion of renewable energies precisely where they would be particularly necessary and effective. This hinders technological innovation and the development of a decentralized, sustainable energy supply.

The example of the current shifts in consumption and mobility shows how existing structures still promote the waste of scarce resources, environmentally harmful production methods and unfair working and trading conditions. As long as people define themselves primarily in terms of consumption and strive for constant growth in prosperity and status, technological changes alone will not be enough. Particularly motorized private transport shows that a genuine mobility revolution must go far beyond alternative drive technologies and can only succeed if it is accompanied by a shift in consumption and does not neglect cultural factors. For example, we need to ask whether living, working, vacationing or spending leisure time really need to be linked to constantly growing mobility requirements. How can more efficient technologies be combined with a culture of moderation (sufficiency) in order to provide effective incentives for more shared mobility services, longer product lifetimes and comprehensive recycling of the resources used?

The example of an agricultural turnaround, which encompasses agriculture, food production and diets, illustrates not only problematic incentives but also the persistence of partly unconscious behavioral routines. Far too often, competition is fought here at the expense of the weakest, especially nature, animal welfare, human health or precarious employed workers. These routines are not easy to change – especially when they are supported by socio-cultural norms and reinforced by a lack of national and international cooperation and solidarity.

A positive perspective for the transformation

A positive perspective for sustainable development can serve as a motivating and guiding force to move people and societies to profound

changes. That is why the socio-ecological transformation of the economy and society aims to ensure that all people can live well now and in the future while respecting planetary boundaries: To do so, they must be able to adequately meet their basic needs. Moreover, they need fair scopes of action and opportunities for participation, as well as decision-making processes that are equitable and inclusive. Studies show that, with suitable and rapid structural reforms, this is possible without major reductions in quality of life and losses of welfare.

Levers for successful transformation

Against the backdrop of the above-mentioned obstacles, key levers (or "adjustment screws") are defined. These can significantly promote the necessary socio-ecological transformation if they are jointly considered and addressed in their interdependencies. Since not all consequences can be foreseen, the reforms must be designed as a continuous learning process. Immediate adjustments are urgently needed.

1. Creation of a regulatory framework that promotes innovation and the common good

The basis for the socio-ecological transformation is a regulatory framework that creates incentives for social and technological innovations conducive to the common good. Ingrained routines of action must be changed. Political and economic "free riders" who gain short-term advantages at the expense of the socially weaker, future generations or the environment must be put in their place by changing the framework conditions. Only then will it be possible to ensure fair pricing of environmental and resource consumption based on the polluter-pays principle, social balance and civic participation.

In order to promote the common good and advance social and technological innovations, we need not only courageous investments in education, infrastructure and public services, but also innovative policy instruments, appropriate monitoring and participation opportunities for the civil society, as well as more international cooperation and solidarity. Establishing sustainable technologies and incentive structures usually requires a longer start-up period and good coordination before they can work together effectively at national and international level.

This is clearly illustrated by the example of the pricing of climate-damaging emissions: Following the introduction of EU emissions trading, it is now important to quickly set quantities and where possible also prices on the basis of scientific data and independently of day-to-day political business, and to also subject previously unrecorded emissions (traffic, buildings) to CO_2 pricing. With regard to global pricing, multilateral agreements on minimum CO_2 prices, supplemented by transfers for investments in renewable energies, are recommended. In particular, poorer countries, which have the greatest need for investment and the most cost-effective application potential for renewable energies, must be enabled to comprehensively apply these technologies and to independently develop and refine them through cooperative partnership. In the sense of an equitable burden-sharing, governments, companies and financial institutions in wealthy countries should make a far greater contribution to the fight against poverty and climate change through technology and financing support.

2. Fair distribution of burdens and of new opportunities
Sustainable development is a question of justice. In view of the distributional conflicts described in the study, an honest transformation policy is always also a policy of fair distribution of burdens that also open up new opportunities for action for all those involved. To this

end, it is necessary to involve those affected by the various distribution conflicts in change processes and to hold them responsible. The so-called "stranded assets" play an increasingly important role in this. Those who for example owe their prosperity to the possession of fossil resources or the use of technologies that are no longer up to date cannot simply reject restrictions in their previous business model as "cold expropriation," but have a special responsibility to participate constructively in innovations and reforms that promote the common good.

Those who want to shape the transformation must also identify the associated power issues in order to be able to successfully determine and overcome barriers and counterforces. In order not to be paralyzed by the inevitable distribution conflicts, it is helpful to communicate to the affected interest groups at an early stage that, under the right conditions and with an appropriate social compensation, the restrictions are not only bearable, but also open up new perspectives that should be distributed fairly.

3. Promotion of societal support through transparency and participation
A lack of political design and communication in dealing with the aforementioned distributional conflicts contributes to the loss of trust in transparency and participation (two basic promises of the democratic state). Political populism profits from fears of (material or idealistic) loss. It therefore deliberately reinforces these fears by blaming responsibility for complex problems and thus also the individual's own responsibility to global enemy images. In this way, political populism offers temptingly simple, often nationalistic answers.

The study sees three steps as the answer to this loss of trust: first, to acknowledge this shock or fear; second, to improve opportunities for information, codetermination and participation; and third, to expose

populist instrumentalization, which reinforces this loss of trust for its own benefit and has no interest in constructive solutions. Therefore, the contradictory attitudes of right-wing populism with regard to climate change must be exposed and concrete transformation projects must be designed as participatory as possible. Adequate "education for sustainable development" that awakens a desire for change and conveys a sense of achievement is not only an effective means of combating populism, but also strengthens the ability and willingness of future generations of politicians to work together multilaterally, rule-based and in close cooperative partnership with civil society.

4. Acknowledging the cultural dimension of transformation

The cultural dimension of change is often neglected in reform proposals and is therefore easily hijacked by populist movements. Populists like to give the impression that they are preserving religious or cultural traditions. In fact, however, they often betray the values that underlie these traditions. Those who want to advance the socio-ecological transformation must value the "cultural fabric of meaning," which often changes only slowly and is thus inert, but also sustainable. Often, lifestyles and consumption patterns initially change in "niches"; it is important to perceive them sensitively and ask: Why did these "niche-like" changes occur, what factors favored them - and what can be learned from them for the design of structural enabling and incentive conditions to spread them beyond the niche?

The contribution of the Catholic Church to successful transformation

The credibility of the Church, both vis-à-vis its own believers and as an actor in society as a whole, depends essentially on its ability to act coherently. With regard to the socio-ecological transformation, this means that demands for change, for the preservation of creation and for global justice can only be voiced credibly and effectively if they are

accompanied by constant efforts to live by these values. Knowledge of the above-mentioned levers of successful change should therefore be increasingly applied within the entire sphere of influence and responsibility of the church. If this succeeds, the Catholic Church as a universal church can contribute not only its material and structural assets, but also its specific potential as a community of faith to the overall societal process of change: its advocacy for the vulnerable and marginalized, traditions of right balance and of universal justice, a holistic understanding of quality of life, and a spirituality that carries through periods of thirst, seeks common ground, and conveys hope.

In order to implement this potential even more stringently, the study recommends better organizational anchoring for a coherent sustainability strategy in all German dioceses. In facility management, a comprehensive switch to renewable energies is necessary. The gradual conversion of all heating systems, the use of ecological building materials and a fast switch to green electricity for all church properties should be a matter of course. In addition, the tried-and-tested principle of partly renting out church properties below local market prices should be strengthened in order to promote certain types of housing (e.g., multigenerational houses) and a broad mix of different social and income milieus. There is also great potential in consistently aligning church procurement with social-ecological criteria. This includes vehicle fleets and guidelines for reimbursable business trips as well as church kitchens, where more whole foods, "bio-regio" and "fair trade" should be the rule. In the area of land-management, as in asset management it has to be clarified how far the sustainability criteria already introduced in many places can be further standardized and improved. This poses a substantial challenge in view of the large number of different church legal entities. Such a discussion would send out a signal

to society as a whole if it were possible to discuss the associated distribution conflicts at an early stage with all those affected and to find a common regulation on the basis of shared values.

In particular the debate on responsible population policy and family planning continues to gain urgency in the global context, as all social, economic and ecological SDGs are unlikely to be achieved at the same time given rapidly growing populations in many poorer countries.

Often it was and still is grassroots democratic groups and associations that have done pioneering work for future issues such as active environmental protection, fair trade or sustainable investments, both within the church and in society as a whole, and that continue to promote these concerns on a broad scale. In view of the structural crisis of the institutionalized church, these groups represent a resource whose importance is likely to increase significantly in the coming years.

Introduction

The central challenges of our time are closely interconnected and can only be solved together. Pope Francis made this clear in his encyclical Laudato si' (LS) published in May 2015. He urges a comprehensive analysis of the problem and calls for a new, integral idea of progress so that "our common home" has a future. As different as the causes of global poverty and social inequalities on the one hand and the causes of the ongoing destruction of livelihoods through climate change and other environmental problems on the other hand may be, the manifold links between these are now obvious. Poor people, regions and countries that consume the fewest resources and have contributed the least to climate change are already today and will in future be even more disproportionately affected by its negative consequences and have significantly fewer opportunities to adapt to the changed conditions.

With the 2030 Agenda for Sustainable Development and its 17 Global Sustainable Development Goals (SDGs), the international community has taken up this issue and in September 2015 committed itself to jointly laying the foundations for sustainable development worldwide. The states acknowledge that there are not only widespread forms of underdevelopment, but also of undesirable development that need to be corrected through appropriate reforms. At the same time, they have agreed to concretise individual goals (cf. Fig. 1) and to initiate suitable political reforms to achieve them.

Unfortunately, the conflicting goals between the individual SDGs, especially with regard to the role of economic growth, are usually not given sufficient attention. With the study *Raus aus der Wachstumsgesellschaft? A Socio-Ethical Analysis and Evaluation of Post-Growth Strategies*, the Group of Experts (SWS)[1] presented an orientation for this in 2018 with the result that it is neither justified to pursue growth as a primary economic

policy strategy, nor to reject it in general. Rather, a socio-ecological transformation of the economy and society is necessary.

Figure 1: The Global Sustainable Development Goals (SDGs)

According to the German Advisory Council on Global Environmental Change (WBGU Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen), "the German terms 'transition' and 'transformation' are usually used synonymously to describe far-reaching processes of social, economic, cultural and political change". With regards to the necessary "great transformation", the WBGU speaks of a "fundamental change that envisages a restructuring of the national economies and of the global economy within the [planetary] boundaries in order to avoid irreversible damage to the Earth system and to ecosystems and their impacts on humanity."[2] The central goal is to achieve a net zero global greenhouse gas emission by the middle of this century. Depending on how ambitiously current emissions are reduced and how quickly the point of global climate neutrality is reached, it may be possible to limit the progressive warming of the planet to 2 degrees, or better still 1.5 degrees, by the year 2100. To realise this, the SWS study formulates the following guidelines (cf. Fig. 2):

1. Rapid introduction of comprehensive structural reforms to decouple growth and resource use. Central to this is a fair pricing of environmental use so that the social and ecological costs caused by production and consumption are not passed on to third parties, especially to the socially weaker and future generations ("externalisation of costs"). This also creates effective incentives for technical innovations, strengthens competition between suppliers as well as transparency and freedom of choice for consumers.

