Rethinking Climate Action

New perspectives and the opportunity for a fresh start

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A few months ago, I participated in an extremely rewarding workshop on the Climate Dilemma organized by the "The Dive", a network of transformational trainers and consultants in Germany. Before that workshop, I had basically thought that there are only three alternative standpoints to take on Climate Change: Fight, Flight, or Freeze.

Basically, I felt, it`s a binary choice: Fight against it, or run away from it and pretend it doesn`t exist. Be an activist, or an ignorant. Hero or zero. Reduce your CO_2 footprint and make the necessary sacrifices, or reject everything about it and live irresponsibly like there is no tomorrow. As for myself, I felt that I should be a climate activist, but I didn`t know how to become one, or if I even wanted to. I wanted to lead a good life, and to do my share to leave a healthy planet to my children. But I knew I was far from achieving that. If anything else, I was part of the problem.

So I did, what everyone else around me did. I tried my best, and ignored the rest. I felt a little guilty when I thought about it. So I tried not to think about it too often. When I booked a flight or took the car because it was raining, I convinced myself that I had good reasons.

In early 2019, my children started joining the "Fridays for Future" movement, demonstrating every week. It was only then that I started opening my eyes to the real dimensions of the problem, and of the risks we are running with regard to global warming. That was when I became scared. Holy cow, this is really dangerous. How could I not know about it for so long?

I am a studied Political Scientist by education – if somebody like me could manage to walk the planet with this amount of ignorance, no wonder there was no substantial change taking place anywhere. And the more I read, the more frightened I became. I stopped flying, I tried to go from vegetarian to vegan, we bought a small electric motorscooter in order to reduce using the car. And I decided to quit my job as an HR and Change Consultant and to redirect my career to do "something against the climate collapse". I joined an NGO as a volunteer and started reading even more, and the more books and articles I digested, the more worried I got. The answers to the climate crisis did not really seem so complicated. But the shocking part was that nobody seemed to be pursuing these solutions. And with every day that passed unused, the news only became more alarming, and the amount of frustration grew with my concerns.

When I heard about the workshop, I was intrigued since the facilitators said that they "wanted to try something new", and we participants were something like their guinea pigs. They did not reveal what exactly they wanted to do, only that they intended to work on our perceptions, frames and attitudes, not on facts or action plans. That sounded like a welcome change.

I had no clear expectation on what I hoped to take out. I only knew that if I really wanted to make Climate Action a central part of my professional life, then it would be valuable to work on my inner position towards it as well. I felt that I had to make my own way of dealing with the dangers of a climate disaster and a possible mass extinction more sustainable. If I wanted to avoid running directly into a burnout, I needed some kind of waterproofing against the many bad news, fears and setbacks I was going to have to deal with. Possibly, but I did not bare to wish for that much, I would also welcome some more ideas on where and through which leverage I could have the strongest impact in my climate work.

It turned out that the workshop was great. We went through a number of intense and rewarding exercises. Among them we reviewed five different perspectives on Climate Change which enlarged and deepened our understanding of the problem and its potential solutions a lot. Coming home after the workshop, I was so impressed that I wanted to recap these perspectives for myself, and I wanted to see if there were possibly even more. And indeed, I came up with three more perspectives, so then I had eight in total. Since I was "between jobs" by then, I took the time to read more and to write down my findings on them.

These eight perspectives on Global Warming are:

1. "It`s a fact" - The Scientific View

2. "It scares me" – Between Climate Fear and Climate Hysteria

3. "Time to act" – Here is what we need to reverse Climate Change

4. "It`s too late" – The Climate Apocalypse is coming anyway

5. "We are having the wrong conversation" – The solution is beyond Climate Activism

6. "It`s the economy, stupid!" - The business case and the "free-rider dilemma" in Climate Protection

7. "The Climate Change Conspiracy" – Tracing the ideological foundations of Climate Change Denialism

8. ""The absurdity of a double life" – Reframing the relevance of individual Climate Action

During the workshop, we reflected on these perspectives along five guiding questions:

➢ What is their claim?

