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factor y

factor y

Magazine for a sustainable economy

Topic

SISYPHUS

factory

According to legend, Sisyphus was punished for his deceitfulness by being compelled to roll a boulder up a mountain for all eternity, just so that it could roll back down again and again shortly before he could reach the top. Depiction of Sisyphus by Titian, Source: Wikimedia

Giving Up Is Not Allowed!

Where do we stand on the matter of sustainable development? If you ask sustainability activists and scientists, you often hear sobering facts and considerable disappointment concerning the achievements so far. In the 1990s, it started out enthusiastically as a compatible global project for fairness, but it seems as if only little of the original plan has been achieved. Only a few thousand companies in Germany are managed in accordance with the principles of sustainability, which means being economically, ecologically and socially fair; and the global situation is no different even though the latest assessment report of the Intergovernmental Panel on Climate Change (IPCC) states that only little time is left to keep global warming within the limit of the two degrees Celsius on average that are considered manageable.

Especially in allegedly developed countries like Germany, no great contribution has been made regarding measures against global warming. On the contrary: emissions are rising, lignite is beyond debate and fracking has gained acceptance. All that does not look like a lot of transformation is going on yet.

So it comes as no surprise that many a sustainability activist is frustrated and disappointed, whether at work or in their leisure time, since no large-scale measures are possible without supportive policies. ▶

Therefore, our idea for the title of this issue of factory was Frustration & Failure. In the end we decided on Sisyphus – or Sisyphus in Greek – analogous to the omnipresent Sisyphean task. However, in the opening interview, Ernst Ulrich von Weizsäcker states that working hard on sustainability is not as futile as the Sisyphean task and he raises hope regarding enforceable policies.

The philosopher Bernd Draser tries to comfort us with the beauty of failure, while the team of authors Ax, Hinterberger and Marschütz of the SERI Institute (Sustainable Europe Research Institute) in Vienna holds up the figures that won't allow us to give up. Isabell Zipfel tells a whole different story with her photo report about the mining of lignite, followed by Annette Jensen and Ute Scheub who describe happy islands that could have what it takes to be continents capable of surviving. In his article about climate policy, Hans-Jochen Luhmann deals with contradictions and makes suggestions as to what could be achieved. The philosophical economist Birger Priddat takes a completely different approach in his quasi-manifesto for the Anthropocene: the approach of the technologically accelerated development of the domination of nature.

The young scientist Benjamin Best has the last word with his hopeful view on his increasingly post-growth orientated generation. So it is only a matter of perspective? Or even of historical perspective? We recommend Ernst Ulrich von Weizsäcker as an example. On 25 June 2014 he celebrated his 75th birthday and despite the current political stagnancy, he does not get tired of introducing a reform for a resource tax as a possible efficiency revolution. We sincerely congratulate him and wish you all fresh motivation and a great summer.

Ralf Bindel und the factory team

Translated from the German by: Annika Wagener

The ancient Indian legend of Naranath Bhranthan offers an interpretation of the same image in another context. Naranath voluntarily rolls a big stone up a high mountain just to see the stone roll back down into the valley, which makes him jump for joy.

Statue of Naranath Branthan,
Source: Wikimedia Commons

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»The struggle itself towards the heights is enough to fill a man‘s heart. One must imagine Sisyphus happy.«

Albert Camus: The Myth of Sisyphus. Quoted. in: The Myth of Sisyphus and Other Essays. p.123. Translated by Justin O’Brien.

factor-y

Sisyphus

Shortage of wood, Unsuccessful, Realisation, Progress, **Diligence**, Work, Wage, Acknowledgement, Resources, Nature reserve, Shortage, Annihilation, **Alarm**, Agricultural change, Reduction, ***Waldsterben***, Climate catastrophe, Population growth, Transition, **Poverty**, Factor 4, **Hardship**, Escape, Curse, Rebound, Efficiency, Brundtland report, Politics, Ozone hole, ***Rio Conference***, Instruments, Insight, ***Seveso***, Belief, The Green Party, Confidence, Doubt, Certainty, Risk, Constraint, Uncertainty, Lignite, Opencast mining, Impossible, **Hopelessness**, Sisyphus, ***Rage***, Oil crisis, Kyoto Protocol, Fury, happiness, Lust, Harrisburg, Sisyphus, Misery, Rejoicing, Capitulation, Anthropocene, Amoco Cadiz, **Sorrow**, Titanic, Denuclearisation, **Fear**, Energy consensus, Representative, Lobby, Party, Structure, **Chernobyl**, Institution, Improvement, Reform, **Revolution**, ***Evolution***, Cooperation, Bophal, Peak Oil, Coordination, Government, ***Sellafield***, Power, Opposition, Science, Economy, ***Breakdown***, Material constraint, ***Warming***, Delicate, Right, Principle, Society, **Post-growth**, Technique, Technologies, Rules, Regulation, Reason, Means, Present, Future, Parliament, Change, **Velocity**, Climate change, Wende, **Silent Spring**, United Nations Conference on the Human Environment, Whyl experience, IPCC, Extension

Despair, Dread, Defeat, Hope, Bravery, Motivation, Depression, Recession, Crisis, Retreat, Fatalism, Cynicism, Refusal, Factor 10, Dispute, Fight, Task, Nuclear programme, Boredom, Courage, Commitment, Dedication, Fukushima, Frustration, EU Emissions Trading, Failure, Anger, Mayak, Hunger

“It Is Not Impossible at All.“

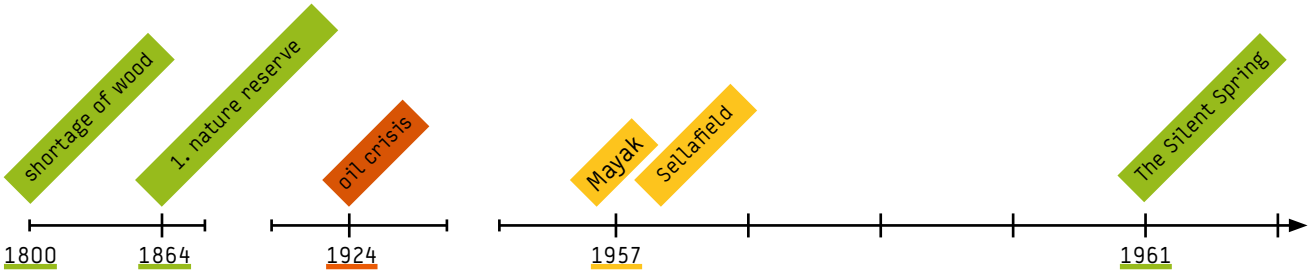
In the face of the fracking euphoria, a European Union without concrete goals and fruitless UN climate negotiations, many dedicated people have given up the hope that political instruments may help form a more sustainable world. Ernst Ulrich von Weizsäcker is a politician and scientist and still values the ability to guide.

An interview with Ernst Ulrich von Weizsäcker by Ralf Bindel.

Translated from the German by Anna-Lena Vohl, Konstantina Perdikoulia, La Toya Vaughn and Karen Leicht

Looking at what has happened in the field of sustainable development from a global point of view shows the following: peak oil isn't an issue any more, fracking is also being discussed in Europe and lignite is still being mined extensively. The UN climate negotiations have been fruitless and the post-Kyoto Protocol does not have a future. The situation in Germany is similar: emissions are still rising; there is no sign of an efficiency initiative and the Energiewende (German energy transition) is slowing down. Numerous other aspects show that nothing is going on at the moment that would portend a transformation into a sustainable society. This can be frustrating, don't you think?

Ernst Ulrich von Weizsäcker: Yes, it can. But by looking back at history, we know that movements sometimes occur in waves. This has even happened in the history of the Federal Republic of Germany: by 1976, after about five years under Chancellor Willy Brandt and the Minister for Interior Affairs, Hans-Dietrich Genscher, the federal government



launched a formidable environmental policy. In the shadow of the oil crisis and the recession, things came to a standstill under Helmut Schmidt. There were to be no new environmental laws, he said. That was a great shock for a lot of people. A few years later, the Waldsterben debate (forest decline) arose and even Chancellor Helmut Kohl, who belonged to the German conservative party, became a pioneer of a massively influential environmental policy. The same applies to the climate. Of course, the question here is whether there is enough time.

You said there wasn't any reason for frustration. So... you aren't frustrated?

I'm not because it's not in my nature to be frustrated all the time. If I were, I would be long dead.

Still, after the first steps towards sustainable development, after the Agenda 21, the Rio Conference and the implementation of emission allowance trading, some things have been set in motion that we are now further from attaining than ever before.

That is exactly right. It was the same in the 1970s. What I want to say is that something like this should always be expected. It didn't only happen under Helmut Schmidt but also, to an even greater degree, under Ronald Reagan. He appointed a man Secretary of the Interior – a position that includes the responsibility for environmental issues – who was opposed to environmental protection. Nevertheless, after some time, the government got the ball rolling again. But it was a lot easier to do so in the context of classical local pollution policy because there was a way to in-

crease prosperity and protect the environment at the same time. It is not that easy when it comes to the climate.

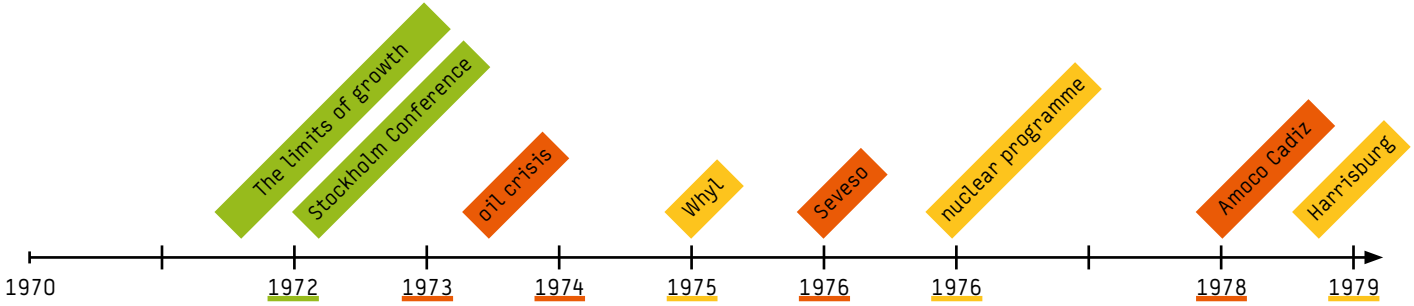
Why not?

Until now we've seen a strong correlation between CO2 emissions per capita and the gross domestic product. We must eliminate this correlation first. The so-called Kuznets curve, which has existed for a long time for local pollution, at the end of which a society is rich and clean, must now finally also be established for CO2. Neither politicians nor economists have yet been able to think of anything much different than renewable energies, which is very nice, nuclear energy, which is dreadful, and carbon capture and storage, which will be so expensive that it will never really work.

The underlying topic of energy efficiency has been neglected – in Germany less than in other countries.

Your subject area used to be resource efficiency.

That's exactly the same thing: resource efficiency is made up of energy efficiency on the one hand and material efficiency on the other hand.



At least the discussion about Factor Four, Five, Ten, X or Y led to a partial increase in resource productivity but there are also the famous rebound effects. On the whole, the consumption of resources isn't decreasing, decoupling hasn't taken place. In fact, we consume more than what grows back. Our ecological footprint is far too large, yet things haven't changed. This development has been clear for a long time already.

That's totally true. But in the more recent book Factor Five, which is much more political than Factor Four, there are recipes – that I consider to have considerable appeal – on how to tackle the rebound effect and at the same time generate prosperity i.e. reach the Kuznets curve and overcome the rebound effect. This is a gigantic task. I'm not saying that it's easy because there are recipes. But what is needed now is to very carefully test and popularise them and make them capable of convincing the majority.

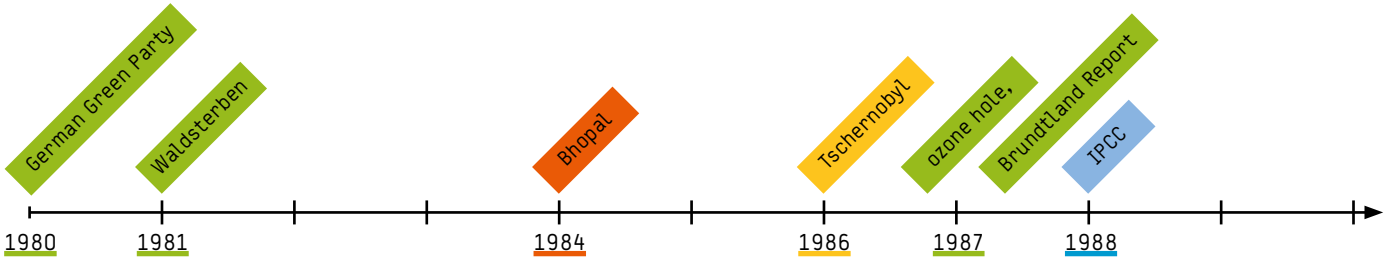
Name the aspects that are capable of convincing the majority in this situation. How do the methods of Factor Five fit into the present time? Almost all countries find themselves in an unfavourable economic situation. To combine this with the necessity of reducing the consumption of resources seems to be more of an impossible task than a gigantic task.