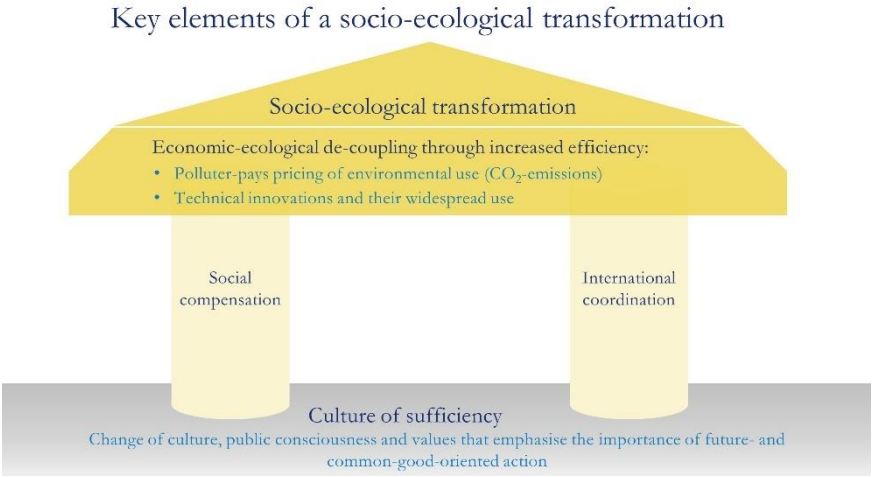

Figure 2: Guidelines of a socio-ecological transformation of the economy and society

2. These structural reforms are associated with considerable distribution effects and corresponding conflicts of interest. As supporting pillars, they therefore need appropriate social cushioning and effective international coordination. Only in this way is it possible to achieve the necessary broad consensus among the population and to successfully protect against "free riders" who want to gain competitive advantages with lower environmental and social standards.

3. A policy of socio-ecological transformation of the economy and society must also be prepared, supplemented and accompanied by a far-reaching change in culture, awareness and values.

Due to growing social imbalances and the increasing destruction of our natural livelihoods, the timeframe for the necessary socio-ecological transformation is extremely limited. It is therefore all the more important to initiate the necessary changes immediately and with great vigour, to shape them in a participatory manner and to ensure a fair distribution of benefits and burdens (of change as well as of inaction).

The COVID-19 pandemic has, as Pope Francis states in his recent encyclical Fratelli tutti, "exposed our false securities" (FT 7). It is to be feared that social inequalities will be further deepened and entrenched by the pandemic both globally and within many countries. In addition, there is a danger that the uncertainty caused by the crisis will reduce the acceptance of ecological and social reforms or that political measures will be limited to short-term crisis intervention. However, political interventions and economic stimulus programmes must be used consistently to promote the necessary structural change for a socio-ecological transformation, also in order to prevent future crises.

In this context, the group of experts would like to use the present study to explain which parameters and adjusting screws promote the necessary change and, in doing so, also shed light on the specific contribution of the Catholic Church as a world church. At the beginning (Chapter 1), three examples central to the socio-ecological transformation (energy, mobility, agriculture) will briefly illustrate how urgent rapid changes are and how closely intertwined the essential goals of sustainable development (SDGs) are. The selected examples illustrate clearly that the socio-ecological transformation offers great opportunities, but also requires social efforts.

In order to motivate people and societies to change, it is not only crucial to understand the necessity of change, but also to have a positive target perspective that develops motivating power as well as orientation (Chapter 2). In a third step, the factors that hinder the necessary transformation processes are analysed in more detail (chapter 3), in order to then name

parameters and paths that can quickly initiate and effectively advance innovations (chapter 4). Finally, the significance of the churches and religious communities for the change is examined (chapter 5). As a global learning community, the church has special potential to contribute to the necessary transformation. For this, however, it is also imperative to analyse where, how and under which circumstances the churches hinder transformative steps and how these barriers can be overcome.

1 The socio-ecological transformation: urgent and challenging

Three examples from central fields of action of the socio-ecological transformation of economy and society will first briefly illustrate how urgent rapid changes are, especially with regard to the key Sustainable Development Goals (SDGs). At the same time, these examples also illustrate which obstacles impede the necessary change or which reasons are put forward against it – but that it is nevertheless possible to shape the change.

1.1 Transition of the energy sector

Due to its high economic, social and ecological importance, the energy sector is central to the necessary transformation. This is particularly evident in the case of coal combustion, as important global sustainability goals (especially clean energy, sustainable economic growth, climate protection, health) can only be realised by phasing out coal as a central energy source.

With more than one third of global emissions, coal combustion is the most important source of climate-damaging greenhouse gases. If all countries were to stop burning coal, the world would be much closer to its emissions target of keeping global warming below 2°C[3]. At the same time, the extraction and burning of coal damages the natural and cultural landscape and

biodiversity worldwide. It also affects public health and human rights in many places – for example through displacement, worsening water scarcity or through disgraceful and harmful working conditions.

From a purely economic point of view, phasing out coal would be a worthwhile undertaking if *all* social costs, including the estimated damage to people and the environment, were actually taken into account: Then a net saving of about 1.5 % of global economic output could be achieved by 2050, and in particularly coal-intensive economies this effect could occur much earlier[4].

The global coal phase-out is not only urgent and sensible, but also comparatively easy to achieve. Since renewable energies can largely replace coal as an energy source, the coal phase-out could be achieved primarily with innovative technologies, without necessarily requiring a comprehensive change in awareness and behaviour on the part of a great many people.

Nevertheless, a global coal phase-out is not in sight: despite all the variously motivated phase-out processes in some industrialised countries, there has been a veritable renaissance of coal since the 2000s, especially in emerging economies with partly growing numbers in the production and consumption of coal, above all in the Australasian region.[5] China and India have long relied on supposedly cheap coal-fired power. Their economic stimulus programmes to overcome the Corona pandemic are reinforcing this development[6], while in sub-Saharan Africa a real coal boom could still be in the offing. The development of the corresponding infrastructure would create long-term path dependencies and block the transition to a sustainable and decentralised energy supply, which would make sense in combating energy poverty, especially in rural regions.[7]

So there are obviously very powerful factors that stand in the way of a rapid departure from fossil energy supply: Coal is still very attractive because it is a relatively cheap source of energy, as long as the high ecological

and social costs continue to be ignored and passed on to others, i.e. externalised. Likewise, the health costs are often ignored and not causally associated with coal.[8] A decisive economic incentive for the transformation would therefore be the consistent and globally coordinated pricing of all costs and the end of all direct and indirect subsidy payments. As long as this is not done to a sufficient extent and in an internationally coordinated manner, the expansion of renewable energies promoted in many countries can even lead to a paradoxical effect: As a result, fossil energy sources could become even cheaper, if their (mostly state-owned or government-affiliated) owners exhaust all possibilities to sell their own resources as extensively as possible while this is still possible.

Countries with large coal reserves of their own often justify burning coal by referring to security of supply and independence from other countries. This is often reinforced by a high symbolic significance, as industrialisation and prosperity often went hand in hand with coal extraction in the past. This is usually associated with conflicts over distribution, as individual regions fear economic and social consequences and therefore resist a supposedly hasty exit. However, coal mining in Germany shows that the phase-out of an outdated energy supply can be made unnecessarily more expensive and delayed by state subsidies. Already in 1957, every second coal mine in the Ruhr area was no longer covering its costs, but between 1950 and 2008 a total of more than 300 billion euros was spent on financial aid, tax relief and other subsidies. Still in 2008, the annual subsidies for the coal industry amounted to 233,000 euros per job.[9] The number of employees in the coal industry fell from 600,000 to 30,000 during this period. In comparison, according to the Federal Environment Agency, at least 2.8 million people were employed in the environmental sector in 2017. [10]

For many developing and emerging countries, a coal-based energy supply still represents a supposedly simple and cost-effective development model, also because future cost reductions (e.g. through positive learning curves) for renewable energies are often underestimated. Many political actors still see the development of energy-intensive heavy industry with

its associated infrastructure investments and agglomeration effects as the easier step towards industrialisation and overcoming poverty.[11] Moreover, coal seems to be particularly advantageous for these countries because currently more climate-friendly alternatives such as renewable (and mostly decentralised) energies often have much higher investment costs than coal. While interest rates in the EU, the USA and parts of Asia are at a record low, in sub-Saharan Africa they are sometimes even in double digits due to the scarcity of capital and higher investment risks. The high cost of capital makes it difficult to expand renewable energies in precisely those places where they would be particularly necessary and effective.[12]

The decisive factor for the still great attractiveness of coal worldwide is likely to be its high availability. The following diagram illustrates the enormous reserves of coal compared to other fossil energies – and especially in comparison to the small CO_2 budget that still may be emitted at all with respect to climate change (Fig. 3).

Figure 3: Comparison of the size of still unused fossil fuel reserves (coal on the left, oil and natural gas on the right) compared to the small CO2 budget (bottom right) that may still be emitted at all with respect to climate change. (Own representation based on BGR Energy Study 2018 and MCC Carbon Clock) [13]

Coal would still be available for a very long time even if consumption remained high. At the same time, however, the diagram also illustrates the aforementioned urgency of phasing out coal: to comply with the 1.5°C or 2°C warming limit, only a limited CO_2 budget[14] (visible at the bottom right of the diagram) may still be consumed. This can only be achieved if the majority of fossil fuels remain unused in the ground. The fact that a changeover is nevertheless possible is shown by experience from the Netherlands. There, the initially highly controversial phase-out of coal production was achieved surprisingly quickly and efficiently through a well-moderated participation process involving the various interest groups in the 1960s. In the UK, the appropriate and long-term predictable pricing of

emission certificates has contributed significantly to a well-ordered and relatively quiet coal phase-out in recent years.[15]

1.2 Transition of consumption and mobility

Western (and increasingly global) consumption patterns (and the corresponding production patterns) also need a transition if a socio-ecological transformation is to succeed.

The production of more and more goods, which are to be acquired and individually owned by more and more people, is in need of change if the production, distribution and disposal of the increasing quantity of goods cause ecological and social problems. These include, above all, the waste of scarce resources, environmentally harmful production methods and unfair working and trading conditions. In addition, however, it is also important to critically reflect on the consequences for the consumers themselves: The possibility of satisfying personal preferences through appropriate consumption of goods is important and positive for individual freedom and self-determined way of living. However, freedom of choice and consumption becomes problematic when the acquisition of goods (promoted by advertising and incentives) leads people to define themselves primarily through consumption and to strive for constant increase in wealth and status. This narrow view, which is often reinforced by traditional social norms[16], is often at the expense of other life goals such as health and long-term satisfaction.