➢ What is their call for action?

➢ What is their underlying assumption?

➢ What is their positive and encouraging impetus?

➢ What is their frustration potential, how do they draw from our sources of energy?

These guiding questions helped us immensely to go deeper in understanding those perspectives. They enabled us to look not only at the face value of their messages, but to grasp also their underlying assumptions and consequences. Often it was only through these further reaching questions that we started to see the true transformational power of those perspectives. So I kept this structure also when writing about the three more perspectives which I reviewed on my own.

Going through this exercise and writing down these eight perspectives turned out to be extremely enlightening, comforting and helpful. By taking and understanding all these viewpoints, my awareness of the Climate Question is a lot more comprehensive, and a lot more rounded out and balanced now. By finding out that the problem can be seen through so many more angles than just the two that I had pictured before the workshop, I am a lot calmer now that this problem is in fact not so much different from any other problem we face, even if it is more severe. It is not a binary problem, black or white, everything or nothing, just like no other problem. It is full of different facets, colors and details. It may not even be only negative, but also a chance, an opportunity, just like any other problem. It may bring out the best in us. There are many reasons to be hopeful, even if the future looks grim. There is no need to be paralyzed. And while it would make sense not to waste too much more time, our lives don`t depend on keeping a specific time frame. Life flows, even in times of Climate Collapse.

By tracing how other stakeholders regard the problem during the workshop, we identified many potential reasons why the climate protection movement has been so low in successes up to now. We detected many of the flaws and even contradictions of how climate activists have tried to persuade the public of the need for change so far. These findings then helped us to come up with new ideas and approaches of how to embrace and interact with the world on Climate Change in the future, so that perhaps true transformation becomes more likely.

I originally wrote down these eight perspectives for myself. But when I realized how helpful this learning journey on Climate Change was for me, I thought that it might be of value to others as well, so I started publishing it within my Social Media network. It is my wish that – as it did to me - those who are frustrated may gain some new hope from reading these perspectives, that those who are fearful or ignorant may dare to take a more confident look

at Climate Change now, and that those who want to take action may gain some inspiration on what they should do.

I summarized my learnings from each of the eight perspectives and my comprehensive conclusions in a final 9th chapter called

[“The answer to the Climate Crisis is community, not CO^2” – A new approach to saving the planet.](#)

I am thankful for the many great writers and activists that I could draw from when writing down these perspectives. And of course I am grateful to Ella Lagé and Jörn Apel of *The Dive* for inviting me to this great workshop in March 2020. I do look very forward now to my future as a climate activist.

There is nothing ambiguous about this plan any more. I am going to put my learnings into practice and build up bottom-up “Climate Action Groups”. I cannot predict whether we will be successful to save the world from the climate catastrophe. But I sure know that we will use this crisis to change the world to the better. So whatever happens, we will have made a difference to prevent the worst and to prepare the best. And we will have had a great time together doing so. We will have had a good life.

I. "It`s a fact" - The Scientific Perspective on #Climatechange

The first perspective on the #climatedilemma we discussed was the scientific one. We reviewed slides provided on the #scientistsforfuture website plus some other sources, like the #IPCC report and articles published by 11,528 scientists in 2019 (Ripple et al.) and in a renowned Nature article also last year (some screenshots are added to the pictures above).

> ## What is their claim?