It isn't impossible at all. In Factor Five, we initially praise Germany and other countries that brought the transition from purely fossil fuels and nuclear energy to renewable energies into motion. Without the German Renewable ▶

Energy Act (EEG) this wouldn't have happened. But the EEG was then copied by about 100 countries including China. Our message, however, is – and I also share this view today – that renewable energies are well and good but don't solve the problem.

Most politicians and economists think that growth achieved by having a green economy is enough.

Here is a quick calculation: the EU promised on the basis of the success story of the EEG, among other things, that by 2020 the percentage of renewable energies will amount to at least 20 percent throughout the EU. Then this would be valid for half a billion people. Let's optimistically assume that the other half billion people in the OECD countries, the USA etc. also achieve 20 percent. How much of the world's problem is solved by that? The answer is pathetic: one thirty-fifth, because 20 percent is a fifth of one hundred, one billion is one seventh of seven billion. To increase renewable energies, for example from corn, rapeseed and palm oil plantations, water and wind power stations, thirty-five fold isn't ecologically responsible.



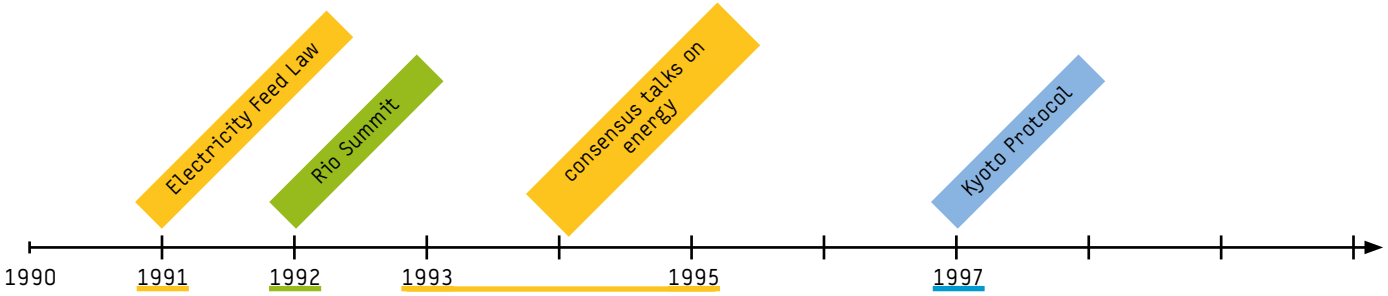
What would be necessary and possible in addition?

As much as we love renewable energies, we must know that the second component – and first for me in terms of priority – namely efficiency, is part of it, too. First, there is evidence that all this works; two thirds of the book Factor Five deals with this point, and secondly the political options I just mentioned. The most important measure is to create an equivalent to the EEG, only this time for efficiency. I am aiming at a ping-pong effect between the increase of energy efficiency and subsequently the increase of energy prices on the market in exactly the same percentage. If this happens, efficiency will increase almost automatically by means of economic incentives, which would be 'pong'. Then 'ping' comes into play again and prices will increase. This is an exact equivalent to the staggering success story of the Industrial Revolution – at the time with labour productivity and wages. Over the course of 150 years, this ping-pong effect always resulted in increased labour productivity, increased wages, then again in increased productivity. All this led to a twentyfold increase in labour productivity and thus represented a prosperity generator. I had something similar in mind for energy. I absolutely consider this to have political majority appeal as soon as it's well formulated by the legislator and promoted correspondingly.

You more or less invented or introduced the energy transition together with Hermann Scheer and Michael Müller, as members of the German Bundestag representing the Social Democratic Party of Germany (SPD).

Now, Sigmar Gabriel, the federal chairman of the SPD, is regarded as having a rather dampening effect on the energy transition. In his proposals there's no mention of an efficiency offensive and we're experiencing precisely this effect of increased prices for electricity. This, however, doesn't lead to reflection about efficiency, but about stopping the price increase.

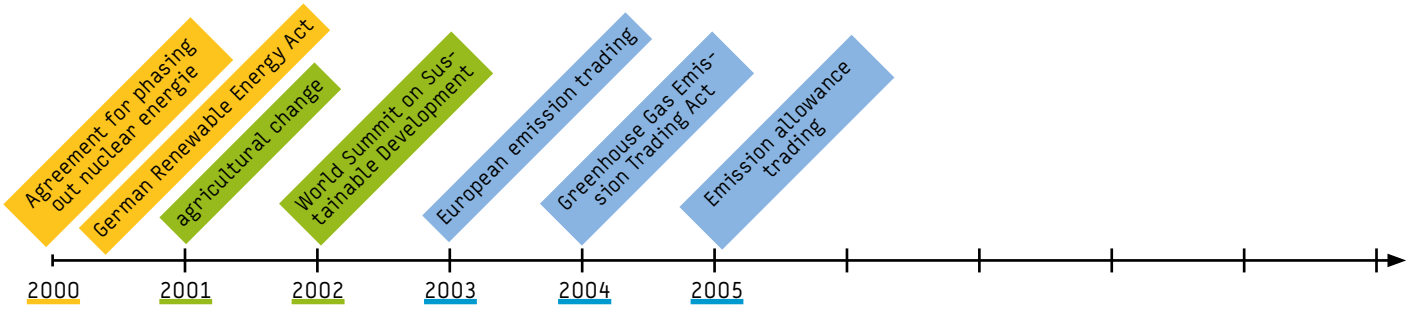
In my opinion, it's not that straightforward. Sigmar Gabriel has the electoral mandate to stop the price increase for extra payments for renewable energies, which has assumed alarming proportions since 2009. That's what he's doing and you can't hold it against him since it was the electorate's mandate, there's no room for interpretation. The only ones not in favour of this are the ones who have profited from the cause of the price increase, especially the producers of renewable energies. But with the main points of his bill Gabriel made it clear that the target of expanding from the current 24 percent to 60 percent will undoubtedly be adhered to.



To that extent, the current political chatter suggests that Gabriel is destroying the energy transition, but this cannot be justified on the basis of the quantities. He would achieve an efficiency gain in industrial enterprises if the energy prices were increased for them.

That is correct. With respect to industry, I find the bill dissatisfying, because the incentives there remain feeble. However, I have an answer to this of course. I'm referring to the brilliant experiences the Swedes made with their air pollution tax in the early 1990's. It was created to combat the death of the forests due to acid rain. In those days, there was already an air pollution tax in France, initiated among others, by the local nuclear lobby. The Swedes said: what the French are doing is not good enough; we'll invent a tax that will be forty times higher for every tonne of pollutant. The outcry in industry was tremendous: now we will abandon Sweden, now is the time for a major de-industrialisation movement. We all know these kinds of speeches. The government reacted ingeniously and offered them a deal: we demand from you this brutal air pollution tax in the same way as we do from everyone else, without exception. But, we will return the money to you industrially, not for every tonne of toxins, but for value creation. So, coal-fired power stations for example were compensated per megawatt hour. Thus, the operators were incredibly interested in getting rid of air pollutants and produce good energy. The whole issue was some sort of a rejuvenating cure for the Swedish industry right up to the iron and steel industry, no one emigrated and subsequently the Swedish were more competitive than before. A similar approach could work for the issue of ▶

energy. Yet, this is not the way industry thinks up to now and unfortunately, not even the German government and the European Union. But that is once again a matter of informing and advertising.



It would be something like a resource tax.

I would rather call it resource tax reform, because the German state does not become wealthier through it. It would be a social prioritisation of efficiency through a market incentive program in which a tax is imposed on intense consumption of resources and the collected money is then reallocated for more efficient technologies.

Naturally, this must happen at a very slow pace so that the expected technical progress can keep up and no bad investments emerge. The Swedes were a lot more brutal; what I am suggesting is incremental.

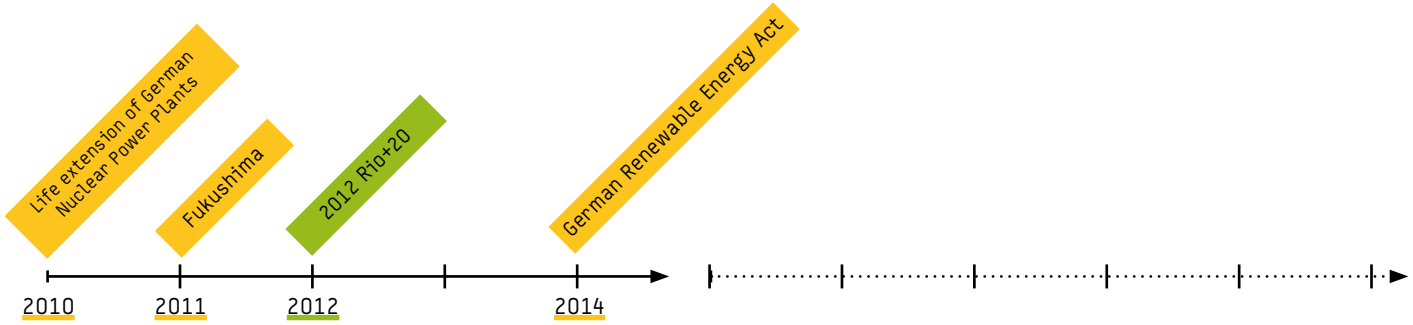
So, does a political instrument of that kind actually still work when lobbyists are so heavily represented on the committees that the politicians can barely decide freely?

In a democracy in general, the lobbies always find themselves in key positions. But once the people awake, the needed indignation is generated and the politicians make proposals that satisfy the population and put the lobbies in their place, without the rise of their feared misinvestments, it does function again quite well. That was exactly the case with Brandt, Schmidt and Kohl and the conventional environmental policy.

Normally, politicians show they have a good sense of what the population wants. You are saying now that Sigmar Gabriel has the mandate to reduce the rise of the EEG apportionment.

This is a priority amongst people today. Then, of course, there are surveys. They are indeed all saying they want solar energy, but when the question arises as to whether or not they want a further increase in additional charges, of course the answer is no.

The only option for the private consumer is to save money. For them, the electricity price increased because of exceptions made for industry, the suspension of emissions trading, giving certificates away as presents etc. But it also has to do with a decrease in personal consumption. Germany pollutes the environment with 11 tons of CO2-emissions per capita and year. They would have to reduce their emissions to 2.7 tonnes in comparison. Then why not also use a higher price as an argument? ▶



The reduction is feasible and I'll provide arguments for it. The prices have to increase for the private consumers as well. However, I much prefer the ping-pong idea over EEG dynamics. The former means that the upward trend in prices should be in proportion to the efficiency gains. The latter was a cost recovery method for the providers, which had nothing to do with the consumers. In 2009, it was determined – something I thought was insane – that the surcharge should be measured according to the difference between market prices and the prices at the Leipzig Energy Exchange. After that decision, the surcharge increased when prices dropped in Leipzig, which is absurd. But for investors in renewable energies it was great news: they did not need to fear the lower proceeds at the energy exchange. Now they complain that this is no longer the case. Despite any joy about and support for renewable energies – I was one of those in the German Bundestag, who had initiated it, Herman Scheer was the real hero: we cannot for political reasons afford great privileges at the expense of the poor population. As I said, for that reason the expansion target of 60 percent and 100 percent shortly after that, is not in doubt. If, due to the EEG dynamics, the prices have increased more dramatically especially in the last five years, a lot more quickly than the efficiency has come along, then someone should definitely deflate them again. This does not mean that from now on energy will get cheaper again, but rather that it should get more expensive in lockstep with efficiency progress, which, however, happens at a slower pace.

Do you have an example of how the efficiency-reform could work in the private sector and how it could reduce consumption?

If you want to convert an old building into a Passive House Standard, you must spend quite a lot of money. The loan payback period would extend to between 15 and 30 years. That is too much time for today's financial markets. They demand a payback period of eight years or less. When everyone knows, including the German public bank's employees and architects, that from now on energy will be more expensive in proportion to the efficiency gains, the payback period will automatically be cut short. It could be reduced to eight years. The same bank employee who denies someone a loan now, would then of course approve it, because it would be a profitable thing to do.

In this way, it would suddenly become possible to cost-efficiently reduce the CO_2 emissions per capita by a factor of 4, from 11 to 2.7 tonnes.

Heating and fuel costs have risen significantly more than those of electricity. Actually, electricity only amounts to an average of 2.5 percent of household expenditures. The ▶

costs of operating a motor vehicle, of heating and of hot water would need to be estimated higher, by a factor of 3. People only talk about electricity, which, although it accounts for 39 percent of the primary energy demand, only makes up 14 percent of the primary energy costs.

Exactly – not all of the aspects are taken into consideration: everyone looks at electricity and only few people take heating into account. But we know that almost half of the CO2 emissions come from radiators and transportation, and this is why we have to pay more attention to heating and fuels, so, of course, the ping-pong idea can be put into practice. But heating plays a less important role for politics in Berlin than the reform of the German Renewable Energy Act. However, this is going to change: when the German environmentalist Wolf von Fabeck calculated the cost-covering reimbursement for solar electricity using the so-called Aachener Modell, ten years before the German Social Democrat Hermann Scheer, this idea had not yet established itself in Bonn's – or rather Berlin's – politics. Ten years later, it gained acceptance. This is also the way I'd imagine this concept to work here and now. Once reason – as Immanuel Kant described it, in terms of the Enlightenment – asserts itself, there will be a majority supporting it.

Right now, it actually looks like a majority can be won by assuring them that the economic situation is good.