Figure 4: Actual time of use of average cars and roads in Europe (Own representation based on Circular Economy Report 2015)[17]

As an example of the complex field of action of the shift in consumption and mobility, the motorised private transport, which is essential for many national economies and societies, will be picked out here. If we consider, for example, that cars in Europe on average remain unused 92% of the time, the use of resources and the environmental impact of production are grossly disproportionate to the mobility benefits they generate (cf. Fig. 4). If cars were produced in such a way that all resources used could be recycled to a large extent (circular economy) or if there were suitable service offerings and sharing models ("use instead of own"[18]) so that every car would be used by as many people as possible, the ratio of environmental impact and mobility benefits would already improve significantly. It would be even more sustainable if unnecessary traffic were avoided and the mobility benefits were generated by other modes of transport. This would also significantly reduce use-related energy consumption, environmentally harmful emissions, health hazards [19](especially through lack of exercise and accident-related personal injuries) and the occupation of public space by moving as well as parked cars.

This makes clear that a genuine mobility transition must clearly go beyond alternative drive technologies. In the sense of sufficiency, it must be asked whether living, working, holidays or leisure time really have to be linked to constantly growing mobility requirements, as is – at least until the outbreak of the Corona pandemic – often suggested in discussions about the future of mobility. Moreover, in order to reduce the aforementioned social and ecological problems, a culture of consumption and mobility that is supported by appropriate offers and incentives and that focuses more on "using instead of owning" is required. In addition, the objects that are still owned must be used for as long as possible and must then be recycled as comprehensively as possible.

However, the example of reducing vehicle ownership also shows how difficult it is to get the necessary change underway. There are positive approaches such as various sharing models or improved recycling cycles. Attempts to make urban car use less attractive by introducing city tolls and higher parking fees have proven successful where at the same time public transport and other modes of transportation as well as their infrastructure, have been made more attractive. Nevertheless, there is no sign of a widespread shift away from private motorised transport. The inertial forces that are counteracting the change are manifold.

It is not only in Germany that the automotive industry is of central economic importance, so that the transformation towards sustainable mobility can lead to economic and social upheavals. In fact, the result of a high significance of the automotive industry often is that politicians primarily try to preserve established technologies and the corresponding jobs, and that the technical change is then delayed, but all the more violent. The fact that in 2017 almost 10% of gross value added in Germany was attributable to the automotive sector and almost half of all patent registrations from legal entities came from the automotive industry[20] shows how important it is to proactively shape the change to modified mobility concepts and new drive technologies. The necessary change requires complex po-

litical and corporate management. The opportunities offered by digital intelligence should not only be used for the production of high-class vehicles and the more intelligent control of individual transport, but also for the improvement of local and long-distance public transport and an attractive nationwide tariff system.[21]

At the same time, the automotive industry in particular shows that in many cases goods are not only purchased because of their use value. For many people, goods of this kind address important needs for status and differentiation – an effect that is deliberatively reinforced by advertising and marketing.[22] In addition, owning a car is simply taken for granted in many societies, so that other options are often not seriously considered.[23] This is an example of the great importance of action routines and socially stabilised habits. Powerful routines of this kind, which are relevant for the entire field of consumption, cannot be broken by moralising appeals, but only by a double strategy: Both a politically promoted change on the supply side as well as a change in consciousness and mentality on the part of consumers (which must also be promoted by politics and civil society) is required.

With regard to the example of mobility, it becomes clear that there are various powerful factors that impede a transition – and yet it is possible. For example, in metropolises such as London and Stockholm through a distance- and time-based congestion charge inner-city traffic has been significantly reduced and public transport has been improved. A global initiative of large metropolises is also calling for the financial aid to overcome the Corona crisis to be used to make the urban infrastructure more future- and people-friendly. For example, the car parking spaces that dominate the current cityscape could be increasingly transformed into footpaths, cycle paths, bar areas or urban open spaces if public transport could be made safer, more efficient and thus more attractive.[24] In order to promote the sustainable development of rural areas, a forward-looking structural policy and regional planning should counteract further urban sprawl. In addition, in rural areas, where attractive mobility alternatives are more

difficult to realise, there is still great potential to promote climate-friendly drive technologies and creative neighbourhood assistance, but also faster internet connections to avoid unnecessary traffic (keyword: "data highway instead of commuter congestion").

1.3 Transformation of agriculture

Our diets and the corresponding forms of agriculture and food production are also a central field of action of the socio-ecological transformation. It is about the basic need for a balanced and healthy diet, which until today is by no means reliably met for all people, and also about the high value that food has for a good life, including enjoyment and zest for life. In addition, agriculture and food production have far-reaching consequences for the environment (biodiversity, soils, groundwater, air, climate, oceans, etc.), for animal welfare, human health and working conditions in agriculture and food production.

Especially the high consumption of meat with its associated problems illustrates the current need for transformation: per capita meat consumption in Germany is 60 kg per year, although the German Nutrition Society recommends only half of this amount as the upper limit for a healthy diet. The excessively high consumption of meat which often is of low quality, not only exacerbates climate change and human health problems (directly through unbalanced diets, as well as indirectly through the spread of antibiotic resistances), but also global imbalances. The high land usage for increasing feed production exacerbates conflicts over water and scarce arable land. The phosphorus and nitrogen cycles of our planet are now severely impaired and the global species composition has also changed massively: The total mass of humans and their farm animals is now more than twenty times the mass of free-living mammals[25], and the biodiversity in our oceans is severely threatened by overfishing and pollution. Added to this are the working conditions in large-scale industrial meat processing, which undermine SDG 8 ("Decent Work"), as was brought to greater public attention during the Corona pandemic.

The following graph (Fig. 5) accentuates the double negative effect of meat nutrition (especially the consumption of red meat, i.e. beef and pork) on the environment and on human health.

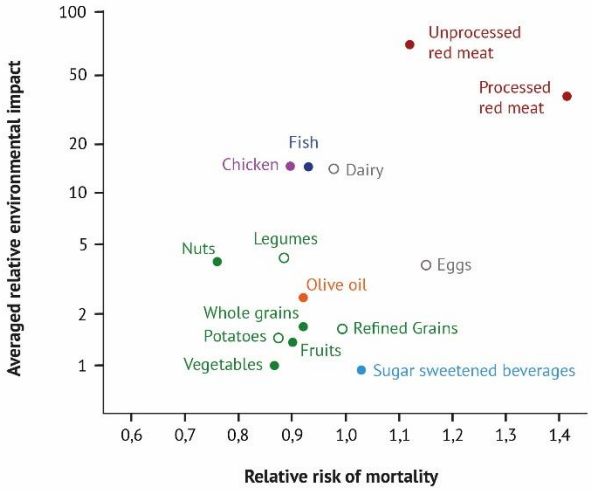

Figure 5: Effects of different foods on the environment and consumer health (Own representation after Clark et al. 2019)[26]

The reference to the social and ecological consequences of current meat production does not simply bring about the necessary changes in this case either. On the contrary: it is true that in certain socio-cultural milieus, more and more people are only buying meat that meets certain criteria (especially ecological and animal welfare criteria), or are doing without meat or dairy products altogether. However, global meat consumption has tripled in the past 50 years as the world's population has doubled – and the trend is upwards: according to estimates by the UN World Food Organisation, meat production will continue to grow by up to 55% by 2050[27] – whereby meat consumption will soon overtake domestic production in Asia (driven by growing per capita consumption) and in Africa (driven by

rising population figures with comparatively stable per capita consumption)[28]. In contrast, the organic meat sector still represents a niche despite significant growth rates.

Here, too, there are identifiable factors that counteract change: Behavioural routines which are supported by socio-cultural norms ("A good meal includes a decent piece of meat") and taste habits shape the demand in a significant way, but cannot be changed easily. Above all, a general willingness to pay a fair price for good food is important. This means a more moderate and quality-conscious meat consumption and the promotion of family and small-scale farming structures, which have created our species-rich cultural landscape in the first place and have the potential to make a significant contribution to climate protection (for example by preserving grassland and building up humus).

On the side of production, the necessary change is opposed to the subsidisation of agricultural production methods that have been practised for decades and that are maintained by interest groups. The subsidies are harmful to the environment and the climate as well as globally unjust. They are too one-sidedly oriented towards land and for a long time also towards direct export promotion and should be abolished and replaced by a consistent remuneration of the agricultural contributions to the preservation of the many ecosystem services.

As challenging as this turnaround is in the face of strong forces of persistence and resistance, it is possible. The necessary change in awareness may take place in niches until now. However, it is vital enough to be further strengthened by politically driven incentives and guidelines for production and trade. Recent studies indicate that smarter methods to avoid deforestation, over-fertilisation and incorrect irrigation as well as the rewetting of peatlands could already make an enormous contribution to both climate protection and food security in a few selected countries.[29] It is to be hoped that the calls for better international cooperation and stronger regulation as well as more transparency in the food industry that

became louder during the Corona crisis will now actually be implemented – the potential is there.

2 The need for an encouraging vision

2.1 Towards a good life for everyone

In order to motivate people and societies to make far-reaching changes, a positive target perspective that can have a motivating and guiding force is needed. The examples outlined at the beginning of this paper illustrate "where the socio-ecological transformation must lead away from" in order to prevent the destruction of our livelihoods. However, they also illustrate how important it is to show attractive ideas of a "where to" as well as of the viable paths of the transformation in order to concretely achieve this goal.

In *Laudato si'*, too, the "cry of Mother Earth" and the "cry of the poor" are on the one hand the call "away from", namely the call to turn away from structures and courses of action that harm nature and people. At the same time, they are a call to a "where-to", namely towards a life that is less focused on status, wastage and consumption, but can nevertheless – or precisely because of this – entail an increase in satisfaction, relationship, joy, meaning and fulfilment. The social-ecological reformulated call to conversion in Laudato si' is both a call for an urgently needed turning away and a call for a different life that can be good for everyone.

Describing this target perspective more precisely is by no means trivial. It must at least be in principle acceptable for all people, despite their different preferences, value orientations and concepts of a good life. Since the livelihoods of all present and future people are at stake, all individual interests, however understandable they may be, must be subordinated to the common good in the case of conflict (as explained in 2.2). At the same time, the goal perspective must be substantial and vivid enough to offer motivation and guidance for concrete change, without overlooking two

objections: One must neither prescribe certain ways of life in a paternalistic way nor favour individual culturally shaped objectives and thus disregard cultural differences.

2.2 Good life within planetary boundaries

The study therefore develops the target perspective of a socio-ecological transformation in a way that takes up the understanding of justice and the common good[30] of Christian social ethics and at the same time can connect to positions that are also represented in other ethical traditions or in a similar way by the secular sustainability movement. This also forms the normative background of the SDGs:

> The socio-ecological transformation of the economy and society should create conditions under which all people worldwide can lead a life in dignity that respects the planetary boundaries[31] and the fundamental rights of all people and recognises the intrinsic value of the human beings' fellow creatures.

The term "life worthy of a human being" needs some explanation: contrary to its common usage, it is not "only" about a human life that meets basic minimum requirements, e.g. with regard to basic biological and psychosocial needs, and thus does not violate human dignity. From a global perspective, for many people it would constitute a major step forward if this minimum understanding of a "life worthy of a human being" were fulfilled. Nevertheless, the understanding of a "life worthy of human dignity" on which this study is based is more comprehensive: It is about all people being able to live well. It is about a life that allows everyone, despite all earthly-human limitations, as much self-development as possible, participation in relationships and (decision-making) processes that are meaningful to them, as well as meaning of life.