The main messages portrayed by science in our findings were:

19 of the 20 warmest years in the period 2001-2019
Deviation from the 1880-1900 average

+1.1°C deviation from the mean in 2019

Zunahme der Tagesrekorde bei Niederschlägen (global)

Messdaten
Zufallsbereich

Abweichung Anzahl der Rekordereignisse

(Lehmann et al. 2015)
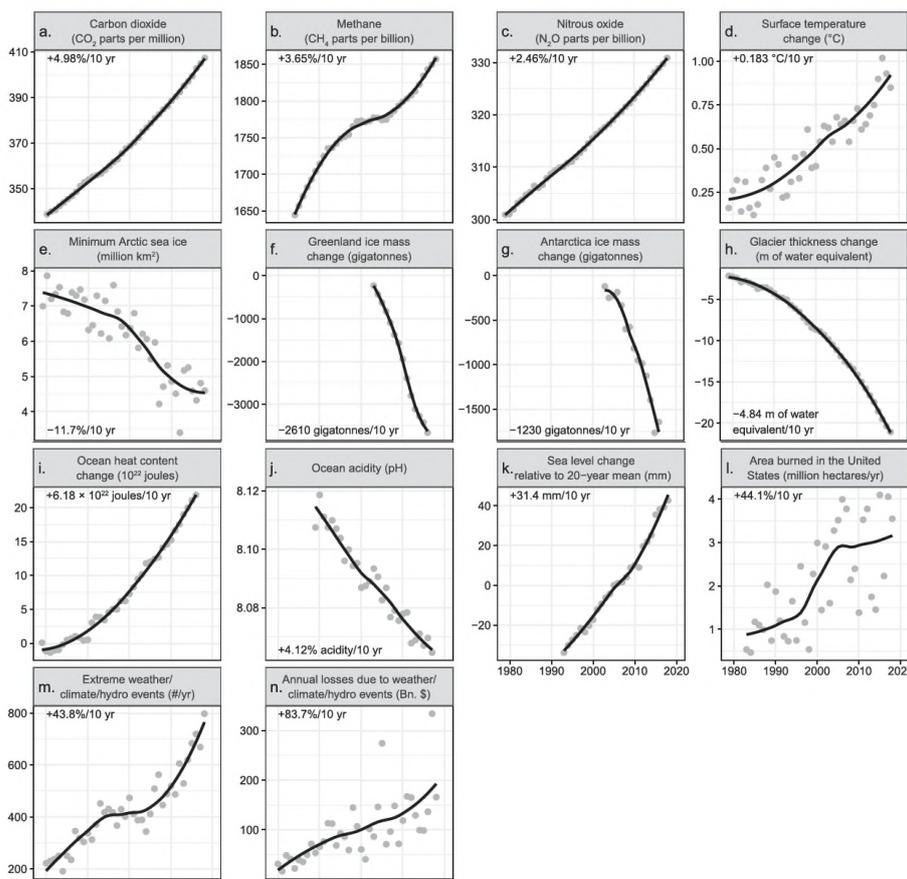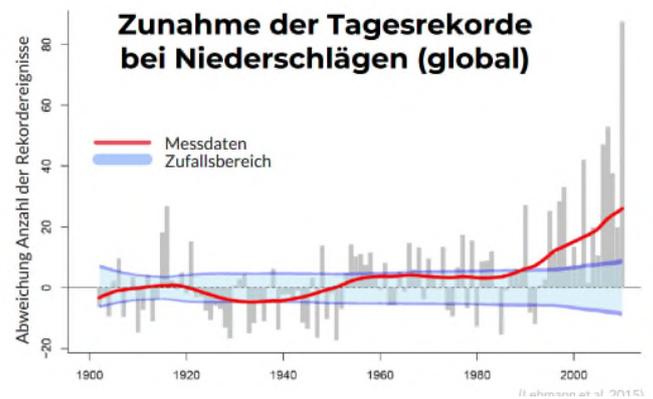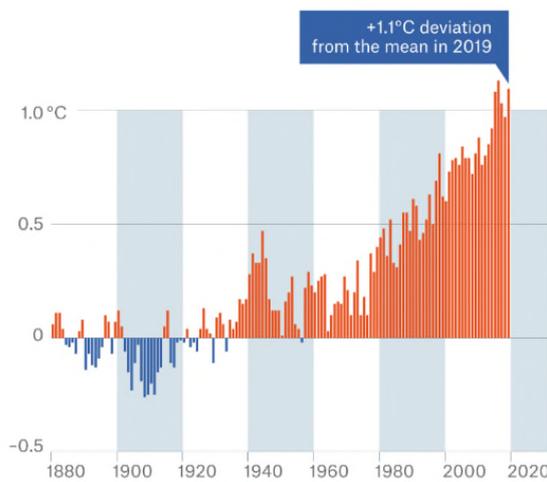
Negative Trends: The current trends in basically all major categories globally (total energy consumption, greenhouse gas emissions, meat consumption, air travel, etc..) are still leading in the wrong direction, with catastrophic consequences e.g. on CO2-atmospheric concentration, temperature rise, ocean acidity, ice thickness, extreme weather events, wildfire losses, etc…
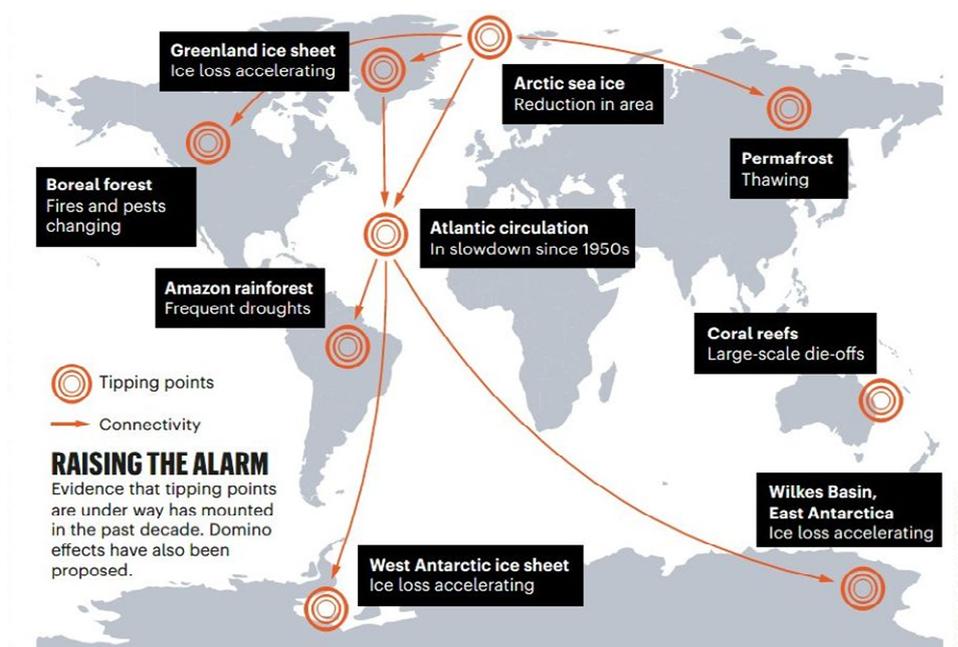
Tipping Points: The risks of self-reinforcing climate dynamics by passing so called #tippingpoints (hotter climate leads to methane escaping permafrost soils, reduced ice-shields reflect less sunlight, increased humidity raises air temperature, dry weather periods increase wildfires, etc.) are increasing (or have already materialized), leading to a so called #runawayclimatechange with irreversible dynamics beyond any further human control.