The people's thinking is dominated by this idea, which I regard as historically wrong, that the cheaper our energy, the better the state of the economy. This thought was empirically refuted by the Japanese in the 1980s, when they had the highest energy costs and the strongest economy. […]

Read more about 'New Right' populists, the market's possibilities, social democracy and eco-dictatorship as well as the reduction of working hours and post-growth on www.factory-magazin.de

Prof. Ernst Ulrich von Weizsäcker, born on 25 June 1939, studied physics and taught biology in Essen and Kassel. He was president of the Wuppertal Institute from 1991 until 2000 and a member of the German Parliament from 1998 until 2005. He has been co-president of the Club of Rome since 2012 and patron of the crowd-funding platform Bettervest since 2013. He has received numerous awards and honours. His most recent book, Factor 5, was published by Droemer, a German publishing house, in 2011.

factory

»There is always a well-known solution to every human problem — neat, plausible, and wrong.«

Henry Louis Mencken in Debt: The First 5000 Years by David Graeber.
Mencken was a US journalist and author, born in Baltimore, Maryland.

1800 Start of the environmental movement due to a supply crisis of the raw material wood ("shortage of wood" according to Joachim Radkau).

1864 The world's first nature reserve was established in today's Yosemite National Park in California at the instigation of John Muir.

1924 Biodynamic agriculture is developed, emerging from the anthroposophy movement.

1957 An accident occurs at Mayak, a reprocessing plant in the Soviet Union, and twice the amount of radioactivity expelled in the Chernobyl disaster is released. Contamination was limited to the soil east of the Urals and was successfully kept secret for 30 years.

1957 After an accident in a plutonium breeder in Sellafield, England, milk production was forbidden within a 200 square mile area. In 1973, another heavy accident happened in the reprocessing plant, which led to a further release of plutonium.

1961 Biologist Rachel Carson publishes her book Silent Spring, which stands for the beginning of the US environmental movement (see also factory 1-2014).

1972 The Limits of Growth (Die Grenzen des Wachstums) is a study concerning the global economy's future, which was presented at the third St. Gallen Symposium in 1972. The study was created on behalf of the Club of Rome and investigated tendencies with a global impact, using system analysis and computer simulation. The book of the same name has been sold 30 million times and in 30 different languages so far. In 1992, another book by the Club of Rome, Beyond the Limits, was published; in 2004, The 30-Year Update was released, and in 2012, 40 years after the first book was printed, 2052: A Global Forecast for the Next Forty Years was published.

1972 The United Nations Conference on the Human Environment in Stockholm was the first UN conference concerning the environment and is known as the start of international and global environmental policy. The conference directly or indirectly resulted in numerous agreements such as the Montreal Protocol, the Basel Convention, the Cartagena Protocol and the Kyoto Protocol.

1973/74 The first oil crisis spurs the planning of nuclear power plants. France agrees on an extensive construction programme, which is completed by 1990.

1975 Starting in February, about 28,000 people occupy the Wyhl building site for a nuclear power plant for several months, having a great impact on the entire movement.

1976 Chemical disaster in Seveso, 20 kilometres north of Milan, during which highly toxic dioxin is released. As a consequence, the Seveso II Directive is imposed, aiming at the prevention of serious industrial accidents.

1977 The Federal Government of Germany announces its intention to scale back their nuclear programme by 50 percent by 1985 and to take energy-saving measures as well as to develop energy technologies without nuclear power.

1978 The oil tanker Amoco Cadiz runs aground off the shore of Brittany, causing the sixth largest oil spill in history with 223,000 tonnes of crude oil pouring into the water.

1979 Partial core meltdown in the Three Mile Island nuclear power plant in Harrisburg, Pennsylvania, USA.

1980 In Karlsruhe, Germany, the 'Green' political party emerges from the environmentalist and nuclear power opponent movement. In 1983, the party enters the German Bundestag.

1981 Forestry scientists warn about upcoming or present forest dieback and demand less air pollution. Following a cover story in the German magazine Der Spiegel, the subject receives increased public attention. At the height of the debate, the German government agrees on measures that exceed the Federal Pollution Control Act of 1971. One of these measures is the installation of flue gas desulphurisation plants in power plants to avoid acid rain.

1984 3,800 to 25,000 people die and 500,000 are injured during and after the Bhopal gas tragedy in a plant owned by the American Union Carbide Corporation in India.

1986 Chernobyl Nuclear Disaster close to the Ukrainian city of Pryp-jat. Thousands of people die and the long-term effects are unknown. A few weeks later, the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety is established in the Federal Republic of Germany.

1987 The 'Our Common Future' report is published by the United Nations World Commission on Environment and Development under the direction of Gro Harlem Brundtland, former Prime Minister of Norway. It marks the beginning of the worldwide discourse on sustainability and sustainable development, which is defined in the report for the first time.

1987 Since the beginning of the 1980s, the ozone hole occurs annually, in particular over the Antarctic. It is caused by persistent chlorofluorocarbons (CFCs) in the atmosphere. Due to the ozone hole, the percentage of UVB radiation in the sunlight increases, damaging living organisms. In the Montreal Protocol of 1987, CFCs are banned worldwide. It is expected that the ozone hole will not close until the second half of the 21st century.

1988 The Intergovernmental Panel on Climate Change (IPCC), an intergovernmental committee dealing with climate change, is established in 1988 by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO). The IPCC informs political decision-makers about the current state of research. The first progress report was completed in 1990, the fifth in 2013/14.

1991 The German Federal Electricity Feed-in Act of 1990 is the first law that obliges electricity companies to purchase electricity for minimum tariffs from renewable energy power plants. The prices are calculated as a percentage of the average revenue for all electricity sold two years beforehand.

1992 The United Nations Conference on Environment and Development (UNCED) is organised in response to the Brundtland Report of 1989 and held in Rio de Janeiro in 1992. It is the first major international conference on environmental issues after Stockholm in 1972 and known as Earth Summit. Important results are Agenda 21, the Rio Declaration on Environment and Development, the Framework Convention on Climate Change, the Forest Principles and the Convention on Biological Diversity.

1993 Under Helmut Kohl's government, so-called consensus talks on energy take place between representatives of the national and federal governments of Germany and business representatives. However, a consensus is not reached.

1997 In the Kyoto Protocol of 1997, the European Union commits itself to an average eight per cent reduction of greenhouse gas emissions, compared to the level of 1980, until the 2008-2012 period. The aim is to fight global warming. The EU states are jointly responsible for fulfilling this commitment. Germany commits itself to a reduction of 21 per cent.

2000 The first socialist-green coalition government of the Federal Republic of Germany agrees on phasing out the use of nuclear energy with the four largest German energy companies. In 2002, a legally binding amendment of the Atomic Energy Act takes place ('nuclear consensus'). It is estimated that the last German nuclear power plant will be shut down in 2021.

2000 The Federal Electricity Feed-In Act is replaced by the German Renewable Energy Act. To provide initial support, there is a stronger differentiation of remuneration rates, the photovoltaic rates are raised and technologies like geothermal energy are included. The Renewable Energy Act is amended in 2004, 2009, 2012 and 2014.

2001 The first BSE (Bovine Spongiform Encephalopathy) case causes a political debate dominated by the keyword Agrarwende (agricultural change) in Germany. The main topic is the reorientation of the German agricultural policy towards more ecological production, trade and consumption. A new, official organic certification label in accordance with EU standards is introduced. The German Federal Ministry of Food and Agriculture is now also responsible for consumer protection. The aim is to increase the percentage of organic farming from three to 20 per cent within 20 years. In 2012, 6.2 per cent of Germany's farming area was used for organic farming. In Austria, 20 per cent of the agricultural land was farmed organically in 2013.

2002 The World Summit on Sustainable Development (WSSD) takes place in Johannesburg, South Africa, with about 20,000 delegates. Non-governmental organizations come together in the 'A Sustainable World is Possible' congress. They agree upon new objectives concerning biodiversity, gender equality and the fight against poverty.

2003 The Emission Trading Directive 2003/87/EG becomes the legal basis for European emission trading. The EU states have to implement national laws to ensure compliance.

2004 The EU Emission Trading Directive is transposed into German law (Greenhouse Gas Emission Trading Act). From now on, the German Emissions Trading Authority of the Federal Environment Agency is responsible for the allocation of certificates and the monitoring of emissions.

2005 Emission allowance trading starts at the energy exchanges in London, Leipzig and Vienna. Emission allowances are allocated in national allocation plans. Within one year, the electricity price increases by 22 Euro per MWh. As a large percentage of the certificates was allocated free of charge, this price increase generates 'windfall profits' of five billion Euro for German electricity producers in 2005.

2010 The black-yellow coalition government, reigning since 2009, includes the four major energy companies in the treaty on the life extension German Nuclear Power Plants ("exit from the exit"), fixed in the new amendment to the Atomic Energy Act. The operating times of older plants are compared to the previous nuclear consensus by eight years that prolongs the remaining NPP by 14 years.

2011 Due to an earthquake and a tsunami partial core meltdowns occur in three reactors of the Fukushima nuclear power plant. Several countries stop their nuclear energy programs. Pressed by the economy Japan decides in 2013 to phase out the 2012 announced phase-out by 2040. The seven oldest nuclear power plants in Germany will be initially turned off, by 2022 all remaining NPP will be decommissioned. The life extension of 2010 is withdrawn.

2012 The second UN Summit on Sustainable Development in Rio adopted a commitment to sustainable business and to the model of the Green Economy and formulated the Millennium Goals for 2015 without binding agreements.

2014 A draft bill to reform the German Renewable Energy Act (REA) envisages to keep the REA apportionment stable, thus ensuring the affordability of electricity for consumers and business. Until 2050, at least 80 percent of Germany's electricity consumption should come from renewable sources.

factory

»More men are beaten than fail.«

Henry Ford. My Life and Work, in collaboration with Samuel Crowther, Filiquarian Publishing, LLC, Minneapolis 2006, p. 247

factory

The Comforting Beauty of Failure

In terms of sustainable development, not every dream can blossom. This fact should not frustrate but encourage. On the aesthetics and necessity of failure.

By Bernd Draser

Translated from the German by Vanessa Kammerer

We are in the sixteenth year after the German Bundestag's inquiry commission 'Protection of Mankind and the Environment', in year 22 after the Rio Conference and Agenda 21, in year 27 after the Brundtland report, in year 34 of the discussion about the energy transition in Germany, in year 42 after the study 'The Limits to Growth', in year 148 of the term 'ecology' and already in year 301 of the term 'sustainability.' Everybody in Germany – and particularly those in power – uses this popular but semantically empty word. This sounds like a legitimate reason for euphoria.

However, people who for decades have been standing up for the protection of resources, climate and the promotion of sustainable development are becoming disillusioned. Despite the massive expansion of the debate, desirable results still fail to emerge. There are halts everywhere, developments are fragmenting, unpredictable events are delaying promising processes, unexpected opposition from surprising quarters is arising and causing frustration. This is reason enough to try a philosophical consolation based on two reminders.

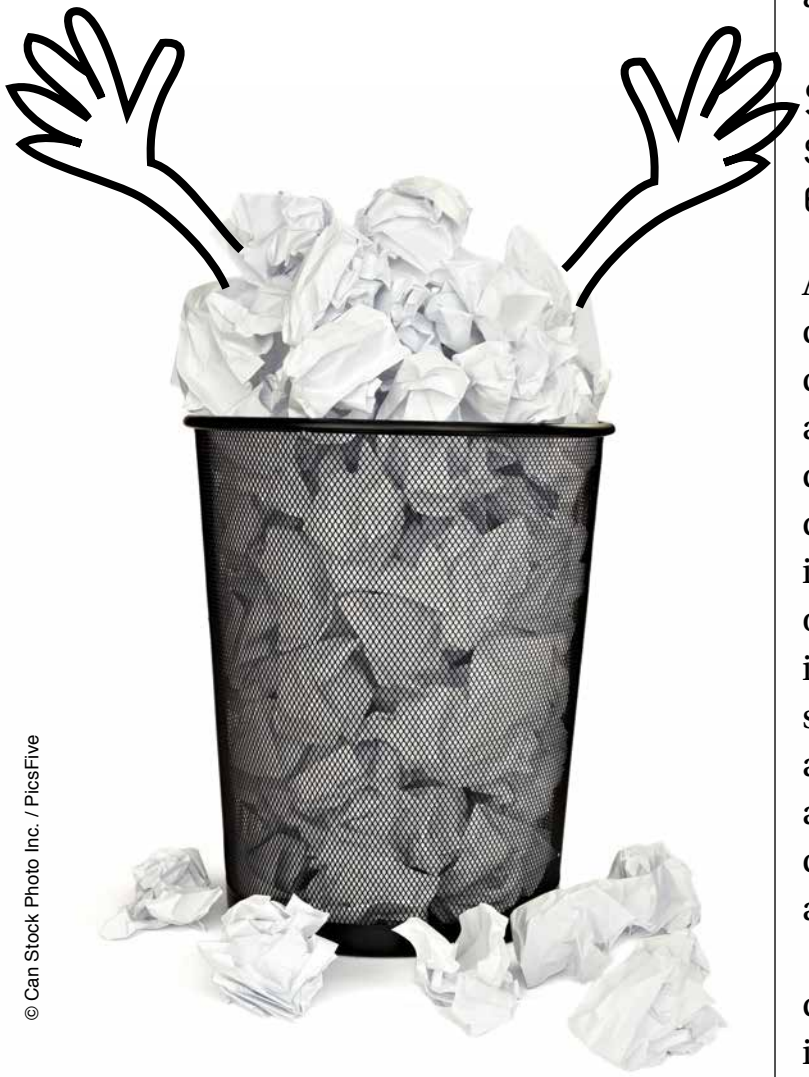
First reminder: sustainable development is no salvation story

Some people who are involved in sustainability still think in terms of admonition and turnaround, repentance and salvation. This is not surprising as the discourse on sustainability repeats theological motifs in more than one respect. It is not beneficial to the cause to use guilt and atonement as an argument if you not only want to be proven right but also want to make a sustainable lifestyle tempting to as many people as possible. A wagging finger is not what you would want as a motivation; instead, it provokes aversion.