People should be able to develop their personality in four interrelated dimensions of relationship: in the relationship to themselves, to other people, to the environment and, if they are religious, in the relationship to

God. In all four relationship dimensions, people must be able to develop and contribute freely – then, they can live well. In this context, it is not only important to uphold the value of every human life, but also to discover the intrinsic value of all life: The enormous biodiversity on this planet deserves "attention filled with love and wonder" (LS 97). The beauty of creation is not exhausted in its (financial or aesthetic) use for human beings.

The normative guiding idea that people can develop in their own way in relationships and in meaningful activities and thus can live well can also be found in many other ethical positions and concepts. Examples include Aristotelian-inspired conceptions of human life as the development of human abilities, as well as modern, psychologically based concepts of a "flourishing life"[32] or the philosophically and politically significant empowerment approach[33]. An understanding of human rights that also encompasses political, social and cultural participation and self-realisation, or conceptions that draw on the findings of empirical happiness and satisfaction research[34] – they all criticise one-sided fixations, e.g. on increasing material prosperity and status.

Despite of all the differences in detail, these and other positions share the view that people generally come to the conclusion that they live well when they can develop, unfold and contribute their abilities and their personality in different relationship dimensions and can in this way create and experience sense. In this context, human beings are inseparably connected to their environment and are thus also dependent on the health of their fellow human beings and creatures, whose condition determines the possibilities and limits of their personal, social and economic life. The Corona pandemic in particular has made this painfully clear to us.

A socio-ecological transformation that, on the one hand, imposes changes and (self-)limitations on many people, but on the other hand, credibly promotes a humane life understood in this way, offers an attractive target perspective. To this end, the planetary boundaries must be respected,

since their permanent transgression endangers the livelihoods of all humankind. However, if it becomes clear that it is *also* and *ultimately* possible to live well in the sense outlined within these planetary boundaries, the "where to" of the socio-ecological transformation can act as a desirable goal that initiates, strengthens and aligns processes of change.

At the same time, this goal perspective takes individual freedom and the diversity of cultural and personal ideas of a good life seriously: It is up to people to decide in which concrete direction they want to develop, how they want to cultivate relationships and participate in processes, and how they want to experience and create meaning. They should answer these questions differently, individually and within their respective social and cultural contexts.

2.3 What transformation should achieve for everyone

In order to achieve the desired motivating and guiding force, the described target perspective of transformation must become as concrete and descriptive as possible. At the same time, however, it must remain open enough to be filled with content in different social and cultural contexts. Therefore, the concretions only exist in a certain variety and diversity: What does it mean to be able to live well in the respective social and cultural context? One of the factors that promote transformation is the ability to engage[35] in the processes of communication on this question that are as participatory as possible and to be able to co-design the target perspective in this way. In addition, it is a requirement of procedural justice not to be given transformation goals, but to be able to participate in the definition of goals.

Within the framework of this study, it is therefore only possible to name a few cornerstones of the goal perspective, which are closely related to the 17 Sustainable Development Goals (SDGs) and which are open for concretisation in the respective contexts:

- All people must have the opportunity to satisfy their basic needs and to lead a life as healthy as possible, whose development is not prevented by avoidable physical or mental suffering. In order to live well, people need, among other things, adequate food, clean water, clean air, adequate housing, psycho-physical integrity, sufficient health care, mobility and access to education. Therefore, the corresponding offers in the social, health and education system must be designed in such a way that they are accessible to all people and it must be prevented that people without sufficient purchasing power remain or become excluded. At the same time, these fundamental needs must be secured in such a way that no avoidable socio-ecological problems arise.
- All people, regardless of gender and origin, need real opportunities for action and participation in order to be able to satisfy the basic needs mentioned above, as far as possible through their own efforts and in accordance with their respective preferences. They must be able to develop their abilities, interests and inclinations in relationships in order to actively participate in social, cultural and economic life. This is also one of the prerequisites for experiencing self-esteem and esteem from others, as well as for creating and experiencing sense. In order to live well, people need decent, fair and socially secure work, access to good education and targeted empowerment, the opportunity to participate in economic, cultural and political processes without discrimination, and the possibility to cultivate diverse relationships and networks.
- In terms of political freedom, all people must be able to participate equally in shaping the structures and framework conditions to which they are subject. This requires, above all, a lively culture of democratic opinion-forming that actively includes voices that are at risk of not being heard, as well as good governance at all levels. Participatory justice in this sense is not only a goal of transformation, but also a demand on transformation itself. Not only the outcome must be just, but also – as already mentioned – the process that leads to it.

- All people must be able to live their freedom in a way that does not violate the freedom and the right to a dignified life of others. They must therefore be supported in developing a "resource-efficient", sustainable consumption pattern and a lifestyle that is as harmless as possible for others and for the environment. Although this sustainable lifestyle is associated with a certain quantitative "less" for many, it can preserve and perhaps even increase their quality of life. In this sense, Pope Francis is giving priority to quality over mere quantity, and in Laudato si' he develops a new model for prosperity and progress. This can be linked to ancient concepts of a good life and to the long-established and well-known insights in many cultures that for satisfaction, the right balance is essential, but also to modern findings of empirical research on happiness.

  > "Frugality is liberating. It does not mean less life, it does not mean less intensity, but quite the opposite. In reality, those who stop searching for what they don't have, picking up something here and there and there, savour every single moment more and experience it better (...). One can need little and live a fulfilled life if one is able (...) to find fulfilment in fraternal encounters, in service, in the development of one's own charisms, in music and art, in contact with nature and in prayer. Happiness requires us to understand how to limit some of the needs that numb us, and thus how to remain responsive to the many possibilities that life offers". (LS 223)

Admittedly, the mere appeal to realign consumption patterns and lifestyles in this sense hardly leads to an action-guiding change in consciousness. This is promoted not least by role models who live more content and fulfilled lives in a credible way and thereby offer orientation and inspire and encourage other people. What is also needed is an education that enables people to have their own positive experiences with a "different life" and to reflect on them, and that offers them incentives to explore their own life possibilities beyond material prosperity and status enhancement.

Furthermore, a policy that opens up spaces and opportunities to realise these life possibilities for everyone is essential. Finally, a politically framed economy is needed that makes the demanded "frugal" (yet good and fulfilling!) life "easier"[36]. For this, costs must be internalised in order to create prices that are fair to those who cause them and thus also incentives to use functions instead of having to own more and more goods.

3 Obstacles to transformation

Those who want transformation must also know what makes it difficult and what blocks it – also because some of the initially obstructive factors also contain starting points for transformative action. In order to do justice to the abundance of individual factors and their many interactions, specialised knowledge from different perspectives, e.g. technological, economic, social science and other perspectives, must be used. Only in an inter- and transdisciplinary synopsis can one counteract the various dangers associated with complexity: on the one hand, a widespread "fragmenting specialisation", on the other hand, a feeling of hopeless overload or the illusion that one's own (and thus concretely achievable) contribution is negligibly small and thus dispensable. Finally, this complexity, which is indeed "incomprehensible" for the individual, can tempt people to deny the problems.

3.1 Weak institutions and regulatory policy

The enormous economic upswing that many countries experienced, especially in the second half of the 20th century, was based not only on technical but also on social and political breakthroughs[37]. Particularly in the western democracies, the opening up of national markets to foreign trade was accompanied by welfare state measures that were able to mitigate the adjustment pressure which was caused by tougher international competition. An unemployment insurance or publicly financed education and retraining programmes were able to defuse distribution conflicts, at least

within the respective countries. At the same time, intergovernmental and multilateral agreements established rules that promoted coordinated political action and greater reliability. The task of politics was and still is to create a sustainable regulatory framework for markets and the corresponding institutional organisations in order to preserve and consistently develop them which is supported by the population.

The term "institutions" is used in different ways. The study is based on a broader understanding[38], according to which the institutional structure of a society not only includes the totality of legally anchored framework conditions, compliance with which is monitored by the state or by state-legitimised organisations. Institutions also include values, norms and sociocultural traditions in which personal attitudes, habits and behaviour manifest themselves. Institutions in all their dimensions are designed to create stability of expectations and thereby planning security and to promote joint action.

Over the past two decades, it has become clear that our traditional institutions and organisations at the national and even more so at the international level are less and less able to provide an adequate regulatory framework for the increasing global interdependencies. Persistent poverty and growing social inequalities, the instability of the global financial system, the transgression of many planetary boundaries, and above all the problems of climate change are instances of a dangerous market failure that can only be solved through more and better international cooperation. In fact, however, this market failure is exacerbated by policy failures in numerous areas, as many nation-states are unwilling or unable to ensure appropriate framework conditions or to comply with international agreements because they expect short-term advantages.

National climate protection can only make a global contribution if the emissions saved locally are not shifted to other countries by relocating production. Moreover, investments in climate protection only have an effect with some time lag, while the short-term costs are often perceived

disproportionately. In this respect, self-interested actors are permanently tempted to leave the investments in protecting the earth's atmosphere (e.g. by switching to renewable energies) to others, but to further claim the advantages of climate-damaging energy production for themselves, as long as the ecological costs are not reflected in corresponding prices. This danger of free-riding becomes clear in the different reactions to the Corona crisis. In the wake of the pandemic countries such as China, which rely heavily on coal for their energy supply, have significantly increased their investments in this particularly climate-damaging form of energy production[39]. Despite positive individual measures also the G20 countries are currently in danger of slowing down rather than promoting climate protection with their economic stimulus packages.[40]

In the past few months the Corona pandemic has made abundantly clear how important international cooperation and solidarity are for the protection of health and other common goods, but has at the same time also showed how great the temptation for national go-it-alones is. "More and more states are abandoning the principle of shaping international relations peacefully, cooperatively and in mutual respect with the means of law. Instead, they rely on power politics and try to push through their own interests ruthlessly."[41] – as the two major churches in Germany recently rightly lamented in a statement. In their joint statement, they also warn that "in the context of multilateral and supranational institutions, only governments act, while parliaments merely ratify ready-made decisions. Under such conditions, populists have an easy game to polemicise against multilateralism and international treaties, claiming that they lack democratic legitimacy and contradict the supposed will of the people".

Isolated departmental thinking, a lack of future orientation and weak multilateral organisations also make it more difficult to break established routines of action. The power of the familiar can be seen in the areas described above (cf. Chapter 1), for example, in the focus on fossil fuels, motorised private transport or a system of food production primarily geared to "quantity" with corresponding agricultural subsidy strategies such as area

payments. What seemed to be sensible for a long time, or perhaps also was sensible at the time, unfolds self-sustaining and self-reinforcing effects that complicate or even prevent far-reaching changes. Paths are defined for individual and collective action that cannot be left without further ado ("path dependency"). Important technological and social innovations do not take place because the power of the familiar paralyses the openness and willingness to search for new solutions or makes them appear so risky or costly that people prefer to stay on the old familiar paths.

Path dependency becomes entrenched when the profiteers of these deep-rooted patterns of action decry possible alternatives as too expensive, unfeasible or as a supposed restriction of individual freedom from the start.[42] In this case, the interplay of personal behavioural routines, traditional forms of social recognition and political framework conditions geared towards maintaining the status quo can prove to be a major hurdle to change. Those who want to overcome this are dependent on the support of future-oriented institutions that promote change and appropriate technological and social innovations.