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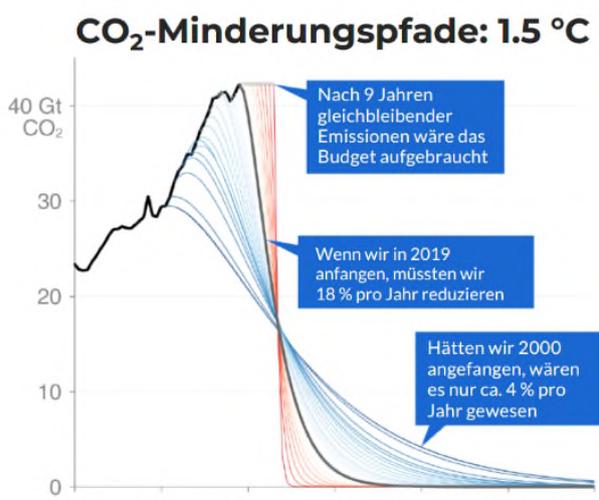
Budgets & Risks: In order to still contain the risk of a total #climatecollapse, leading to a #hothouseplanet, massive uninhabitably hot territory, coastal cities drowning, extreme weather events exploding, food production collapsing, huge refugee migrations and a #sixthmassextinction eventually, we must keep global warming below anywhere near 1.5 degrees Celsius at best. If we are to reach this target with a 50% chance, the total remaining budget of Greenhouse Gases which can still be emitted will be depleted in 7 years and 9 months time already (as of March 2020), assuming that the current emission rate will not be reduced drastically and quickly.