Especially risky are alarmist crises and stories about catastrophes that fail to be fulfilled quickly and that evoke malice among those who never believed in them in the first place. The loss of credibility is even worse for those who were ready to change their lives. A well-documented precedent from which a lot can be learnt is the early Christian eschatological expectation in the course of which the followers interpreted every contemporary event as a sign of the imminent return of Christ. The parousia failed to occur, and the epistles of Paul the Apostle are for the most part an almost pitiful effort to justify this failure. Later, encouragement would be derived from them.

After the Fukushima disaster, there was a certain satisfaction perceptible among some anti-nuclear activists; the oft-quoted threat finally became real and even some politicians dropped cynical remarks. So these people were in a better position than the hardly likeable Old Testament prophet Jonah who preached turnaround or destruction to the inhabitants of Nineveh. He was disappointed to see that they actually listened to him, and he started a fight with God because the anticipated spectacular destruction failed to occur.

It might be too trivial to express, but people in favour of sustainable development actually want an absence of disasters. They want to open up the prospect to a possible good life, a real-



istic, a feasible, a near good life but not a post-apocalyptic hope that requires destruction at first. Sustainable development does not offer sensations but tries to avoid them. Our communication has to become more modest, lenient, joyful and most importantly: more tempting!

Second reminder: sustainable action is essayistic, not instrumental

Acting sustainably means acting in cycles, in consistent and hence natural cycles. The cycles of nature, however, are overly complex for us and cannot be duplicated easily using technical and industrial means. This is not very surprising considering the enormous time period in which evolution happened. Failure is also a part of these cycles. It has to be said that cyclical thinking includes the aesthetics of failure. Consequently, an artist can probably make a more significant contribution to sustainability than a process chemist can.

In many respects, the sustainability discourse is still marked by linear and instrumental ideas. Words like 'adjusting screws', 'measures', 'instruments' and 'strategies' are used mechanistically. Hubris of feasibility comes across just as Adorno and Horkheimer describe it in their 'Dialectic of Enlightenment.' If sustainable reason, however, is instrumental reason, cyclical thinking and acting will stay foreign to its nature; it will keep trying to cast out the devil by Beelzebub.

He who creates the only possible master plan or, philosophically speaking, the 'Grand Narrative', in order to achieve a sustainable development, cultivates the monoculture in his thinking that he tries to get rid of in agriculture. But only if we get rid of monoculture in our way of thinking about sustainability, can the failing of individual attempts, projects, experiments and stand-alone solutions become productive. In other words, the actors in the area of sustainability have to think essayistically instead of strategically, temporarily instead of permanently. The text type of sustainability has to be the essay and not the instruction manual. However, the text type should not be the apocalypse.

▶

Let's not fool ourselves! Some comforting thoughts.

The Latin word frustratio has a more active meaning than its English counterpart which is frustration which refers to futile efforts. The Latin word describes the active 'deception' rather than the passive 'disappointment'. He who is frustrated is 'misled' or even 'led on' like a character in a comedy.

The more seriously we take ourselves, the more likely it is that we become unintentionally funny.

This can be avoided. Let's have a look at the early Christians and their eschatological expectations. They were unintentionally funny when the Savior didn't come. But they started to accept reality and to live in this world, assuming responsibility for it. They made institutional arrangements in Rome, intellectualized themselves in Athens, adapted the traditions and cultures of their time and left their indelible mark – a sustainable one.

Sustainability has yet to bring about such a transformation of our culture and our thinking. It won't be an easy way and many times we will fail, but a transformation is possible. This gives us hope. And it will be possible, if we don't consider failure to be a setback, but rather an experiment that successfully showed us which way not to go. Putting it in Nitzschean terms, our science should become a "Joyful Wisdom", one that doesn't enforce a 'Great Narrative' upon reality, but one that cultivates the idea of trying, the essay.

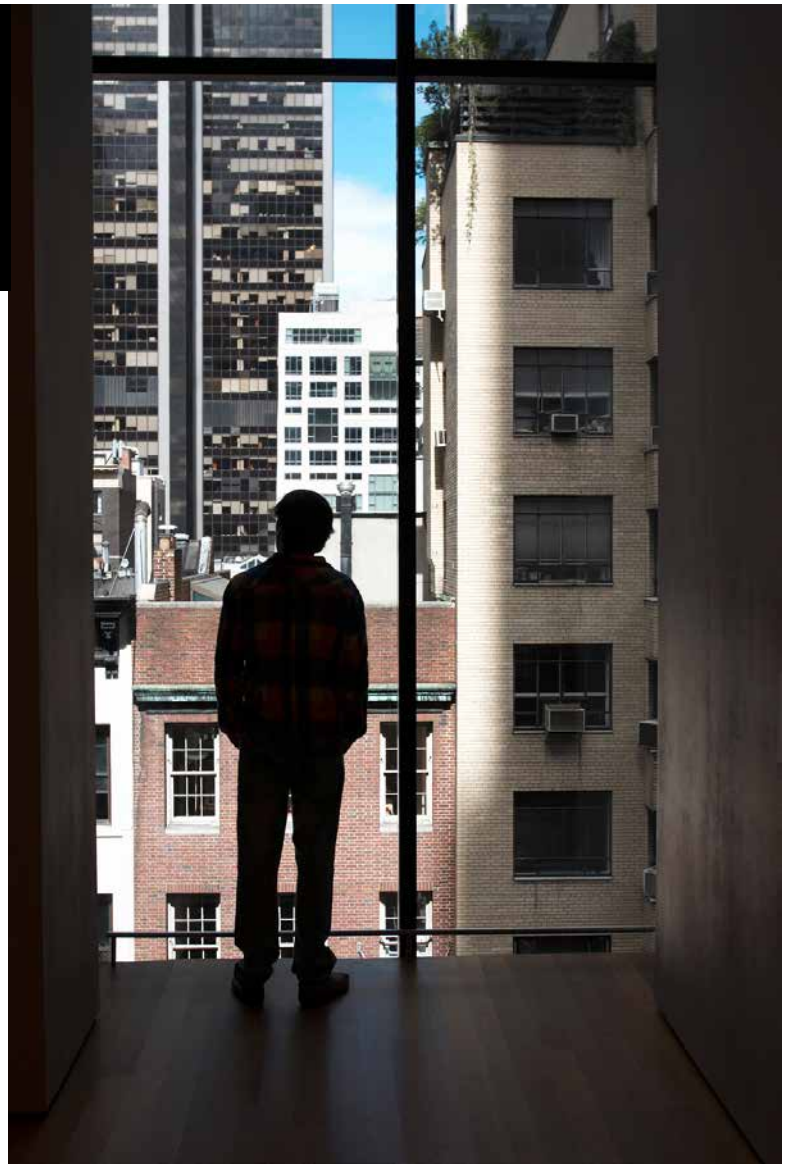
The tone of the essay is joy, deriving pleasure from experiments and simultaneously from failing, resisting deadly seriousness and cold instrumentality. And the punchline of every essay is the prospect for a truly successful life, a good life – not in the sense of a certainty of salvation, but as a persistent attempt. ■

Bernd Draser is a philosopher and teaches at Ecosign Academy in Cologne. He has already contributed to the factory magazine several times with his articles "The art of separating", Die Verführung zur Transformation (convincing people of the need for change) and Freiwillig nur unter Zwang (voluntary participation only under constraints).

factory

»It was disillusioning to understand how the world functions, but when you know how it functions, doing what you do becomes even more important.«

Lena Braun in “Minusvisionen. Unternehmer ohne Geld (negative bank account. entrepreneurs without money)” by Ingo Niermann published by Suhrkamp in 2003.



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The prospects for the coming years

Even if resource efficiency increases, the consumption of resources will grow ever faster and so will the damage done to the environment and to society. If this socio-economic pattern doesn't change, the consumption of biomass, mineral resources and fossil fuels will more than double by 2050. But there are countries we could learn from if we wanted to change.

By Christine Ax, Benedikt Marschütz, Friedrich Hinterberger

Translated from the German by: Stephanie Imbusch, Dennis David Herrmann, Karen Leicht and Erik Hansen

A total of 2.4 billion people live in poverty and have a right to catch up on material development. Other regions are growing quickly and will soon have reached Western levels of prosperity. All this will inevitably cause the global consumption of resources used directly to increase from 80 billion tons to 180 billion tons by 2050. This means that consumption will more than double. It is therefore essential to take measures to prevent this development so that we do not push our planet beyond its limits.

During the past 30 years, the global consumption of resources by the world's population (which has meanwhile grown to seven billion people) has doubled. Over the same period of time, the consumption of biomass has increased by 40 per cent and will double by 2050 if socio-economic frameworks don't change. The production and use of biomass correlates directly with our eating habits and especially with the proportion of meat consumed. Doubling the production of biomass by 2050 would not only cause an increase in water consumption and in the use of fertilizers due to a shortage of mineral resources, but we would also use more arable land for cultivation. Additionally, the most fertile areas in the world are already being used, so that in future less fertile areas will have to be used. The question is, however, if doubling the consumption of resources is still possible or if the 'Limits of Growth' won't be reached soon, as the Club of Rome already predicted 40 years ago.

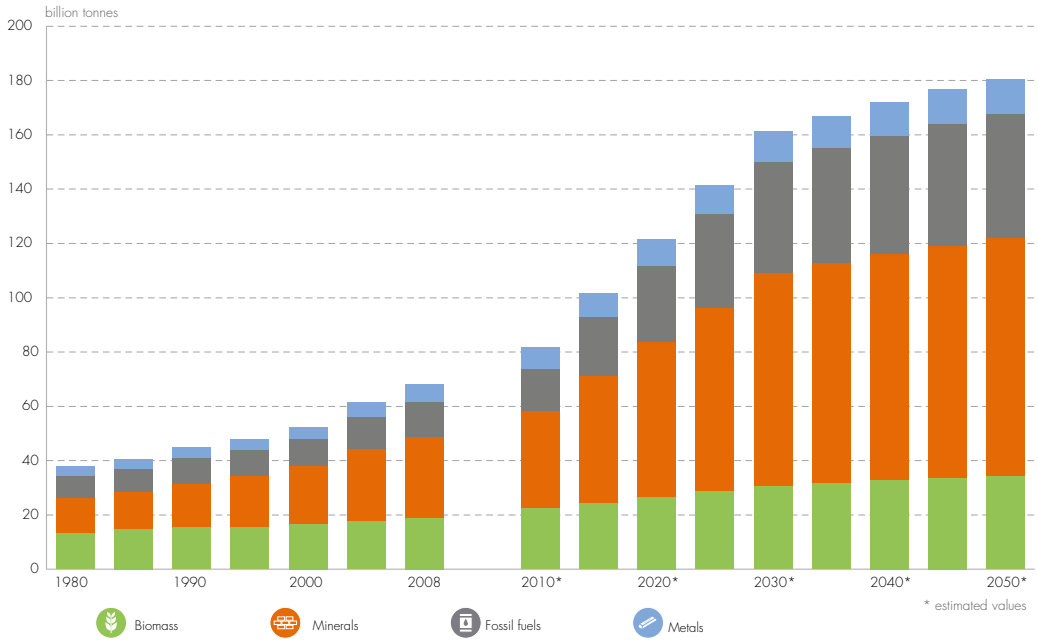

Image 1: Global consumption of resources. Developing countries will catch up with OECD countries in 2030.

The resource trap snaps shut

Mineral resources have the highest share in the consumption of resources. These include sand, lime and magmatic rock. The consumption of mineral resources has risen by over 130 percent over the last 30 years.

The consumption of mineral resources has risen by more than 130 percent over the last 30 years. If this development remains constant, this figure will rise by a factor of 2 to more than 80 billion tonnes a year by 2050. The

increasing mining of mineral resources correlates with the constant increase of sealed soil, which is no longer usable for agriculture, and will have a massive impact on the water balance in the affected regions.

In the course of industrialisation from 1980 to 2008, the global use of fossil fuels such as coal, petroleum and natural gas grew by 60 percent. The world population also grew by 50 percent over the same period. If the patterns of consumption remain unchanged, CO2 emissions of now over 30 billion tonnes will rise to more than 70 billion tonnes by 2050. Tremendous climatic change would be one of the consequences, and humanity would have to cope with the increasingly threatening impacts of this development.

Today, metals are an indispensable part of our civilization. Over the past 30 years, the use of metals has risen by almost 90 percent, and a reverse of this trend is not in sight. Predictions indicate that the current level will increase almost twofold. Many metal deposits have already been exploited and the mining of metals is becoming more and more expensive. To keep mining metals to that extent, the amounts of slag produced in the process will rise to over 13 billion tonnes by 2050. All this involves serious impacts on the ecosystems.