3.2 Distributional conflicts and unequal power relations

Those who want to transform existing conditions must always reckon with opposing forces: Those who have an interest in maintaining the status quo often offer active or passive resistance – even if they often cannot properly assess whether the reforms are disadvantageous for them or not. In addition, there is the loss aversion which is typical to human beings, i.e. the tendency to feel a supposed or actual loss more strongly and to value it more highly than a possible advantage that would, viewed objectively, more than compensate for this loss.[43]

At the heart of the matter are often tangible distributional conflicts that affect different dimensions. On the one hand, reforms change the (unequal) distribution vertically (simplified between "top and bottom", "rich and poor" or "North and South"). But also horizontally, there are winners and losers in the individual groups, if structural changes have different

effects on different economic sectors or urban and rural regions. A horizontal distribution conflict that is particularly important in the context of the socio-ecological transformation are the so-called "stranded assets", when assets (e.g. fossil raw materials, production facilities or patents) lose significant value as a result of the changes or can no longer be used at all in the future.

As already mentioned, only about 1,000 gigatonnes of CO_2 equivalent may be emitted worldwide in order to reach the 2°C target (cf. Fig. 3). Thus, the global distribution of this budget is one of the central vertical distribution conflicts, especially against the background of the massive current inequality. In a global comparison, Europeans, for example, are currently almost all among the small percentage of beneficiaries of the unjust status quo, even if the inequality of distribution within Europe is also considerable: currently, only 5% of European households reach the global emissions target of 2.5 tonnes of CO_2 equivalent per capita which is required for the 1.5°C target (in 2030) (and only a few more reach the 3.3 tonne target for a limit of 2°C). Average European households currently emit between 7 and 15 tonnes per capita, and the 10% with the highest emissions account for more than half of total European household emissions[44]. This is a reminder that successful climate and social policies are closely interlinked and that a mere "social cushioning of climate protection measures" falls short in many cases.

Also analyses that see population growth as the primary cause of global poverty and a threat to livelihoods fall short, especially in view of the dramatically unequal distribution of global per capita emissions between wealthy and poor people. Nevertheless, the SDGs will be difficult to achieve without responsible population policies. The faster the population grows in poorer regions, the greater the challenge of enabling economic development without further local and global environmental pressures. Therefore, developing and emerging countries must be supported in pursuing a responsible population policy that enables family planning with-

out coercive measures and interventions in the reproductive self-determination of families, which is holistically oriented towards the requirements and needs of present and future generations.

Also at the horizontal level there is considerable potential for conflict. The politically forced coal phase-out, for example, can place a considerable social and economic burden on entire regions. Similarly, the costs and profits from pricing in environmental damage can be distributed more or less fairly, or the restructuring of the automotive industry can lead to a loss of jobs that can hardly be fully compensated for all those affected. The acceptance of the necessary reforms is also lower when there is too little discernible political effort to recognise the different interests at an early stage and in an appropriate manner, to distribute opportunities and losses in fair weighing and distribution processes and to mitigate social consequences.

This can also lead to people not being able to adequately assess the gains associated with the change due to fears of loss, and at the same time to them ignoring how great risks inaction can entail (e.g. extreme weather events or social upheavals). As an example, we can point to the great potential that companies in the plant and mechanical engineering sector could realise through consistent climate protection. However, they are far from exhausting this potential[45] – not to mention the aspects of a "good life" that cannot be expressed in monetary terms, such as the enjoyment of clean air, undestroyed nature and biodiversity, or a public space with less noise, more traffic safety and more space for civic development. In addition, "less" working time can lead to "more" living time that can be shaped independently, which opens up space for family and care work, voluntary work and artistic development. Precisely here it becomes clear how important it is to negotiate and distribute the associated opportunities and burdens fairly between the social partners, government agencies and other stakeholders.

Of course, there are also actors who profit from the status quo in a special way and who defend their own interests without regard to the common good and the necessity of transformation. Here, an important role is played by stranded assets, which must be considered from the point of view of the social obligation of property: Those who, for example, owe their prosperity to the possession of fossil resources or the use of technologies that are no longer up to date cannot simply reject restrictions in their previous business model as "cold expropriation", but have a special responsibility to participate constructively in reforms that promote the common good. Those who want to shape the transformation must also address the questions of power and responsibility associated with it, in order to successfully identify and overcome barriers and counterforces.[46]

It is not uncommon that people and institutions support change in principle, but that they are at the same time linked to the status quo and its main beneficiaries through economic relationships, dependencies or interdependencies that are not always easy to understand. Therefore, they strengthen their position through their actions (consciously or unconsciously). In this way, the already mentioned "complicity" (cf. chapter 1) can arise. All those who criticise the existing power relations and blockades should thus always reflect self-critically on their own contribution to the stabilization of this power.

3.3 Lack of positive political influence and communication

The demands on politicians have always been complex: they represent the interests of their electorate, are at the same time committed to the common good and have to justify their decisions and communicate them appropriately. They operate within an institutional framework that enables them to do their work, but also makes it difficult at times. On top of all this, they have to ensure that this regulatory framework is further developed in line with the times. Global challenges such as climate change make these tasks even more complex and make human weaknesses as well as inadequacies of the political system even more obvious. Also in view of

the limited reaction time, many ask whether democracy is too slow and inert to bring about the necessary reforms in the required haste and with a long-term perspective.

In the literature, the following main problems are traditionally discussed, all of which contribute to the problem of "political short-sightedness": (1.) the difficulty of defining the presumed interests of those who will be (potentially) affected in the future and of adequately incorporating them into the current political opinion-forming process, (2.) selection and qualification problems of political personnel who are not willing or able to promote the common good, (3.) unfavourable incentive systems for political personnel, and (4.) a lack of room for manoeuvre due to the fragmentation of decision-making power.[47] In addition, the difficulties of (5.) integrating all interest groups and information into the political decision-making process in a timely and orderly manner and (6.) guaranteeing the necessary transparency and accountability during the discussion and implementation process are complained about.[48]

In times of crisis, when more people fear losses – mostly in the form of restrictions on their accustomed standard of living or in terms of security and the ability to plan their personal life – there is another challenge: populist simplification and denial. Political populism profits from these fears of loss and therefore deliberately reinforces them, usually by shifting the responsibility for complex problems and thus also the individual's own responsibility to global enemy images and by offering temptingly simple, often nationalistic answers. Particularly populists derive their strategic strength from focusing on a few issues such as chauvinist identity politics, exclusive solidarities or the demarcation against the so-called "establishment" in politics, business, culture, science or the church.

Since it is part of the self-image of sustainable politics to include *all* those affected and to give their doubts and concerns adequate space in the public debate, populism poses great challenges to the democratic culture of debate. Here, it is helpful to reveal the contradictory attitudes, e.g. of

right-wing populism with regard to climate change: "deniers" deny the fact of anthropogenic climate effects, "doubters" usually question the viability or reliability of scientific-empirical evidence. Hence, "doubters" acknowledge climate change, but express scepticism about climate policy goals and instruments. What they all have in common is the rejection of multilateral agreements, even if individual right-wing populist movements are now calling for national climate protection policies, either to secure national "energy and resource self-sufficiency", to preserve indigenous nature or out of a fear of so-called "climate refugees".

If populism succeeds in making the socio-ecological reforms appear as foreign-controlled interest politics, overextension of the individual and threat to cultural identity, and in portraying the transformation per se as unjust, dangerous and actually superfluous, it will be significantly more difficult to achieve the climate goals. Therefore, a successful transformation policy is also an openly communicating policy of imposition that strives to present the opportunities and burdens associated with it as clearly as possible and to distribute them fairly (cf. Chapters 4.2 and 4.3).

3.4 Neglect of the cultural dimension

In debates about a political or socio-structural restructuring of society, the cultural dimension is often neglected and therefore easily hijacked by populist movements. These movements often give the impression of preserving religious or cultural traditions. In fact, however, they often betray the values on which these traditions are based. Culture refers to interpersonal dynamics that have manifested themselves in a particular place over a long period of time and, as a relatively stable structure, provide people with support and orientation. Those who want to promote the socio-ecological transformation must therefore take these culturally shaped dynamics into account and must try to use them where they are conducive to the transformation, and to change or at least consider them where they counteract it. Those who want to erect wind turbines, for example, should not only

take into account the economic and political rights of the affected population, but should also understand the significance that the changed landscape has for them[49] – and those who want to reduce meat consumption must be aware of the cultural value of food traditions that have grown over generations.

This cultural web of significance, in which people have firmly established themselves over generations and in which they find existentially meaningful references, changes slowly and is thus inert, but also stable. Those who keep this in mind can understand traditions in a new way, for example, in that the value of cherished festivals and holidays is not so much measured in the consumption of goods or meat, but that they have a far greater meaningful and community-building significance. Many religious symbols of different cultures often have agricultural references and invite us to rediscover the wealth of experience of previous generations and their approach to questions of sustainability and justice, and to thereby learn from each other.

If this is not done, cultural "inertia" can slow down rather than stabilise the desired social change: Then, the change endangers the orientation system of the culture, people feel insecure and forced into a corresponding blocking attitude. Those who want to prevent the transformation can manage this defensive reaction politically, for example by right-wing populists fighting the coal phase-out not only as a threat to prosperity, but also as the destruction of the cultural identity of miners and mining regions. Since culture, and above all religion, represent the deepest dimension of our experience, they are particularly susceptible to emotional instrumentalisation.[50]

Neglecting the cultural dimension can make transformation particularly difficult when change is cross-cultural and global. In this case, misunderstandings and conflicts may arise between the cultural perspectives involved, especially if a single cultural perspective dominates the others. The latter is firstly unfair, as it prevents a just participation of the different

perspectives in shaping the transformation process. Secondly, important potentials of the transformation can then only be used inadequately. This becomes apparent, for example, when sources and forms of knowledge that do not correspond to the academic understanding of science (practical application knowledge as well as indigenous knowledge or knowledge from people with a migration background) are not taken seriously enough. Many valuable insights (for example, regarding the interconnectedness of all living beings or about other ideas of a good life) remain hidden and unused due to the dominance of a single, important, but not comprehensive understanding of knowledge and science.

4 How transformation can succeed

Those who bear responsibility in politics, business or society and are aware of the obstacles described above deal with the challenges transparently and in a planned manner and do not indulge in simple illusions of planning or feasibility: they are aware that no one knows everything in complex relationships and always reckon with the fact that unpredictable things can happen. He or she understands that appropriate formal and informal institutions, both national and international, are needed to meet these challenges and that different interest groups can misinterpret and exploit the complexity to their own advantage. Transformation policy must therefore also address the power imbalances that prevent necessary changes in order to maintain the status quo.