#Climatejustice: #globalheating affects everybody regardless of origin, nationality, social status, etc.. However, while it is caused primarily by industrialized countries, and within their societies it is caused predominantly by the wealthy segments who can afford large cars, heavy consumption, sizeable houses, air conditioning and long distance travel, the effects are disproportionally hazardous to poorer countries and to the economically weaker inhabitants of the world.

Solutions: The primary solution to #fightclimatechange suggested by science is a heavy taxation of #greenhousegasemissions and accelerated investments in #renewables and other #climatefriendly technologies

➢ **What is their call for action?**

The call for action made by science on #climatechange is straightforward:

Act now!

Do your math!

Or, as the article by Lenton et al. in Nature phrases it: "The evidence suggests that we are in a state of planetary emergency. The stability and resilience of our planet is in peril. International action — not just words — must reflect this."

➢ **What is their underlying assumption?**

This was a very intriguing question, and after a short reflection we identified three assumptions of this perspective, which also contribute to the discomfort, or distress even, which we all feel about #climatechange, and which we did not know how to account for before:

<u>I. It is your job</u>

While the texts and slides by scientists on #climateaction obviously primarily address politics, to the readers`s brain they address the reader. Me!

Confronted with this call for action, as a reader, my intuitive reaction is stress. Me? I have no means. I have no power. I do not know where to start. I can try, but whatever I do, it will never be enough.

<u>II. It`s science, not opinion</u>

There is no serious dispute among informed circles about what is going on. There is no question about what needs to be done. So why is it not done?

<u>III. It`s science, not nature</u>

While we are talking about nature, the analysis is scientific, and so seems to be the solution. Technical. A CO2-price. Better technologies. Fighting the root cause of the problem with a different kind of the root cause. It is a solution coherent with the system that created the problem. So perhaps we have to think larger than that.

➢ **What is their positive and encouraging impetus?**

The scientific contributions, despite the urgency they portray and the dramatic outlook they provide, they also maintain that a solution is still possible. We can still be saved, if we act now. The solutions are all there. It`s on us to put our efforts and our energy into using and developing them quickly.

➢ **What is their frustration potential, how do they draw from our sources of energy?**

Yes, there is hope. But after understanding the level and the urgency of the challenge, and acknowledging the fact that we have wasted the last 30-40 years without doing anything about the problem, although it was well known already then, this hope seems questionable, to say the least.

Taking everything we know under consideration, the challenge of #globalheating is too much for our little minds, it`s too late to do anything about it, and it`s beyond our reach to have any kind of substantial impact anyway.

This was somewhat of a devastating start into our workshop. But it was also the start of an enlightening journey through the day. Stay tuned!

II. "It scares me" – Between #climatefear and #climatehysteria

The second perspective on the #climatedilemma which we discussed in our workshop was the aspect of fear, concern, worry, or even panic and despair which the #climatecrisis is stirring within us. We read some articles about the matter, mainly summarized by the organization "Psychologists for Future" (www.psychologistsforfuture.org/en/).