This development is directly related to the growth of the world population and their wish to live just like the people in the countries where industrialisation took place early. Today, more and more people in developing countries are living a material lifestyle. Depending on population dynamics, the consumption of resources could rise to as much as 150 or even more than 200 billion tonnes per capita per annum by 2050.

In view of the growing scarcity of resources and limited absorbing capacity of the ecosystems, an economy driven by growth, as it has always been, is neither an option nor possible without serious consequences.

Change is possible

Nowadays, a rapidly growing number of examples of best practice, however, proves that a reversal of the trend is possible – if we succeed in implementing these practices as a worldwide standard.

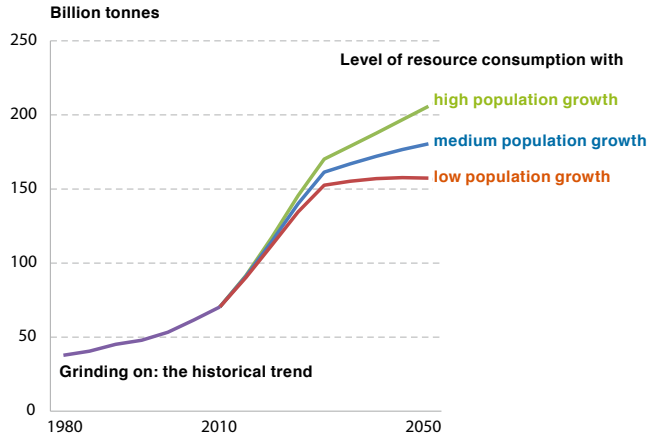

Figure 2: global resource consumption and population growth

Today, the consumption of biomass per capita is at 2 tonnes in countries whose agricultural production is not even sufficient to provide for their own population, and 5 tonnes in countries where diets are very high in animal protein. Italy, however, shows that a nation can do better. Italians only consume 2.2 tonnes of biomass per capita per annum, and set a good example for many people, especially when it comes to diet and a healthy lifestyle.

There are few role models that do not use fossil energy sources, because the global percentage of renewable en-

ergies is still low. However, Sweden, Switzerland and Iceland are pioneers in this field with annual consumption of between 2 and 2.5 tonnes per capita. By using more renewable energies, the consumption of fossil energy sources can be drastically reduced.

Depending on a country's economic power, the consumption of metals ranges from close to 0 in economically underdeveloped countries to more than 30 tonnes per capita in countries that produce commodities from metal or that import a lot of consumer goods. With its 3R strategy (reduce, reuse, recycle), Japan is a pioneer in achieving a reversal of the trend.

Worldwide, the consumption of minerals correlates directly with the amount of invested money in public infrastructure projects and private building operations, and currently amounts to between 0.3 to 80 tonnes per capita per annum. Good examples are countries where there is more maintenance activity than new buildings being built.

This is the case for the Netherlands and Great Britain where consumption varies from 4 to 5 tonnes per capita per annum.

If examples like this one were put to practice worldwide, the consumption of resources could be reduced, as shown in figure 3, which is based on 3 assumptions:

- average population growth ,
- all countries without exception adapt themselves to the examples of best practice that have been mentioned before and achieve a relatively low resource consumption rate by 2030, and

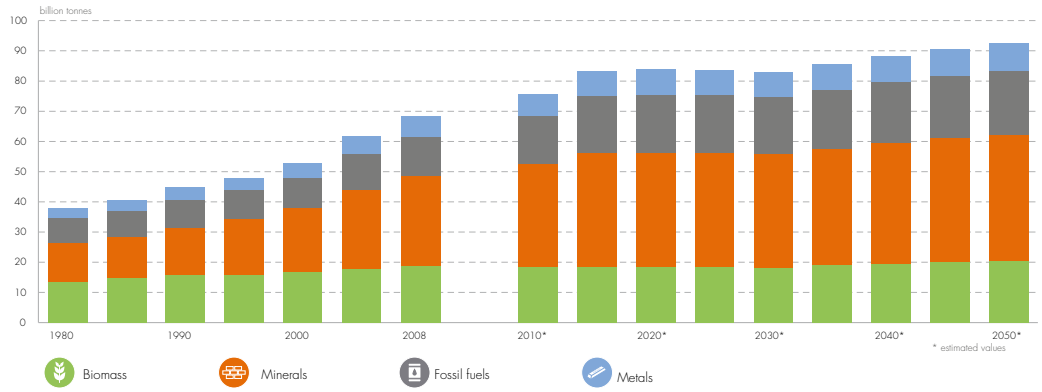

Figure 3: Global resource consumption based on generalised examples of best practice

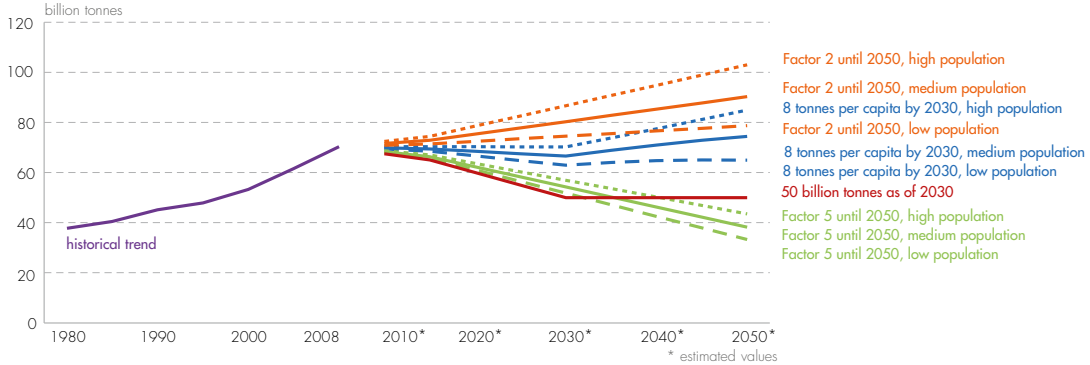

Figure 4: Scenarios of global resource consumption: absolute figures

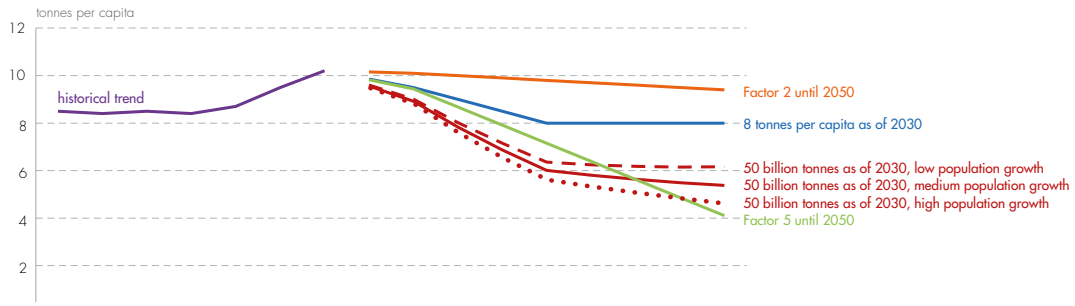

Figure 5: Scenarios of global resource consumption: figures per capita

- the consumption of one resource is not reduced by increasing the consumption of another resource.

Under these conditions, the global consumption of resources could be as low as some 90 billion tonnes per annum by 2050 and stabilise at about 100 billion tonnes per annum by 2100.

To maintain the consumption of resources at a sustainable level, the global community would have to agree on certain resource goals that not only involve the environment's carrying capacity and shortages, but also respect aspects of justice and social sustainability. Assuming that all humans are entitled to the same amount of usable resources, the calculation results in each inhabitant being allowed to consume as much as 4 tonnes per annum – without taking into account the so-called unused resources, which are about of the same magnitude.

This, in turn, would oblige the rich and early industrialised countries to reduce their resource consumption drastically. This would indeed be achievable if measures were taken that would increase resource productivity by a factor of between 2 and 5. To achieve these ambitious goals, it is not enough to describe limits and goals; it is essential to take all necessary measures that would bring humanity closer to those goals. Even if these transformation processes require great change and great effort, everyone needs to keep the following in mind:

- There is no reasonable alternative to this, as the current patterns of resource consumption are not sustainable and
- the social dimension and the issue of distribution always have to be considered as well.

The fair distribution of resources, both between nations and within countries, is a highly topical issue on a global level and it is full of risks for the survival of many. Therefore, the ultimate goal must be to ensure a high standard of living for all humanity and at the same time keep the resource consumption within the Earth's ecological limits. ■

Dr Christine Ax, Benedikt Marschütz and Dr Friedrich Hinterberger work at the Sustainable Europe Research Institute (SERI) in Vienna and gathered the data in this article for the study 'Green economies around the world?' in 2012.

The book Wachstumswahn. Was uns in die Krise führt und wie wir wieder herauskommen ('Growth delusion. What is leading us into the crisis and how we will get out again') by Christine Ax and Friedrich Hinterberger was recently published by Ludwig/Random House.

»Failure is a self-attribution or an attribution by others. One should make a distinction between defeat and failure. A defeat can be identified by looking at the facts. There is a self-defined goal that was not reached. Failure is a certain way of coming to terms with defeat.«

Ulrich Bröckling, Professor for Sociology of Culture at the Albert Ludwig University of Freiburg, in an interview by Ivo Bozic in Jungle World No. 17, 25 April 2013.

Black Gold

Germany is the largest producer of lignite in the world, far ahead of China and the US. Lignite mining has reached a new climax and is being expanded. 3,400 people are to be resettled. A photo story by Isabell Zipfel

Translated from the German by: Erik Hansen, Yvette Gossel, La Toya Vaughn, Dennis Hermann

One day after the Fukushima nuclear disaster on 11 March 2011, Germany decided on a nuclear power phase-out. Since then, Germany has led the way in generating supposedly clean electricity. However, appearances are deceptive, as Germany produces more lignite than China and the US. Above all, the amount of lignite being mined and burnt nowadays is greater than ever before. In 2013, more than 162 billion kilowatt hours of electricity were generated using lignite.

In Germany, there are three coal mining areas. One of them is in Lusatia, where 33 percent of the German lignite is mined. The active lignite mining areas include Welzow Süd, Jänschwalde, Reichwalde, Cottbus Nord and Nochten. The annual output in the Lusatia mining area amounted to about 64 million tonnes of lignite in 2013.

After the Wende (the period from 1989-90 in which the Wall opened and the GDR was absorbed into a united Germany) the Lausitzer Braunkohle AG (LAUBAG) was initially formed from the Senftenberg lignite combine in 1990. Four years later, it was sold to a consortium of big energy companies by the Treuhandanstalt ('Trust agency'). In 2002, the Swedish company Vattenfall took over.

An information board showing the villages that have already fallen victim to lignite mining: since 1924, there have been 136 of them in Lusatia. By 2045, Vattenfall also wants to raze Welzow-Süd, Proschim, Atterwasch, Kerkwitz, Grabko, Rohne, Mulkwitz, Mühlrose and parts of Schleife.

Page 30: The Jänschwalde Power Station in south-eastern Brandenburg. Germany's third largest power station is fired mainly by the lignite from the opencast mines in Lower Lusatia and has Europe's third-highest carbon dioxide emission (24.8 million tonnes of CO2, 2012) after Belchatow in Poland and Niederaußem.

Page 31: The Welzow-Süd opencast mine is run by Vattenfall Europe Mining which mines 20 million tonnes of lignite every year. By 2011, 17 predominantly Sorbian villages had been razed. Vattenfall is the biggest employer in Lusatia and has 7,000 employees there.

Page 33: A resident of Welzow. His house is located in a part of Welzow that will be razed. He has come to terms with the situation and will probably move in with his son who lives in western Germany.

Page 34: A resident of Kerkwitz, a village that is threatened by the expansion of the Jänschwalde-Nord opencast mine. She has been living here since 2007 and also spent her childhood and youth here. Kerkwitz is located in a nature reserve. Every day, she goes on a long walk to see the lakes and forests that are to disappear by 2020.

[illegible]

An X sign made from wooden slats. It marks the villages that are supposed to be razed. Like in the Wendland, it shows the residents' dissent.

In Lusatia, there still are some vast nature reserves. This one is located near Kerkwitz which is to be razed.

The opencast mining is followed by renaturation. New lakes are created. This lake is located in Welzow, it is acidified and contains metals.

Around 30,000 people have had to yield to opencast mining so far. Since 1924, 136 villages in the region have fallen victim to coal mining. Further communities are meant to follow as the development of new opencast mining areas is imminent. The Swedish energy company Vattenfall is planning to expand the East German mining industry. According to these plans, Welzow-Süd, Proschim, Atterwasch, Kerkwitz, Grabko, Rohne, Mulkwitz, Mühlrose and parts of Schleife are to be razed. Around 3,400 people would lose their homes as a result of this. The company is planning to mine a total of approximately 755 million tonnes of coal.

In applying for new opencast mining areas, the energy company Vattenfall points out that the coal is necessary to provide Germany with enough electricity.

Yet 80 percent of it is exported (60 percent in the form of electricity and 20 percent in the form of coal briquettes). The consequences of open-cast mining are dramatic; not only because of the resettlement of families that will result in them being deprived of their homes.

Landscapes will be destroyed irretrievably. Renaturation, which is the process of restoring the original landscapes, normally leads to the creation of worthless monocultures with uniform


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dull vegetation and acidic lakes which are contaminated with micro-metallic particles.