In addition, one must make the best possible use of the potential of other social transformation processes that are not causally linked to the socio-ecological transformation. This applies, for example, to digitalisation, which can make a significant contribution to reducing resource consumption in industrial production, in the control and avoidance of traffic, in energy management or in urban infrastructure.[51] However, digitalisation should not merely accelerate and codify traditional practices, as this

would risk exacerbating many of the inequalities and problems that were described above. Rather, it is about replacing silo mentality with contemporary network thinking that opens up new possibilities for action, but at the same time clearly identifies and cooperatively links the different levels of responsibility. In the knowledge of these links, a transformation strategy must also be participatory and reflective of learning.

Following the well-known image of "creative destruction" used by the economist and sociologist Joseph Schumpeter[52] in his theory of economic development, innovative "entrepreneurship" in the broadest sense is needed for this: innovators who are willing to discover and implement possible alternatives to familiar and seemingly unchangeable routines, technologies or structures at an early stage. In demand are political leaders who courageously initiate structural reforms that promote sustainability, classic entrepreneurs, but also actors of change in other areas of society, from science to civil society to the church. Wherever they question routines, break patterns and abandon outdated paths, and instead advance social and technological innovations in the service of the common good – even against resistance – they make a "creative" contribution to socio-ecological change as pioneers.

4.1 Promoting change through regulatory policy

A stable institutional structure with functioning organisations is, as already mentioned, of crucial importance at national and international level. It sets the necessary political framework conditions to protect and increase common goods (such as social security or our earth's atmosphere). Especially in recent months, the Corona pandemic has once again shown how important it is to make state institutions that guarantee social security, health protection or even basic research in good time "crisis-proof" by providing them with the necessary resources – and how much potential is wasted by weakening multilateral institutions and renationalising politics.

For the socio-ecological transformation of the economy and society, this means: on the one hand, the many possibilities to use existing institutions and structures of our society for a policy of sustainability must be implemented even more consistently[53]; on the other hand, it would be a dangerous illusion to believe that necessary new institutions are created most effectively when the pressure to act is great enough. Sustainable technologies (such as renewable energies or carbon capture and storage) and mechanisms (such as pricing of climate-damaging emissions and socially appropriate use of the revenues generated) usually require a longer start-up period and good coordination before they can work together effectively at national and international level.[54]

The introduction of European emissions trading as a political instrument of the EU member states may serve as an example of how a short-term pragmatic climate policy of political feasibility can be combined with a long-term effective instrument[55]: In order to secure the acceptance of important economic actors, significantly more certificates were initially allocated to companies free of charge in emissions trading than would have been necessary for reasons of international competition protection. In the meantime, however, significantly more allowances are auctioned and the total quantity of allowances has been further reduced, leading to noticeable price increases and steering effects. In a second step it is now important to quickly determine quantities and prices on the basis of scientific data and independently of day-to-day political business, and to also subject emissions that have not yet been recorded (transport, buildings) to CO_2 pricing. Only then will it really be possible to achieve the climate goals we are striving for.[56] The teething troubles of the EU Emissions Trading Scheme do not per se speak against this political instrument. Experience shows that the critical objections raised by Pope Francis in Laudato si' (LS 171) against emissions trading do not have to be true, provided that they are followed up in a responsible manner.

By now, science has described a whole series of different paths for different groups of countries to introduce an ecologically and socially appropriate

CO_2 price[57]. It would be wrong to believe that all countries must agree on the exact details of a common, centrally controlled climate policy. Research shows that multilateral agreements on minimum CO_2 prices, supplemented by earmarked transfers for investments in a renewable energy supply that are financed by the Green Climate Fund would be far more promising than global negotiations on exact emission targets.[58]

This implies s departure from the previous political practice of hoping for global one-size-fits-all solutions for CO_2 reduction, but at the same time wanting to control and use financial compensation payments at the national level if possible. The responsibility for the details of CO_2 pricing could therefore be more regionalised, for example by the individual states or communities of states deciding whether to achieve the necessary savings through a tax or through emissions trading, which can also be supplemented by a minimum price. The necessary condition for this regionalisation, however, would be the simultaneous introduction of a CO_2 border adjustment at the respective external borders analogous to the logic of the value-added tax credit for imports and exports and the strengthening of international solidarity. The establishment and strengthening of appropriate institutions, such as international climate funds, through which compensation payments do not occur as a means of national foreign policy, but according to uniform standards in a precise and efficient manner, would thus not only be a sign of growing international solidarity, but also an act of economic prudence. For this, we do not have to wait for a broad global consensus in the distant future. A "coalition of the willing" that moves forward courageously and coordinates its policy instruments appropriately could trigger a considerable dynamic. If this succeeds, a bundle of coordinated individual measures can quickly develop a broad pull effect and induce other trading partners to introduce similar reduction mechanisms.[59]

An encouraging example of the potential of such cleverly coordinated initiatives, which can be promoted by different partners, is the "International Platform on Sustainable Finance" under the joint leadership of the

European Commission and the People's Republic of China.[60] Particularly in the financial sector, however, there is a considerable need for coordination, and not only with regard to climate protection. The European Investment Bank, for example, has stopped financing fossil fuels in the meantime, while many financial institutions closely linked to it still have a lot of catching-up to do. And at the global level, urgent care must be taken to ensure that the countries of the Global South, in particular, are enabled to apply, finance and (further) develop suitable technologies through partnership-based cooperation and, if necessary, to also export them in the future. After all, this is where there is the greatest need for capital and the most cost-effective application potential for the introduction of renewable energies. It is precisely here that the governments, companies and financial institutions of wealthy countries could make an enormous contribution to the common fight against poverty and climate change through technology transfer and financial assistance.[61]

The European Commission's Green Deal, which was presented shortly before the outbreak of the Corona pandemic, points the way forward in many respects: Protecting the common good in general and the climate in particular not only requires bold investments, but also innovative policy instruments, adequate opportunities for civil society to monitor and participate, and increased international cooperation and solidarity. Under these conditions and in this spirit of partnership, public institutions create the necessary framework through which the recommendations for action described in the following chapters can unfold their full effect.

4.2 Fair distribution of opportunities and burdens

Despite the necessity of political intervention, one must not succumb to the illusion that socio-ecological change can be comprehensively planned and precisely implemented. However, the possibility of unknown or unintended consequences should not lead us to completely reject reforms. Rather, it is crucial to name and discuss these imponderables as early as possible. Moreover, unintended consequences should not only be seen as a

risk. Some unforeseen results may also be beneficial to the transformation goal. In order to make use of this opportunity, it is necessary to design the transformation in a learning-reflective way: Not everything will succeed, but the greater danger certainly comes from inaction, delay and concealment.

In many places, the Corona pandemic has lead to massive changes (at least in the short term). It has led to serious political interventions in private life, society and in the economy that were hardly conceivable before. It has brought long-suppressed social and ecological grievances, such as those in the meat industry, into the public eye, and it has caused behavioural changes (e.g. less air and long-distance travel, more home office) that could contribute, at least partly, to a long-term change of attitude. However: as already indicated, the crisis alone does not necessarily lead to profound longer-term changes. It is not uncommon for the responses to be limited to mere crisis intervention in time and substance, and often enough a crisis also leads people to fall back on familiar structures and practices out of a need for security and orientation.

The example of the mobility transition shows that already established effective change processes and social trends can be used as supporting factors. The negative consequences of individual motorised transport described above create a certain pressure for action to fundamentally change our current system of mobility. However, this has not yet been sufficient to set the indicated mobility turnaround in motion. The existing economic structures, mobility models and behavioural routines contribute too much to maintaining the outdated system. Digitalisation opens up new possibilities to make alternative forms of mobility (and not only the "upgrading of one's own car") attractive for broad segments of society, from further developed car-sharing concepts to networked intermodal mobility, in which different forms of mobility are connected in a user-friendly and profitable way. A modern transport policy does not only include the promotion of research and technology. It also includes reducing tax incentives and

other inducements for motorised individual transport and creating attractive mobility alternatives as well as political framework conditions to literally make room for these alternatives, for example by creating car-free city centres. Here, too, the importance of the above-mentioned entrepreneurial-innovative action becomes apparent: social trends such as the growing willingness to "use instead of own" can be used for the transformation if, in the case of the mobility turnaround, companies in the automotive industry are willing to dare to take new steps and develop their self-image from a mere car manufacturer to a mobility service provider.

In general, it is important to perceive social trends and the changes that already take place, in order to actively reinforce them and, if possible, to use them to overcome previously effective path dependencies. This is easiest if, as in the case of renewable energies or alternative drive technologies, technological alternatives are available and thus no drastic personal change in behaviour is required. Relevant technological innovations should be promoted through appropriate incentives and not prematurely prevented out of an exaggerated fear of possible risks and consequences. In order to create broad acceptance and to be able to evaluate risks, such innovations should already in the development phase be discussed by society as a whole, also in order to be able to accompany their later implementation with appropriate social and political measures.

The urgently needed change of path in nutrition can only succeed, for example, if cultural behavioural patterns and economic business strategies are taken into account and (bio-)technological solutions, such as different meat substitutes, are not excluded from the outset. In view of the still growing world population, the obvious limits and problems of conventional meat production and the dwindling fish stocks, it is clear that the goal of a balanced, protein-rich diet for all people represents a global challenge for the future. Of course, (bio-)technological solutions will only be part of a much more complex change strategy with a clear appreciation of

plant-based dietary patterns. Education for healthy nutrition, more transparency in the food industry and the fight against dumping prices all play an important role here.

Despite all openness to technological alternatives, without which the overall transformation of society cannot be achieved, it must be emphasised once again: Honest transformation policy is also a policy of distributing impositions in order to open up new opportunities for action for others as well as for oneself. If the negative effects that have so far been passed on to vulnerable people, future generations or to the nature are to be borne by the polluters themselves in the future, this is not possible without cuts and losses in the value of stranded assets. In order not to be paralysed by the unavoidable distribution conflicts (cf. chapter 3.2), it is helpful to show the affected interest groups at an early stage that the restrictions can not only be "bearable", but even enriching, under the right conditions and with appropriate social compensation. With a corresponding appreciation of the common good or the renunciation of short-term and often strongly material maximisation of benefits, supposed restrictions can represent a real enrichment in the long term. They have a liberating and enriching effect not only for those who have so far been disadvantaged by the status quo, but also for previous profiteers who can now break out of old paths. The wise and differentiated analysis of power relations must therefore be combined with an assessment in the light of justice and the orientation towards the common good.

The vested interests of actors can certainly be reconciled with the common good. In this case, the particular interest should be used to achieve the transformation goals and should be stabilised as a supportive incentive. This applies, for example, to many of the abovementioned innovations, which are also driven by the interests in making profit, but which can facilitate common good and sustainable development. Not infrequently, the motivations are also mixed. This is true, for example, for "social entrepreneurship", for companies that want to make profits and serve

a good purpose at the same time with their business model, or for consumers who are guided by ecological criteria (also) for reasons of distinction. Some of the initiatives of the UN Global Compact point in this direction, such as the call for a combination of the recovery of the economy after the Corona crisis with the necessary reforms to achieve the 1.5° target that over 150 globally active companies with more than 5 million employees addressed to the governments.[62] As long as the actions of self-interested actors serve sustainable development, they can be addressed in both respects: their vested interest and their (possible) moral motivation.