➢ **What is their claim?**

Firstly we had to make a clear distinction between on one hand #climatefear or #ecoanxiety as an emotion which is felt and has to be dealt with by anybody studying the risks and trends of #globalheating and an eventual #climatecollapse. This is completely different to the term #climatehysteria on the other hand, which is used by business-as-usual and pro-fossil – advocators in order to discredit, denounce and ridicule all those who are concerned with and who are engaged against #climatechange. Calling somebody "hysterical" means removing him or her in a violent manner from the regular framework of debates around #climatepolitics by insinuating a pathological mental overreaction.

We therefore concluded that the term #climatehysteria should be eliminated from the debate, and whoever uses it should be made aware that the expression is a highly unfair and undemocratic attempt to exclude and rule out basically any #climateactivist who admits his or her emotions in their fight against #globalwarming.

Following up on the aspect of #climatefear, psychologists describe fear in general as a useful emotion, since it provides us with additional energy and alertness, it makes us take precautions, it sends us useful warnings to watch out for and to prevent a potential threat or danger. However, if the emotion becomes too strong, overwhelming our physiological systems, it puts us into a state of temporary loss of control and into disorder, a so called panic zone. We then revert to our basic instincts of fight, flight, submission or freezing autoresponses. If this status lasts too long, our fear becomes dysfunctional, putting us into a state of powerlessness, paralysis, illness and fatigue.

➢ **What is their call for action?**

Transferred back to the matter of #climatefear, psychologists thus recommend to avoid a combination of a) apocalyptic views and warnings, b) poor political decisions, and c) a lack of participation when dealing with the #climatecrisis. Rather we should develop – and help others to develop – 1) individual resilience (emotional and communicative capacities), 2) group level activeness (providing a feeling of collective self-efficacy), and 3) pro-climate changes in the political decision making processes.

In their official statement, signed by almost 5,000 psychologists and psycho-therapists in 22 countries, Psychologists4Future summarize this as follows:

"Motivating people towards behavioral change and increasing environmental and climate awareness is a psychological task. Often it is plain habit; the feeling of not having any control or to be able to have an impact, that inhibits action. We can help people to develop greater self-efficacy, action control, to increase a feeling of responsibility and to reduce a sense of powerlessness.

The awareness of the urgency of climate and ecological crisis can bring about symptoms of psychological disorders. As professionals, we must be prepared. This can bring about intense, overwhelming feelings that can result in a sense of powerlessness and even psychological disorders. Without political intervention for more climate protection, we will experience the repercussions outlined in environmental psychological research."

➢ **What is their underlying assumption?**

The underlying assumptions of the Psychologists for Future which we identified are threefold:

1) There is no need to feel ashamed of #climatefear. In contrast, it is a normal and useful reaction to a real and existing environmental threat which has to be dealt with in a professional, profound and serious manner.

2) In order to prevent #climatefear from becoming overwhelming and rendering us dysfunctional, we should act on three levels: provide individual support, organize collective action and achieve political changes into the right direction.

3) Climatefear is directly connected to climateresults, as it is framed on the P4F website: "We can be less afraid only when we experience concrete success and tangible changes, so that the #climatethreat is credibly reduced".

➢ **What is their positive and encouraging impetus?**

It is alright to feel concerned about #globalheating, and to even feel powerless and beyond our control about it at times. We are not inadequate or insufficient if we feel that way.

If we do get carried away by our worries, it is important to reach steady ground again, to go back to an inner "safe spot", from which we can retrieve our energy again and our power to act. Being with others, joining forces and acting together towards our common goal is helpful in order to (re)gain control and a sense of effectiveness and impact. If we are not alone, we can manage.

➢ **What is their frustration potential, how do they draw from our sources of energy?**

What if we are not successful? What if we are too weak, if society does not follow our lead or if resistance is too strong? What if we are just too slow and too late in order to still turn things around?

As long as we connect the coping strategies for our fears with action, and as long as we connect our action with the actual changes and results we achieve, we are dependent on seeing these changes happening. We are doomed, if they don`t come.