Due to the drainage that is needed in order to extract lignite, the groundwater level is lowered dramatically. However, this is not only done in localities that fall victim to open-cast mining, resulting in the environment suffering severe damage. Sensitive waters and wetlands are being destroyed; the groundwater supplies are being lost permanently. Airborne particulates and the CO2 that arises during combustion cause severe harm to the environment – with incalculable consequences for humans and the Earth. ■

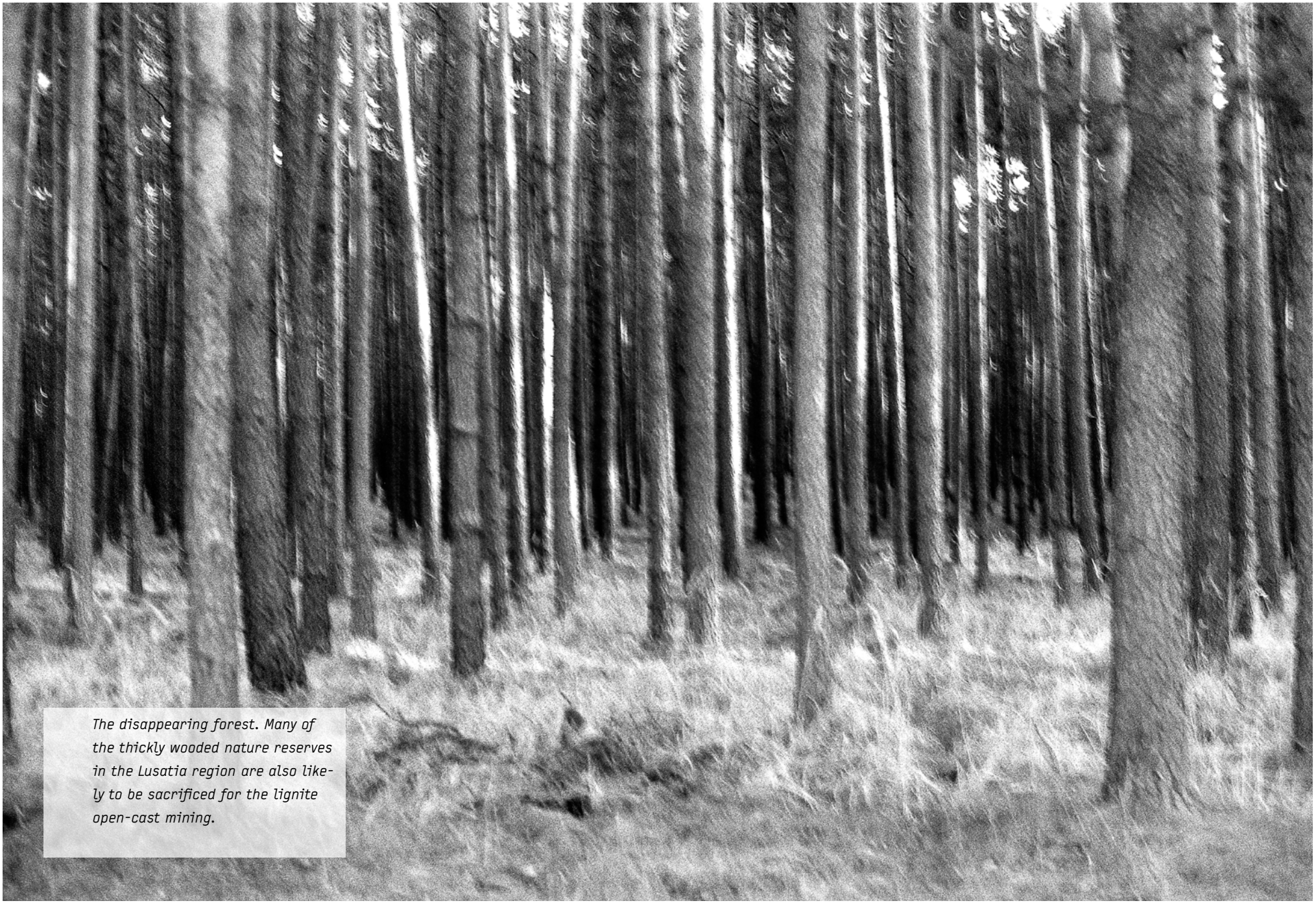
Isabell Zipfel is a photographer and lives in Berlin. Her previous photo reportages in factory dealt with urban beekeepers and Indian cotton farmers.

A formerly occupied house in Haidemühl. In 1993, the inhabitants found out that Haidemühl was going to be demolished. The resettlement lasted until 2006, the demolition started in 2004. The open-cast mine is expected to reach Welzow-Süd in 2018.

Page 36: An inhabitant of Welzow on his property. His own house will probably not be destroyed, but his grandmother´s home, in which his daughter lives, probably will. He owns a few hectares of land, but he will lose those to the lignite mines. He remembers the days he and his friends went swimming in the ditches, into which the briquette factory in Welzow discharged warm sewage.

Page 38: A former glassworks in Welzow. During the time of the GDR, glass and lignite formed one of the largest industries. After the fall of the Wall in Berlin, the glass industry completely collapsed.

Page 39: An inhabitant of the little village of Grabko, close to the open-cast mine Jänschwalde. He grew up in Grabko, where his mother, brother and sister live as well, and is not willing to leave his hometown. The Swedish company Vattenfall is planning on extending the mine to bring the power plant Jänschwalde to full capacity, which is the reason why Grabko needs to be removed. Furthermore, the drainage system which is necessary for the operation of lignite mines reduces the groundwater level. This affects the lake and the forests in the local nature reserve. ▶



The disappearing forest. Many of the thickly wooded nature reserves in the Lusatia region are also likely to be sacrificed for the lignite open-cast mining.

»I am giving away my tickets for the ship that never sinks.«

from the song Reiselust (Wanderlust) from the album Knietief im Dispo (Knee-deep in Depths), that was released in 2002, by a German rock band named Fehlfarben.

factory

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With Common Property Against Political Failure

As the frustration over the dominant economic system increases, new ideas and alternatives arise as well. As general welfare is worth more than money, a counterculture finds new solutions to lead a good life. Decentralized and well-networked, these islands could become a continent.

By Annette Jensen and Ute Scheub

Translated from the German by Yvette Gossel, Vanessa Kammerer, Zarina Brückner

Alex Shure provides all his inventions as open source on the Internet. There is, for example, a handy wooden cube: depending on which side is facing, lamps can be dimmed or the volume of music can be turned up. The electronics inside of it is invisible and even Alex Shure's two-year old godchild figured out how to use it. However, this is more than playing: such cubes could substitute for many power supply lines in new apartments. Even the operation of Shure's workshop in his garage in Siegen is innovative. The current efficiency of the photovoltaic systems installed on its roof is stored in a battery and provides the electricity for LED lights and the CNC milling machine. The construction makes the transformation of direct current to alternating current and back again unnecessary and thereby prevents energy loss. On top of this, no transformers between the socket and device are needed anymore; saving copper wire and other resources.

Whoever wishes to do so can reconstruct Alex Shure's inventions, adjust them to their needs or further develop them – but only if these plans are also being uploaded subsequently and are accessible for free.

Possession is not a requirement

From the point of view of traditional economists, Alex Shure behaves in an unnatural way: he publishes ideas and blueprints with which he could have made a lot of money, but that is not what matters to the 27-year old. He does not feel like dealing with competition and career, but instead prefers living in a networking global community of mutual support. Currently, he is staying in Berlin at the apartment of a friend who is travelling at the moment. He eats at the Nowhere Kitchen in the municipal district of Neukölln where people prepare delicious meals with the ingredients they have at hand.

Given that new economic systems conform to the old logic of quantification and growth; they had remained beneath the radar screen of the traditional economy for a long time. By now, however, they are developing at an impressive pace and proliferating into the mainstream.

On the Internet, free software and hardware can be downloaded easily. In addition, renting, exchanging and sharing everyday items attract more and more young and highly educated individuals in larger cities. This goes back to the notion that possession is not a requirement anymore in order to use items. With a smartphone or laptop you can find out within seconds if someone close to you owns a projector or a fondue pot, things you might need only once in a while.

Many young people associate owning a car more with traffic jams and a lack of parking spaces than with a sense of freedom – hence many prefer to rent a car for those few occasions when they really need one.

Exchange platforms on the internet make this connection between individuals possible. The reputation system is important for establishing the dearly needed trust on these platforms: if you are not reliable, return a grill that is still greasy or make offensive jokes, you will have to be prepared for negative com-

ments and will thus have little chance to lend or borrow anything in future.

Good Connections Make Sharing Easier

The powers behind this new movement are neither ecological nor moral motives, but the desire to lead a good life. According to international happiness research, gaining more and more money is absolutely irrelevant for the well-being of people living in rich countries. At the same time, there is ample evidence that growing inequality results in a dysfunctional and dissatisfied society. Not even those who are at the top of such societies feel any better. What is the purpose of a practice which leads to global warming, the massive extinction of species and the poisoning of humans, animals and plants alike?

On many different levels and in many countries, businesses and projects based on values such as fairness and communality have developed in recent years. These projects range from community supported agriculture, which means that the work and not the product of a farmer is financed, over urban community gardens to energy cooperatives. In addition, DIY repair shops as well as new forms of car sharing developed.

Two technical developments help tremendously to spread such projects, namely renewable energies and the Internet. Both are decentralised from a structural point of view and thus have the potential to put forward alternatives to the prevailing large-scale structures. The internet enables the global exchange of ideas and is also an excellent tool for small, local networks of peers. The fact that those initiatives are so attractive results from the vivid idea that there is an alternative to a world dominated by material constraints and major corporations.

Supporting Instead of Demanding

However, the projects and initiatives that develop all over the world have no intention to attack capitalism and its dogma of economic growth. They do not even refer to it but rampantly grow according to their own values and desires instead. They inspire and support each other, become increasingly numerous and diverse, and the bigger the network, the faster it develops. An explosion of such projects has been observed in Berlin over the past two years.

Many projects start out very small: You do not have to change your entire life to contribute. However, one often notices during the first few steps that it is more fun to meet people at eye level than to feel exposed to a global corporation that expects its customers to wait for hours on a hotline. Here, it is all about real encounters with people instead of staged shopping experiences.

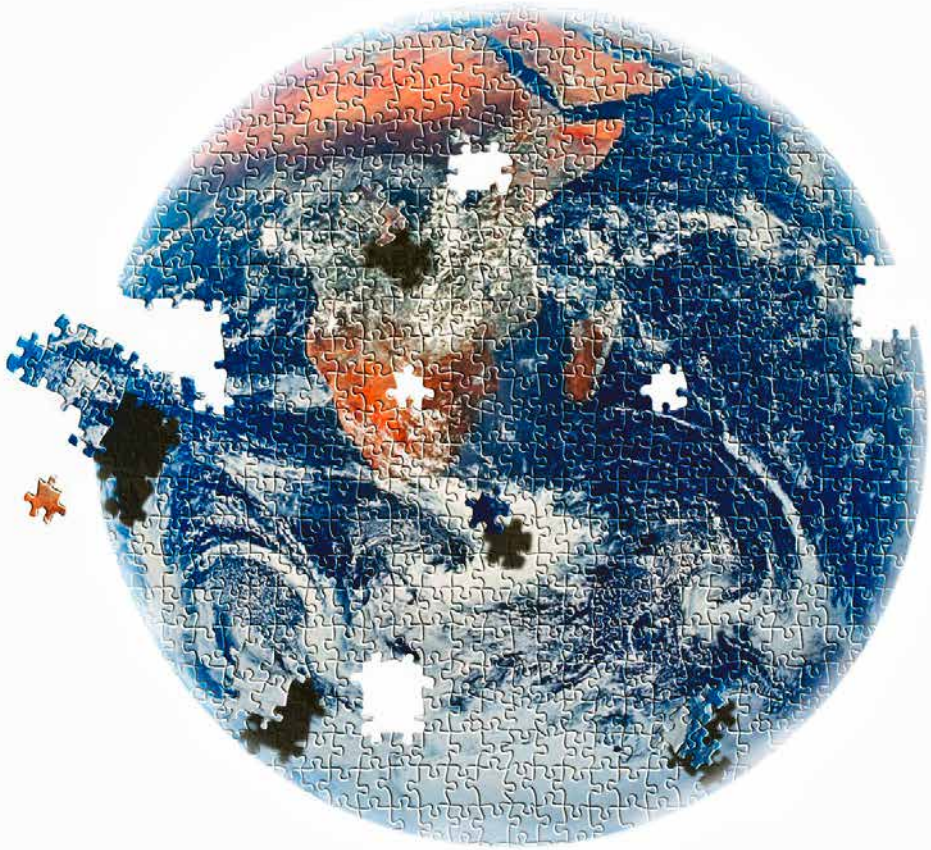
▶

Why should it not be possible that an entire continent grows out of such more or less merry islands?

In any case, it is obvious that the current political and economic system is delegitimising itself more and more and is thus becoming morally hollow. After a quarter of a century of climate diplomacy, we have not succeeded in reducing the annual CO2 emissions and the consumption of rare resources is growing rapidly. Today the real economy stands at USD 65trn, while at the same time 'financial products' amount to a total of USD 600trn. The next bubble will surely burst. We cannot continue like this over the medium term.