Those who want to advance the transformation must also be prepared to oppose individual interests that use exploitative or environmentally damaging practices to maximise profits and, if necessary, to address these in a public way. Power structures that are harmful to the common good and those who profit from them must be named as such and must be given more responsibility. Civil society organisations and also the church have a special role to play here by advocating the interests of particularly disadvantaged groups. Of course, all those who voice such necessary criticisms may themselves be "complicit" in behaviour that is harmful to the common good – a dilemma that can only be alleviated by a willingness to increase self-criticism and transparency.

An essential prerequisite for countering the (often well-connected) power of individual interests that are detrimental to the common good are alliances of people, initiatives, political parties, civil society organisations, trade unions and companies that work together for a socio-ecological transformation, despite all the differences in perspectives and backgrounds of experience and beyond the usual understanding of roles.

4.3 Creating acceptance through transparency and participation

Conspiracy myths and populist denial of the need for socio-ecological transformation can flourish especially if the confidence of more and more

citizens in transparency and participation (two basic promises of the democratic state) is shaken (cf. chapter 3.3). Participation not only requires the democratic right to vote, but also the participation of society as a whole in social life and in the economic success of a nation. The response to this loss of confidence should consist of three steps: firstly, the acknowledgment of this shake-up; secondly, the improvement of information, voice and participation opportunities; and thirdly, the exposure of populist instrumentalisation that further reinforces this loss of trust for its own benefit and has no interest in constructive solutions. A stable constitutional state and an efficient welfare state are thus mutually dependent.

In order to resist populism, one must not ignore the emotions with which it works in the shaping and communication of transformation and devalue them as irrational or irrelevant. In this sense, fear, worry, anger and feelings of grievance must be taken seriously; only in this way they can be turned into something positive through constructive co-creation.[63] This also means not fuelling these emotions with apocalyptic doomsday scenarios. At the same time, this communication must also illustrate the positive target perspectives and make them emotionally appealing. What is essential in addition to figures, data and facts is a motivating, encouraging and meaningful "vision" of what can and should be achieved for everyone through the transformation (cf. chapter 2).

Here, too, it becomes clear how important it is to design concrete transformation projects as participatory as possible. Jointly answering the question (at local level, for example) of how we want to live together in the future so that everyone can live well takes people's concerns and worries seriously. However, discourse alone is not enough; it is also necessary to act together. Civil society *discourse landscapes* therefore necessarily require complementary *action landscapes*. Debate as well as joint action benefit from subsidiary structures.[64] Subsidiarity means empowering the lower level. In the case of the Corona pandemic as well as in the face of the climate crisis, this means that those who are responsible on site can act appropriately and purposefully. But it does not mean that the lower

levels are left alone with this responsibility or are no longer adequately controlled. In addition to more decision-making powers and corresponding financial resources for local committees and administrative units, there is also a need for clear transparency guidelines and the communication of a common target perspective. As the Corona crisis has shown, internationally comparable standards and indices can be helpful here, for example through new indicators for sustainable development that complement GDP as a future-oriented measure of well-being.

For all the tasks described above, it is important to encourage people to resist the populist temptation by providing appropriate education and extensive information, and instead to help shape change themselves. “Education for sustainable development", which awakens the desire for change and conveys a sense of achievement, is not only an effective means against populism, but also strengthens the ability and willingness of future generations of politicians to work together multilaterally, rule-based and in close partnership with civil society organisations.

4.4 Respecting culture and benefiting from it

If the cultural dimension of human life and living together is not taken into account in the design of transformation processes, this can lead to resistance and blockades. At the same time, the great potential of culturally shaped perspectives, approaches to the world, views of humanity, value orientations and preferences to promote transformation remains unused.

Lifestyles and consumption patterns often change in so-called "niches". Initially, they only take place in certain socio-cultural milieus and only under certain framework conditions and anticipate on a small scale what is to be achieved by the socio-ecological transformation of society as a whole. In the meantime, organic and fairtrade products have found their way from individual private initiatives to the shelves of the large supermarket chains, even if by far not all the standards of justice and sustainability associated with them have arrived there. The niche thus shows that

leaving the beaten track and breaking through well-rehearsed behavioural routines is possible under certain conditions and that in this way innovative power can develop. The idea of the "prosumer" points to the fact that in more and more areas the boundaries between production and consumption are beginning to blur. For example, energy transition can be promoted if a growing number of households produce green electricity for more than just their own needs.

In order to make the experiences "in the niche" fruitful for society as a whole, they must be sensitively perceived and analysed in the first instance: Why did these "niche-like" changes occur, what factors favoured them, what preconditions were necessary – and what can be learned from them about how structural conditions of enabling and incentive should be designed to be spread beyond the niche? If these experiences are implemented and become recognisable as attractive and worthy of imitation to broader social strata through appropriate communication, changes in society as a whole can be set in motion from within the niche.

A wise transformation policy thus also follows the already described subsidiarity principle in cultural terms: on the one hand, it emphasises common target perspectives such as the promotion of a sufficiency-oriented lifestyle and the common good, but at the same time opens up new spaces and niches so that the different traditions and values can all contribute to the necessary cultural change.

Through their power of orientation these deeply rooted cultural traditions, which are not static and rigid but often change slowly, contribute significantly to the orientation of individual and collective action. They unfold a strong motivational force to actually behave according to this orientation and offer a supportive hold even in times of upheaval. Therefore, they should be addressed and used whenever they are compatible with the goals of socio-ecological transformation. This also applies to religiously and spiritually based attitudes and beliefs.

Thus, in different cultural traditions, there is a high appreciation of nature and non-human living beings, a normative knowledge of the interconnectedness of all living things, as well as concepts of a good life that is not exhausted in material prosperity: all of these attitudes are well compatible with the target perspective of a dignified life for all human beings within the planetary limits. Here, in an intercultural dialogue that respects diversity and difference, it is necessary to explore what can promote the socio-ecological transformation.

The aforementioned diversity of cultural beliefs, attitudes and approaches to reality is a challenge that must be addressed and used as an opportunity: Diversity also makes it easier to perceive, interpret and shape the complex reality in a plural and unabridged way. Pope Francis also points to the value of cultural diversity in the face of the complexity of the challenge: "If we take into account the complexity of the ecological crisis (...) we would have to admit that the solutions cannot be reached through one single way of interpreting and transforming reality. It is also necessary to draw on the various cultural riches of peoples, on art and poetry, on inner life and spirituality. If we really want to build an ecology that allows us to rehabilitate all that we have destroyed, then (...) no form of wisdom must be left aside." (LS 63)

5 And the church?

Finally, it will be discussed whether, to what extent and under what conditions religious communities and churches can be "agents of change" and address specific contents that others cannot or can less clearly provide.

5.1 Ambivalence of religious groups and churches

The Christian churches and other major religions have long seen it as their task to reflect ethically on social developments and to offer orienting standards for them. The dialogue with the sciences and other religions has recently been intensified, e.g. with the last two encyclicals Laudato si' and

Fratelli tutti. Dialogue not only promotes cooperation between people of different religions and world views, but also prevents conflicts. For the great religions often claim to provide universal answers or to proclaim truths. Just like cultural traditions, religions and religious convictions are in danger of being appropriated by populism – especially if they absolutise individual positions and define monopolistic claims instead of seeing themselves as a movement of search and a solidary learning community.

Churches and religious communities can, as worldwide communities and global actors, which are at the same time anchored in very different cultures, be advocates for cross-border justice, universal human rights and the protection of the natural foundations of life. At the same time, they and especially the Catholic Church should honestly admit to themselves that for a long time it was difficult for them to make these goals their own and that not infrequently they still violate these ideals today, mostly in contradiction to their own teachings and their own moral standards.

Here, a controversial topic is the still reserved attitude towards human rights, at least as soon as they are also demanded for the internal religious spheres and structures. Many religions claim spaces in which certain human rights only apply to a limited extent, for example, when they deny women rights that are considered universally valid in civil society, at least in their internal sphere.

The ambivalence of the Catholic Church and other faith communities is particularly evident in population policy, which is an increasingly urgent challenge with regard to sustainable development. Church teachings rightly point out that population growth is not the primary cause of global poverty and the threat to livelihoods, especially against the background of the highly unequal distribution of wealth and resource consumption worldwide. The industrialised nations, with their high per capita consumption, are therefore in the worst possible position to give advice, not infrequently combined with financial pressur, to the poorer countries of this world in this regard. Nevertheless, as already mentioned (cf. chapter

3.2), a responsible population policy is indispensable in order to achieve the 2030 Agenda with the SDGs. Considering that more than 25% of pregnancies worldwide are unwanted[65] and that, according to UN forecasts, the world population will grow by a further 1.9 billion people between 2020 and 2050 (despite falling fertility rates in many places), including 1.2 billion in Africa[66], it is clear that there is an urgent need for action.

The Catholic Church in particular has a responsibility to provide guidance for such a responsible population policy. The protection of life, the rejection of coercive state measures and the reproductive self-determination of families are central standards for this. Pope Paul VI already pointed out that state authorities, with their not unnecessary measures for family planning, must not touch the "legitimate freedom of married couples" (*Populorum progressio* 37), since the "ultimate decision on the number of children lies with both parents" (ibid.). In order to guarantee this freedom (of conscience), however, one must not fundamentally condemn responsible forms of family planning that are also realistic and effective for the people concerned. For then one would not take seriously the reality of life for many people, not only in countries where – often due to poverty – population growth is very high. When church aid organisations and local congregations, who know the plight of the people on the ground, campaign for adequate access to contraceptives, they deserve respect and must not be defamed within the church.[67]

In order to empower both parents equally to make responsible decisions of conscience, it is indispensable to provide women worldwide with better access to education and to improve their employment opportunities. Then they can develop independent income opportunities and thus equal opportunities for self-determination and co-determination. These contemporary opportunities for co-determination must of course not only be demanded in state and society, but must also be consistently developed within the church, so that the "fraternal interaction" finally becomes a sustainable "togetherness of siblings".

An important source of strength and motivation for personal and structural change can be found in the rich spiritual and moral traditions of Christianity and other religions. However, it should not be overlooked that spirituality can also be ambivalent: It has a power that can be consciously manipulated or unintentionally misunderstood; it can promote escapism, lead to a misinterpretation of material prosperity (as a supposed "divine gift") or of the creation mandate ("subdue the earth" instead of managing and caring for it in a fiduciary capacity). Similar to cultural traditions, spirituality also needs to be questioned and rediscovered again and again in order to unfold its life-serving potential – the following thoughts are intended to provide some brief impulses in this regard.

A spirituality that is conducive to transformation begins with an attitude of sensitive listening. Only those who listen to the cry of the earth and the poor with open ears and an open heart and allow themselves to be moved by it can bring people and the earth into relationship with each other. In this way it is possible to start a real dialogue and to focus on the common good of all. With this change of perspective, spirituality helps to break with egocentric thought patterns. People no longer look in search of what they could still need, but gratefully look at what they already have, and at the same time seek to understand what their neighbours still lack.