There is a risk that our energy will deplete quickly if we tie our emotional wellbeing too much to our hopes for success. And there is a risk of becoming too tight, too narrow, too dependent and too confrontational, if we give others the power to determine how we feel. We should look for a more independent and more powerful stance for ourselves and for our fears. If we want to be successful, we need to find a position which cannot be knocked off so easily by the ignorance, timidity or complacency of those who do not take sufficient action against #climatechange. When we dealt with the 4th perspective ("It`s too late" – The #climateapocalypse is coming anyway) later in the workshop, we came up with some very helpful ideas on what this position could look like.

It was good to look at our fears at this early stage of our workshop. It is important to acknowledge that we have fears, we all have. Also the #climatechangedeniers have their fears. We should not pretend that we don`t.

Instead, we should ask ourselves regularly, and we should ask each other regularly: What are we afraid of? This question will then inevitably lead to the next and even more relevant question: What do we care about? (Only) if we allow these questions asked to all participants to have a fair and transparent place in our interactions with regard to #climatechange, then our emotions can be an asset and a true resource in our quest to overcome the #climatecatastrophe.

III. "Time to act" – Here is what we need to reverse #climatechange

The third perspective on the #climatedilemma was the genuinely #climateactivist standpoint.

What do we have to do to reverse #globalwarming and to save the planet, or rather: to save the human species? In order to do that, we looked at the specific agenda for #climateprotection as expressed by organizations like #Greenpeace, the #WWF, #ExtinctionRebellion, #fridaysforfuture, the #sunrisemovement, #worldwarzero, the German #BUND or #GermanZero. In addition, we also reviewed more comprehensive approaches to solving the #climatecrisis by addressing the growth-orientation and the exploitative nature of our economic systems, as expressed e.g. by authors like #KateRaworth, #MajaGöpel or #TimJackson.

➢ **What is their claim?**

Technically speaking, solving the climate crisis is not all that complicated. We have to do two things:

1. Stop emitting any further #greenhousgases

2. Removing the already emitted greenhousgases from the atmosphere
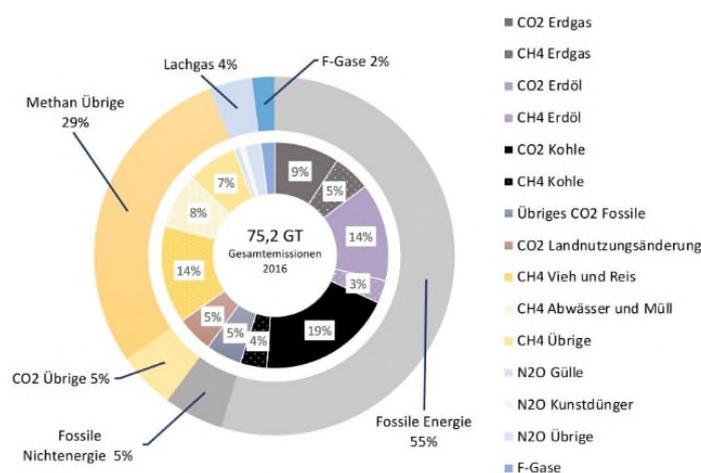
Abbildung 1: Anteile der Sektoren an den weltweiten Treibhausgasen 2016; Datenquellen: Howarth (2019), Olivier et al. (2017), eigene Berechnungen.

As we can see from the chart provided by the #energywatchgroup **Aspect 1** (stop emitting) mainly involves replacing fossil fuels with renewable sources of energy, which make up 55% of Greenhouse Gas (GHG) emissions (CO2 and methane).

The other 45% of GHG are accounted for primarily through live stock (methane) and related changes in land use (a euphemism for deforestation and other ways of destroying natural

habitat, releasing CO2) mainly for the meat and dairy production, making up 21% of all GHG emissions. On top we have methane emissions from waste and sewage treatment (8%), CO2 from producing plastics and cement (5%), methane from rice cultivation (5%), nitrous oxide (mainly from artificial fertilizers and livestock manure) making up 4%, and fluorinated gases (2%).