It will also depend on the governmental framework conditions whether decentralised, small structures that are made up of even smaller units will become generally accepted and whether common property will take off. Until now, nearly all governments commit themselves to the dogma of economic growth and declare that problems can only be solved if the gross domestic product rises continuously. So far, politics have failed as the leading force for eco-social change. The hope remains that politicians will recognise what chances lie in supporting these new structures. ■

Annette Jensen and Ute Scheub are the authors of the book Glücksökonomie – wer teilt, hat mehr vom Leben (happiness economy – if you share you get more out of life), which was published by the publishing house oekom at the end of August 2014. For factory, Annette Jensen wrote the article Unternehmer im Glück (initiative instead of frustration) and Ute Scheub wrote Weiberwirtschaft (women's economy).



»If you don’t adapt to how the world works, you will never be successful.«

Josef Ackermann, manager magazin, issue 3/2004, manager-magazin.de

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So Let Us Seize Power Then!

International policy could be a strong engine of transformation to put a limit on climate change. But policy is already failing because of its own conditions. Beyond those disappointments, there still remains enough space for uncoordinated yet effective forces.

By Hans-Jochen Luhmann

Translated from the German by: Bianca Gerards, Olympia Klassen, Annika Marie Wagener and Franziska Friedrich

Within nation-states, power is exercised through law. In a nation-state structure with several levels, which has existed within the European tradition of modern times, the rule "rank always wins" always applies. Domestically, this applies to all levels of a nation-state, but it does not apply to the relation between nation states and the United Nations. In this case, the exception applies that law has no power – international law is not based on the power to push something through. Not even WTO law.

Global Policy as UN Policy

In the context of climate change, Canada's recent move reminded us of this. Canada wanted to use its oil sands and also took this route. By doing so, it completely neglected its international commitments on national emissions limitations. A muted apology was all that was heard.

This process shows something general. It is often not clear enough that international climate policy is dependent on the foreign policies of nation states. However, the respective foreign policy of a nation state is a function of its domestic policy. From this we can deduce the following: a successful coordination of national domestic policies with respect to their foreign policy goals is beyond realistic expectations, at least where important national issues are concerned. Thus, a chaotic and irrational streak does not only exist on the level of the UN but also or in particular regarding the United Nations Framework Convention on Climate Change (UNFCCC).

The actual driving force of international climate policy lies in the national domestic policy– thus within us, on our level. We are powerful! This sentence is important. It is not an act of auto-suggestion. You only have to understand it the right way. It does not say that we are omnipotent, that we have the power to enforce the desired or needed outcome the way we want it. It is not like that. But reflection suggests: there is no leverage point that is more powerful than this one – the national domestic policy. At the moment, the climate concern only has limited influence within domestic policy. This has to be changed!

Our usual act of mentally pushing away the conditions of reality – with us being part of the scene – expresses our longing for something and quite rightly so. The example of climate policy shows us that there is a need for a global domestic policy. A successful global domestic policy is a condition for the continuing existence of humanity in general and thus for a successful climate policy in particular. However, this insight is no reason to cover up the fact that global domestic policy today is not a political reality, but a utopian concept of policy. This tension has to be endured – in both directions.

On the one hand, it is not legitimate to be disappointed if a difference between what should be and what is is the result – it is expected to be the norm. Anyone who expects an unlikely event has to do what the word already suggests – they have to wait.

On the other hand, one way to disguise the utopian is to try to pursue utopian concepts through political reality. EU Commissioner Günther Oettinger recently provided an example for this. According to media reports, he just

distanced himself from the minus-40 percent goal of the committee of the EU Commission that he is part of. For him, a "global commitment", in other words a global climate agreement, is a condition for EU-wide and therefore national climate policy. However, one has to resist the temptation of utopian policy. Therefore, one has to stay sober and pursue practical politics.

Global Policy as Realpolitik and Imperialistic Policy

International climate policy is of course not just conceivable as UNFCCC policy. There are also conventions of Realpolitik concerning real imperialistic politics. These are also applicable in the interest of global climate policy – but sadly also against it.

It is part of the nature of imperialistic politics that the goal is to apply them extraterritorially. This aim conflicts with the principles of the UN, which is an assembly of the governments of 'sovereign' territorial states. According to the definition, these states have the right to rule on their territory without external intervention. Real world powers, such as the USA, use this political approach virtuously and successfully, while disregarding this right. Laws valid outside the US territory are, for example, regulations against money laundering or the Foreign Account Tax Compliant Act (FATCA) which forces foreign banks with branches in the USA to report data on overseas accounts of US citizens to the American tax authorities.

The predecessor of the UNFCCC, the UN Regime for the Protection of the Ozone Layer, was put into political practice in the form of a club approach with a strict commercial penalisation of all countries that would have refused to join – so all countries joined. The outstanding sanctions, together with the authority of the USA behind it, were simply too strong.

This is the approach that the EU wants to enforce with its 20-20-20 targets of 2008 and 2009 respectively that are extremely ambitious and innovative regarding global politics. The EU determined four extraterritorially applied double fields and policy approaches. A fifth approach – the most extensive with

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external protection through equalization payments for 'dirty' manufactured goods from abroad – only made it to the draft level but not into the final version. At this point, fear of their own courage arose.

The first two measures dealt with emissions that resulted in advance from imported fuel–this was specifically directed against Canada's tar sands and agrofuels from sources at adventurous

locations in South East Asia and South America. In measures three and four, the EU set regulations on emissions that are emitted in regions of the earth's surface that are ownerless with respect to the jurisdiction of the UN – at sea or above the oceans. The EU assessed these emissions in the course of its flagship project on international air traffic. This traffic is accountable for about one third of the global air traffic emissions – and the EU included this in its emissions trading system starting in 2012. It sounds courageous.

But this courage has already been lost because the USA, China, Russia, India, Japan and others decided on a catalogue of economic countermeasures that could give you the shivers. For example, the EU decided to back out of its foray into an imperialistic political approach regarding its international climate policy. The European Union is giving up on the concept of its foreign policy on climate change. Approaches to dealing with maritime shipping and fuel quality can no longer be implemented. Since the EU gave up on its plan, it is clear that imperialistic political approaches in climate policy are reserved for the USA and China; and the EU accepted that. What is left is for international climate policy to influence the domestic policies of the USA and China.

What is left: Globally Uncoordinated Approaches

So the options of worldwide political coordination are extensively discussed. I can think of only two more options that would be worth being put to the test again. There would be

a) the proposal of Nixon that the topic 'environment' should not be handed to the UN, as it was implemented at the Conference of Stockholm in 1972, but to the NATO.

And b): The approach of the UNFCCC focuses only on the demand. Additionally, the supply of fossil fuels, the phasing out of it, could become an instrument of internationally coordinated policy.

What is left then, is uncoordinated – yes, this is also possible at an international level. I would like to take up three of these issues.

Infrastructure

There are two things that characterise infrastructure: it is the most durable capital good and it normally complements technologies that consume energy. In infrastructure there is almost complete independence from (international) competitive pressure and market values as well as – despite globalisation - freedom of structuring on a regional basis. And also the misleading by, for example, short-term market values for CO_2 can be easily avoided: investments can be made according to CO_2 prices that correspond to the costs of damage, i.e. they exceed today's merely misleading market values. In developing countries, whose projects are financed by international development banks, the financing states have already imposed this regulation on the receiving states. It seems reasonable that we apply this smart rule as well– we can learn even from developing countries.

Let's take our buildings as another example. Their energy demand is regulated by law. The relevant paragraph states that each building is to be ▶

constructed in a way that it does not consume more energy than is economical – details are stated in a regulation. If it is assumed in this regulation that within the next few decades the oil and gas prices valid at the moment remain constant, even nominally, and CO_2 prices are ignored, then with this maxim alone, these environmental pollutants are produced in the energetic design of the buildings like those we have, for instance, in Germany – not to mention in Great Britain. Today's enormous need for reconstruction is already produced; it is nothing more than the result of an unprofessional interpretation of law over the last 40 years. It does not take much to avoid this at least in the future. Only common sense which is used on a global level.

Technologies

The development of technologies is a central motivator and bearer of hope. I think from the perspective of the end: I cannot imagine that we will have solved the climate issue, having greenhouse gas emissions of zero or from year 2070 on even 'negative' emissions, with CO_2 prices of approximately EUR 100 per tonne and more, with a system of leadership based on the control of the CO_2 currency - more or less without misuse. The leadership to come cannot achieve anything better than today's control of financial flows – anything else would be an illusion. There will always be small farmers and mafia-like structures that will find a loophole in this system of leadership.

I only see a solution if climate-friendly options are made more competitive than climate-damaging ones. The change of the competitive relations has to come from technology development. The policy of technology development satisfies these requirements only partly in a traditional way, but in the end they do not really fulfil them. A rather qualitative leap is needed for that. One of those leaps was the development of photovoltaics through the German Renewable Energy Act (EEG). For the repetition and transmission of that, the requirements of this success have to be closely examined. It is not enough to simply say that it was due to the EEG. I would like to point out four of the requirements:

- Modularity is crucial;
- It has to be accepted that development and market introduction are dependent on each other – when they are ripped apart according to the old concept, the requirements for success are destroyed;
- This is why it is extremely expensive. And the budgets of classical R&D policy cannot afford it. In this respect, an international need for coordination is due;
- It is not possible to do so without at least temporary protection from external influences in the international trade, as it has been done with e.g. the patent principle. What happened to the German photovoltaic industry is a catastrophe for the acceptance of such a large-scale form of technology development.

▶

Model of Society/Sufficiency

At the end comes probably the most difficult one. But also the most promising.

With the fossil-based industrial society, Europe has created the model of a society that is, from a global perspective, a role model without peer – which is an incredible success for a 'brand'. At the same time, this describes a central mechanism of climate change – even if it is here the negative, climate-damaging side: the mechanism of role model and realisation, the urge of following elites – and then of the crowd – to become part of a model of prosperity, of demonstrated status symbols of wealth, erotic and power. This mechanism works regardless of the reification of the status symbols. In this way, the energy of becoming part of one of the abovementioned can be easily used to change the image whose copy people try to match variously. The mind has to change, that is all. This is what we call sufficiency at the Wuppertal Institute in Germany. ■

Dr. Hans-Jochen Luhman is a Senior Expert at Wuppertal Institute for Climate, Environment and Energy in Germany. This article is a slightly adapted excerpt of his speech at the KLIMA.FORUM NRW to the topic Ohne Grenzen: Effektive Klimapolitik von Essen bis Brüssel ('without limits: effective climate policy from Essen to Brussels') on 30 January 2014 in Düsseldorf, Germany. In factory, he recently wrote about a biography of the environmental pioneer Rachel Carson.

»Risk anything! Care no more for the opinion of others … Do the hardest thing on earth for you. Act for yourself. Face the truth.«

Katherine Mansfield, Journal of Katherine Mansfield (Journal entry, 14 October 1922)

Acceleration of the Productivity of Nature. An Outline of the Anthropocene

In spite of all of the limited policies, which are not working on a global level anyway, and an independent culture of competition, we have to be prepared for a new era in which shifts of natural limitations will take place.

An editorial by Birger P. Priddat

Translated from the German by Zarina Brückner, Eva Flucke, Annika Wagener and Violette Beutemann

With the present condition of the economy – competitive market and power dynamics – we have not reached a cultural mode of resolving environmental issues yet. This does not change the fact that we have to try to deal with these problems. It will not be enough to rely on a new 'conscience' which would mean the 'production' (forming) of a new type of human that would be cooperative, thus thinking in categories of production of global commons. An ethical turn will remain too weak to approach the problem because we are an economic culture (and hence, a political one). We are not yet in a situation in which we can face the global environmental problems effectively. We are still treating them discretely, or separately, while protecting rival and competitive interests of the market and power. It is of no use to approach them in a political manner if the economic mode remains a rival one (just as the political mode in itself is made up of power rivalries).

The title 'Anthropocene' for the next phase of the earth's history is appropriate because it emphasises the human responsibility for the state of nature – as a responsibility for the preservation of production for humans. In this case, responsibility means that to preserve the economy (as 'production for humans'), we depend on the production of common goods which, in turn, are a condition for the global dealing with nature. All modes beneath this level remain local.. But how can we deal with these problems? Will a policy of containment (which we do not have on a global scale) be enough?

The term 'Anthropocene' refers to three aspects:

a) that we have cultivated the surface of the earth and therefore changed it irrevocably in the course of the 'production for humans';
b) the name makes reference to our responsibility for the earth;
c) this responsibility is not exclusively a humanistic task, but always an economic one, which is to maintain the conditions for the 'production' of humans.'

This is not an easy project because it requires the establishment of a balance between humans and the requirements of nature: products which were made by nature, but which processes have been initiated by humans – in an intelligent cooperation (insofar as we are capable of doing so).

> *"The cooperation needed for the production of global commons is not only one between humans but also one with nature.*

The Anthropocene is not only about pure considerations regarding nature conservation (which would certainly be mere ideas on the achieved level of nature intervention: which nature is to be protected? Always the one in which we are living?). But it is also about the 'production of the conservation of human and natural conditions in interference.' New forms of cooperation between human and natural production will emerge, as we encourage or even chan- ▶

nel those natural production processes that sustain our conditions of production. Due to human intervention in the environment, it would be unrealistic to revert to 'pure nature'. The damage we have caused is already permanent; it is only on this level that we can begin to see nature as a project which we later will be able to influence under the knowledge of its conditions for the reproduction of natural production. In this way, we will be able to secure our own conditions for reproduction. It is about finding the balance between two kinds of reproduction.