This searching spirituality also leads out "onto the streets". It is a collective process that pushes people to where the burning problems of the time and at the same time the struggle for change are taking place: It is present at the demonstrations in the Rhenish lignite mining area, at climate strikes and in the church asylum and, despite all the clarity of the positions, it should always be a listening and searching one that also specifically perceives the quiet and marginalised voices and makes them audible to others. In this way, there is the potential to complement the dialogue *of* religions, which has become so important in recent years, with dialogue *through* religions, which can significantly promote transformation.

In this way, spirituality is always open to new insights and related concrete calls to action. It is open to the wealth of experience of other cultures – of the migrants who come to us or of the indigenous communities whose cosmovisions and ideas of the good life can help us to integrate knowledge of ecological connections even better into our own world view and our actual actions.

Spirituality is always related to transcendence. Believers of all religions trust that in this attitude of searching openness, God's voice becomes audible in their own hearts. It is precisely this experience that allows us to feel the complex interconnections of our world not as personally overwhelming, but as a deeply interconnected unity in which every life is willed and in a good place. Finally, a spirituality that trusts in God's goodness understands conversion not as a punishment but as a given opportunity. Far too often, the objective analysis of interrelationships is interpreted as moral condemnation, conversion as failure and material restrictions as punishment. By contrast, a properly understood spirituality is about creating healing relationships in the coexistence of people and with creation.

5.2 Churches as potential agents for change

When considering the possible contribution of churches to the sustainability debate, it is helpful to first look at so-called faith-based actors (FBBA), i.e. organisations that describe themselves as religious or spiritual in this discourse in general. Studies show that the public tends to attribute more legitimacy to civil society and also JCCs in political discourse than to businesses and politics. This is mainly because they are seen as having a greater interest in the common good. Some refer to this as moral legitimacy – as distinct from, say, the legitimacy that comes from being elected or holding office.[68] Research on the role of JCCs at the United Nations has shown that JCCs are often recognised as having such a special authority in the context of value-based arguments and communications.[69]

Moreover, an analysis of the submissions in the run-up to the Rio+20 Conference revealed that JCCs tend to take a more holistic view of sustainable development than other civil society actors.[70] In addition to the economic, ecological and social dimensions of sustainable development, for example, they also address spiritual perspectives (cf. chapter 5.1.). Similarly, they also understand the concept of quality of life more comprehensively. Moreover, JCCs place the question of justice even more at the centre, because they make fundamental principles of justice the starting point of their considerations and arguments. This becomes particularly relevant in current questions of consumption limits and sufficiency, the social organisation of responsibility for one another and the fundamental emphasis on justice and ethics, which can pose a challenge to the consumer culture and a sense of entitlement. The fact that these concerns are at the same time part of the core of Christian norms supports the power and authenticity with which the churches can represent them. These issues can be effectively represented in the social discourse if they are not appropriated by the church, but are brought to the public in partnership with other committed civil society organisations and realised in concrete lighthouse projects (cf. also chapter 5.3). Thanks to their strong structures and global networking, the Christian churches have a special potential to make not only their own, but also other marginalised voices heard and to highlight the perspectives of all those who have no lobby of their own.

This makes already clear that organisational aspects also play a role in determining whether churches can play a special role as agents for change in the transformation.[71] An important distinction in this context is that between more hierarchical and grassroots organisations. The former have the potential to set far-reaching impulses comparatively quickly, as the necessary decisions can be made by a small circle at the top of the organisation. The strength of grassroots organisations, on the other hand, is that they are often more democratic and thus better able to "involve" their members. In terms of organisational theory, the Catholic Church thus has a particularly high potential, because it has both a visible top, which can

make decisions and visibly announce them, and a world-church base, in which its members can actively participate in the congregations of the respective local churches and can thereby have a broad impact. Most recently, Pope Francis has made great efforts to bring these grassroots organisations into dialogue at the "World Meeting of Popular Movements" organised by the Vatican, to increase their worldwide visibility and ultimately to learn from them as a Church.

This also reflects the Catholic Church's claim to be a unity in diversity in a global perspective, which also shows the importance of the coexistence and togetherness of its members from different cultures, ethnicities, socio-economic, political and geographical contexts: The universal Church is not only a community of solidarity, but also a learning community.

Many perceive the churches as in principle less dependent than other actors in terms of material resources. There is ample evidence that, for example, the dependence of politics on business has increased. The Corporate Europe Observatory, for example, points out that business enterprises spent four times as much on lobbying in the context of European agricultural policy alone in 2011 as civil society organisations spent across the whole range of policy areas.[72] The vast majority of civil society organisations, on the other hand, depend on their members or on donations. Finally, within the economic sector, many corporate decisions are driven by large investors. The relatively greater material independence of churches and comparable JCCs is therefore a resource that should not be underestimated in the context of political discourse.

The Catholic Church thus has significant potential in various respects and thereby a responsibility that is at least as great. Instead of being paralysed by the question of the extent to which the Church is allowed to exert political influence at all in a plural, secular democracy (a question that hardly any other participants in public discourse ask themselves), it should be understood that in the 21st century there are strong post-secular tendencies due to which religions continue to have social influence[73]. For the

Catholic Church, the question is rather how it can bring its potential into the social discourse, and also what self-understanding and not least what credibility is necessary for this, as far as its own actions are concerned.

5.3 On the need for reform of the church

In their recommendations for action on sustainable development in the dioceses[74], the German bishops have emphasised the importance of a holistic approach and credible action on their own part: to better anchor creation awareness within the church – for example, by localising creation spirituality in liturgy and proclamation – as well as to consistently observe the claim of sustainability in every area of church management and decision-making. In order to implement these recommendations stringently, the corresponding organizational anchoring is needed: In some dioceses it has been shown that professional "climate protection from a single cast" can lead to enormous reductions in emissions and costs if it is understood as a cross-sectional task and, for example, the diocesan environmental officers are integrated into the corresponding management and decision-making bodies and are provided with sufficient resources. It is advisable that the dioceses offer personal support or cooperation in implementing better environmental standards to church bodies in their respective regions that are weaker in terms of personnel and structure, especially to the local religious congregations.

One of the most important indicators for sustainable climate policy and thus also socially prudent and responsible action by social actors such as companies, public authorities or also the churches is the reduction of their own ecological footprint. Within the church, the following levers are particularly important in Germany:

In *building management*, a consistent and systematic conversion to renewable energies is the order of the day. By expanding their own production and use of renewable energies, churches can invest sustainably and actively promote change as "prosumers" (cf. chapter 4.4). Since the gradual conversion of all heating systems to non-fossil fuels is likely to take until

well into the 2030s due to their long life cycles, this should be implemented immediately in all current renovation and new building projects; also the use of ecological building materials should be a matter of course. Due to relatively low expenditures of time and costs, the nationwide switch to green electricity for all church properties should also be carried out quickly.

Church properties also offer great opportunities to better fulfil the self-declared claim of the church to "make alternative forms of togetherness experienceable and tangible"[75]. Thus, among other things, the targeted, comprehensive support of future-oriented forms of social interaction through church, especially building, infrastructure is recommended. Furthermore, the principle should be strengthened, which has proven itself in many, but by no means all, organisations, of renting out church properties below local market prices in order to promote certain forms of housing (e.g. multi-generation houses) and a broad mix of different social and income milieus. It should be remembered that the preferential leasehold allocation to housing cooperatives and the special promotion of housing estates for the socially weaker in the reconstruction years after the Second World War were able to develop a great inner-church and also overall societal dynamic. Since there are more and more church properties in Germany that are no longer used for pastoral purposes, the church could contribute to the provision of affordable housing that is urgently needed in the cities also today.[76]

There is also great potential in the consistent orientation of church *procurement* towards social-ecological criteria. If one for example takes serious the suggestions for a mobility turnaround discussed here, this would have to lead to concrete changes in the organisation and composition of church vehicle fleets and guidelines for reimbursable business trips (e.g. with regard to domestic air travel). Accordingly, with regard to the necessary change in consumption and nutrition, church kitchens (incl. church kindergartens, schools, hospitals and old people's homes) should be con-

verted to more wholefoods, "bio-regio" and "fair trade".[77] Model experiments show that this is not more expensive if the people in charge are trained accordingly (this is where the real financial effort lies) and the will to eat less meat products is there. In addition, there is a visible political position on organic and locally produced products as well as on fair trade. Organic farming is clearly more resource-efficient and, in combination with the Fair Trade standard, the most sustainable form of production of food and textile goods from the Global South.

In the field of *land management*, there is an urgent need to clarify whether "church land" should be managed according to uniform sustainability criteria in future, which is a great challenge in view of the large number of different church legal entities.[78] Such a discussion would send out a signal to society as a whole if it were possible to discuss the many distribution conflicts that a change in leasing practice in individual parishes and church foundations would entail at an early stage with the various stakeholders and then find a common regulation on the basis of shared values. In alignment with the National Bio-diversity Strategy, the removal of church open land and forest areas from use, consistent forest conversion and a contribution to the re-wetting of moorland, one of the most important natural CO_2 sinks, should also be discussed.

In the field of *finance*: The churches and their large asset management companies are now increasingly taking ethical and sustainable criteria into account in their investments with the aim of making ethically dubious economic activities more difficult and promoting those that correspond to their own ideas of good economic management. To achieve this, however, it is necessary not only to check and keep an eye on the credibility of the providers of such investment products, but also on the impact of these investments. In order not only to soothe their own conscience, but also to achieve a steering effect, churches as investors should try to exert more targeted influence on companies. They can strive to improve the financing conditions of sustainable business ideas through their investments. Much more than in the past, they should use the opportunity as

shareholders and try to change the business policy of companies through engagement activities that are ideally coordinated with others.[79] Church funds should also be withdrawn more consistently from companies that live from the extraction of fossil fuels: steps that large German financial groups have already taken.

Further important steps that now need to be taken are the extension of the segment of ethical-sustainable financing to large parts of the diocesan asset management and the comprehensive application of the diocesan guidelines and experiences to the more numerous assets of individual church foundations, parishes and religious communities. In view of the still low interest rates and the already described investment emergency in the area of sustainable infrastructure and renewable energies, the motto, at least for a part of the church's financial investments, should be: out of fixed deposits, into active climate protection.

Of course, the fields of action mentioned here only cover a small, but in terms of climate policy very effective, area of action through which the Catholic Church can make a clear contribution to the socio-ecological transformation within its own area of responsibility. It should be emphasised that the recommendations mentioned for shared and subsidiary responsibility, for increased transparency and the effort to achieve a profound change of mindset are essential prerequisites for this transformation to succeed. Often it has been grassroots democratic groups and associations that have done pioneering work within the church on issues of the future such as active environmental protection, fair trade or sustainable investments and that continue to promote these concerns on a broad scale. In view of the structural crisis of the institutionalised church, these groups represent a resource whose importance is likely to increase greatly in the coming years: their knowledge and voluntary commitment are invaluable for the Catholic Church in Germany.

The potential that the Catholic Church can, in close ecumenical cooperation, bring to this global transformation process due to its specific content

and organisational prerequisites should be cause for hope and encourage even more decisive action. If the Church consistently addresses the need for reform and transformation described here also within the Church, it can be an effective agent for change, who works together with all people of "good will" to ensure that everyone, today and in the future, can live well and preserve the whole of creation.

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