In the Anthropocene era, we will have to accelerate the economy's growth because new forms of cooperation with nature are capital-intensive and material-intensive (geotechnical, CO_2-reducing, infrastructural processes, etc.). New energy-generating processes are complex evocations of human-induced natural processes (e.g. fusions etc.). Even processes of extensive solar parks are still changing the earth's surface. The necessary recycling processes are capital-intensive as well. A new form of energy production which will question everything else we have known so far is yet to be found.

The idea of protecting nature underestimates the need for cooperation with nature itself, which we will have to initiate to solely sustain our basis of production and life. The phase of the exploitation of natural resources will shift into a phase of controlled natural production, which will enable regenerative capabilities of natural production. The recklessness of exploitation will be transformed into a reinforced creation of natural products ad hominem. We then will not only take something from nature but also challenge it. We will focus its production processes in a way that it will be renewably effective for us.

In the Anthropocene era we will challenge nature more than before – but with knowledge of its capabilities and not in skimming off its evolutionary products. This also means accelerating its evolutionary processes in a new way (genetically, chemically, physically, insofar as we are capable of doing so). We are bound to outperform natural productions with natural productions initiated or motivated by us.

In a certain – modest – sense we will become overbearing. This may sound transhuman, but it is a conditio sine qua non of the Anthropocene: only if we succeed in evoking processes in nature which it 'had not intended for itself' can we stop exploiting it, that is only extracting the resources (as we have so far) that it has been producing for over a million years. By prompting it to perform new processes that we are ▶

exploring, we can reconstruct nature as a basis for our lives. We will ultimately continue what we have been doing culturally and economically ever since but in a new, reinforced way: that is not only to take from nature but to shape it, ad hominem.

If nature possesses a productivity which we are only able to perceive in an evolutionary-historical way but whose contemporary and future potential we are able to discover, we must – due to human reasons of self-preservation – 'accelerate nature' or rather stimulate it to produce what keeps both, humans as well as nature itself, alive. 'Sustainability' might be a misleading term for these processes, when it means to preserve nature in its current appearance (in its modus artificalis of previous cultural manipulation).

> *It is about the evocation of the growth of nature – a sustainably evoked evolution.*

The Anthropocene will prove to be an age of forced evolution of nature (as long as we are able to evolve and are mindful of the complexity of natural processes). It is a risky position, but we have no other to choose from given the finite nature of view of the earth as a mere source of resources. Therefore, there is no point in waiting for the end of our resources or to conjure it up but rather to expand those resources – through the creation of new natural processes – thereby initiating the growth of our limits.

As difficult as it is, after we just became accustomed to developing the desire to protect the environment, to thinking of the Anthropocene as an age of highly valuable increased productivity, it will be just as necessary to develop scientific-technical intelligence. However the mild shiver evoked by this idea may only be the shiver experienced by a romantic generation of environmentalists – our generation. Our young people, infected with new information technologies, will address this in a much more pragmatic way.

The Anthropocene becomes the age of the pragmatic increase of artificial natural productions. ■

Prof. Dr. Birger P. Priddat is an economist and a philosopher, holder of the Witten/Herdecke University Chair of Political Economy and Visiting Professor of Political Economics at the Zeppelin University in Friedrichshafen. He is also Visiting Professor of Economy and Religion at the University of Basel. His research focus covers Humanities and concerns Art, Culture and Economy in the broadest sense. He contributed the article "Don't do it yourself!" to the factory topic "Do it yourself".

factory

»It’s really amazing that I haven’t dropped all my ideals, because they seem so absurd and impossible to carry out. Yet I keep them, because in spite of everything I still believe that people are really good at heart.«

Anne Frank, journal entry, 15 July 1944.
Quotation taken from The Diary of Anne Frank: The Critical Edition, NY: Doubleday, 1989. Translator: B.M. Mooyaart-Doubleday

Young, Dynamic, Post-Growth Oriented

Some members of the older generation become very frustrated when they evaluate the success achieved in the area of sustainable development. The younger generation hasn't abandoned hope yet. Why should they?

By Benjamin Best

Translated from the German by Violette Beutemann, Bianca Beier and Eva Flucke

My generation, namely that of today's thirty-year-olds, seems to be free of many constraints: compulsory military duty was abolished, we enjoy worldwide mobility and are not firmly tied to a certain way of life. Even a complete résumé is (almost) obsolete. Nevertheless: consumption and labour remain the key factors involved in socialization. Like everyone else, we are expected to go to work and to go shopping – and if possible more than we consider reasonable and necessary. Otherwise we would damage the economy and others would have to work to sustain prosperity. This is what is considered normal nowadays.

We are accustomed to compulsions

Ivan Illich, an anarchistic contrarian who shared an interest in sociological issues with Ernst Ulrich von Weizsäcker and his wife Christine in the late 70's, coined the term 'radical monopolies.' This refers to thinking and acting patterns dominating both the market and society. My generation was born into a supposed consumption paradise filled with the compulsions and expectations described above. We got accustomed to the ostensible acquisitions and boundaries of this paradise. Nowadays course changes seem utopian, naive or simply impossible to many of us. The climate negotiations, which are conducted on international level, will, in foreseeable future almost remain fruitless. They also suffer from these perceptions. The 'radical monopoly' consisting of comprehensive competition, a fear of losses and growth as the only conceivable development path blocks the view on alternatives.

The famous two-degree guardrail for the limitation of the human-made global warming, though an important result of political processes, sets, however, an objective boundary for negotiations and scientific research. Harald Welzer writes that another, sustainable culture of living and economic management does not result from scientific insights or moral appeals. Therefore, in my opinion quantitative reduction targets and guardrails are indeed necessary, but not sufficient for a giant transformation – or whatever you want to call the rescue of the world. We can succeed only by implementing changed social practice. However, in terms of climate change and Peak Oil, there is a huge gap between the global dimension of the problems and our socialized thinking and acting patterns.

We know the risk of changing nothing

Niklas Luhmann writes that everything could be different although he can change almost nothing. This contradiction appears paradoxical and therefore motivating to my generation of thirty-somethings. Changing nothing is risky. However, as the older generation of the sustainability scientists emphasized, the potentials of eco-efficient and consistent technologies. Today we know that putting ones hopes exclusively on technological solutions, come hell or high water, can block the necessary social changes. The hopes placed on renewable energies and efficiency technologies were met only partially. The reason is that their ecological potentials ▶

were and currently are overcompensated by growth. And technologies cannot solve social problems.

There are many social problems nowadays. The health issues alone that are emerging in Germany include: acceleration of the pace of life, burn out and bore out with ones job – most likely each and every one of us knows someone who has collapsed under too much (or too little) work. Diet-related illnesses, like cardiovascular diseases and diabetes, are the most important cause of death in Germany. Depression is one of the most common diseases of civilization.

Depending on which study one trusts, we have either already left Peak Oil behind us or will cross it soon. This causes an increase of mobility and transportation costs that are the backbone of the present economic development path. A few private flights cannot solve the ecological problem caused above all by the ruinous globalization of economic cycles. We will no longer be able to keep the two-degree guardrail using fossil fuels already factored into the company reports of major groups.

The technological problem solvers promised for the future and the illusion of a supposedly secure provision for the elderly population do not deceive us about the dimensions of these problems either.

The old model of prosperity has served its time

I would like to formulate the theory that there are also social 'tipping points' similar to those of the earth system. At these

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tipping points, we start in a metaphorical sense to level out at a new social state of equilibrium. The above-described 'radical monopoly', which consists of growth, competition and the resultant fear of loss, is no longer an attractive goal. Despite income losses, 'Generation Y' relinquishes career options and full time jobs. From an economic point of view, this means: nowadays the costs for preserving the traditional model of prosperity on which the fragile 'radical monopoly' is based are very high. They are so high that it is worth the effort to change something essential. Working together, we can ac-

tually change something, unlike when we act as individuals as Niklas Luhman realised. We start to consider things other than growth and competition to be normal.

As a generation, we are trained very well and have travelled the world. These are two additional reasons why we have realised that things can be done differently. For example: two design students interfered in the Germany-wide debate about growth, prosperity and quality of life by founding a 'Ministry of happiness and well-being'. The ministry is not real but its website and its image campaigns appear to be extremely trustworthy and subversive. Through this campaign, it became clear during the political discussion that happiness and growth do not mean the same thing to our generation anymore.

Here is another example. In Leipzig, some young economists and social scientists founded a think tank that deals with the socio-ecological restructuring of our economy. This think tank, called Konzeptwerk Neue Ökonomie (think factory for new economy), not only conducts research on the changing economy, but also promotes this change. Together with the Förderverein Wachstumswende e.V. (aid association for growth change) and the DFG Research Group 'Postwachstumsgesellschaften' (research group on post-growth societies), the think tank organised the Fourth International Conference on Degrowth in September 2014 in Leipzig.

Achieving less by working together

There is a common foundation among all the people who are involved in numerous, diverse alternative projects such as the construction of small wind turbines and load-carrying bicycles, programming online platforms for the exchange of knowledge and cultivation of vegetables in the city. The common foundation consists in discussing the fact that the old model of prosperity can be replaced. Among others, the Attac congress Jenseits des Wachstums (beyond growth) of 2011 or lateral thinkers such as Niko Paech have stimulated this debate in Germany again. The Conference on Degrowth in 2014 will revisit this idea and change it into a consistent story. This story ranges from criticism of the current system to the implementation of alternatives. Additionally, the conference will be organised under the principles of a grassroots democracy and decentralisation. Social media and methods of social movements will be used; in this way, common rooms will be created where everybody can participate actively according to his or her skills and abilities.

What does this mean for the entire society, apart from the ecologically interested niches? The rethinking of society and economy affects the handling of raw materials, the natural social world and the geographic dimension of social living. Apart from the well-known ecological and social sustainability, resilience is an important idea and an increasingly important feature of social systems. Resilience means the ability to react to disturbances and changes in a way that the fundamental functions of a system are preserved. Transferring this to villages and cities, it means that a system should remain functional despite ▶

future shortages and increases in oil and food prices or ecological catastrophes.

Some critical factors for resilience are the diversity and the relations between the system elements. Actually, the only substitute for oil available nowadays is the plurality of the people and their abilities, combined with social relationships and the knowledge that we are part of nature. If we produce and exchange locally as much as possible (by working together), we will realise an enormous savings potential for reducing greenhouse gas emissions and resources. Renewable energies and efficient technologies can help us along this path but they cannot solve fundamental problems. Most notably, they cannot cover the current level of consumption in Germany in a sustainable way. This is why it is important to reduce consumption in absolute terms immediately. Beyond that, we can use the things we need collaboratively and therefore longer. This way, in the future, only a residual amount of products that has to be reduced in the course of time would have to be produced globally.

We will have changed the world

There will be those people who consider this 'regressive'. I would like to reply to these people that our freedom of choice and our knowledge, modern medicine and efficient technologies will not suddenly disappear in such a 'reductive modernity'. The recently deceased physicist Hans Peter Dürr once said that reality is re-created in each moment, which is why each of our creative contributions enriches the reality of our future. The enrichment of our future and the joint construction of the present connect the generations to each other. Our task now is to finally stop biting the hand that feeds us and to dare to undertake a joint beginning. ■

Benjamin Best studied Social Sciences and Sustainability Economics and is research fellow at the Wuppertal Institute in Research Group 1: Future Energy and Mobility Structures. He is also working towards his doctorate there. His dissertation topic is: "Urban energy transition and public participation: transdisciplinary constellation analysis in the Ruhr Region".

factor^{y} – the Magazine for Sustainable Economy

Although the word 'factory' is mostly associated with the manufacturing industry and industrial production, it can also refer to 'factor Y', the factor by which energy consumption needs to change so that future generations will find themselves living in similar conditions. Such an understanding of sustainability implies that all aspects of economic activity need to be addressed with sustainability in mind, including consumer practices as well as the manufacturing and services sectors.

factor^{y} highlights the role of businesses in sustainable development and aims to draw the drivers of the economy into the public debate. Such development entails resource efficient economic practices for both producers and consumers as well as educating and informing them about sustainability issues.

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Editor:
Responsible for contents in accordance with §10 paragraph 3 MDStV:
Ralf Bindel
Am Varenholt 123
44797 Bochum
phone: 0234-9799513
rb@factory-magazin.de

Advertising:
rabe – medienbüro
phone: 0234-9799513
www.rabebuero.de
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Aachener Stiftung Kathy Beys
Schmiedstraße 3
52062 Aachen
phone: 0241-40929-0, fax: -20
info@aachener-stiftung.de
www.aachener-stiftung.de

Effizienz-Agentur NRW
Dr.-Hammacher-Straße 49
47119 Duisburg
phone: 0203-37879-30
efa@efanrw.de
www.efanrw.de

Wuppertal Institut für Klima, Umwelt, Energie GmbH
Döppersberg 19
42103 Wuppertal
phone: 0202-2492-0, fax: -108
info@wupperinst.org
www.wupperinst.org

Design Concept:
Oktober Kommunikationsdesign GmbH, Bochum
www.oktober.de

Product realisation:
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www.ubb-kommunikation.de

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