So if we stop (or at least heavily reduce) burning fossil fuels, eating meat and drinking milk, we should be safe. Improving rice cultivation, building materials, plastics and fertilizers will provide us with the remaining savings in #greenhousegas emissions.

When it comes to **Aspect 2** of removing existing greenhouse gases from the atmosphere, methane is the most difficult to tackle. But there are bacteria (methanotrophs) that can help us solve the problem to some extent. In addition, most of this gas remains in the atmosphere only for about 10 years until it dissolves into Carbon Dioxide, so if we manage to stop emitting it quickly, removal is not that crucial. Retrieving Carbon Dioxide from the atmosphere, on the other hand, can be achieved through technical applications, but they require a lot of energy and have by no means achieved any relevant dimensions yet to reduce sufficient quantities of CO2 from the atmosphere. In contrast, storing CO2 in natural processes (so called Carbon Sequestration) can be achieved quite easily by growing plants (trees, seaweed, baboon, hemp, etc..), which can then possibly be left alone or used as building material. More importantly even, recultivating soils and wetlands can help to capture enormous quantities of Carbon Dioxide, while at the same time reviving the habitats of insects, wildlife and plants which are crucial to human survival in the future.

The organization #ProjectDrawdown (drawdown.org) has described a large number of projects how CO2 can be recaptured organically by nature, counting 379 Gigatons (billion tons) of CO2 (32% of our total global CO2 emissions in the atmosphere ever through fossil fuels) which can be removed from the atmosphere until 2050. The #trilliontrees project envisions to remove up to 205 Gigatons of CO2 from the atmosphere. The #4p1000 initiative aims to improve the soil quality throughout the globe by a 4/1000 increase of its carbon content every year, thereby absorbing the equivalent of 13,4 Gt CO2 from the atmosphere annually.

Taking into consideration that currently up to 20 Gt of our anthropogenic CO2 are stored naturally already in our forests, soils, wetlands and oceans every year anyway, it is not impossible to believe that we could theoretically bring our climate back down again some day.

Can we really achieve that? With regard to **Aspect 1**, if we increased the amount of **wind and photovoltaic power** generation facilities (which produced 1,787 tw/h of energy in 2018) by 30% each year, we would reach the necessary amount of total net energy consumed by all sources in 2018 (which was the equivalent of 116,000 tw/h) by the year 2035 already. In fact, global photovoltaic power generation did increase capacities by 300% between 2014 and 2018, while the total wind installations grew by 60% in that period. On top of that, if we look at a global manufacturer like Bosch, which plans to save 1,3 tw/h of energy within

the next 10 years, just this one large company, then it becomes apparent that we may not even need to install this large amount of renewable energy.

Apart from that, the second largest contributor to #globalheating is the global **meat and dairy production**, which we can eliminate (or drastically reduce) just by making a choice and switching to a plant based diet. Summing up, reaching climate neutrality on a global scale is perfectly doable.

Of course, some applications like long distance cargo transport, aviation or steel & cement production are more challenging to transform into a carbon neutral technology than others. But by shifting to hydrogen-based power sources (with the hydrogen being produced from renewable energy), these challenges can be overcome, as is true for other problems like grid-stability, power distribution networks, energy storage, alternative building materials, or the like.

In addition, producing renewable energy has in the meantime become as cheap, or even cheaper than fossil based energy. Without taking any of the external damage to the environment into consideration (which of course would heavily favor renewable energy), the cost-range of all sources in 2020 is between 5 and 18 US-Cent per kw/h, with PV and Onshore Wind getting as low as 3 Cent by now. Hence it will not even be a cost driver to switch to a renewable energy supply. The only reason we will still need to put a substantial tax on CO2 is because we have to finance the installation of the necessary infrastructure within a very short time frame, and we have to drive fossil based energy supplies out of the market a lot more rapidly than it would otherwise happen anyway.

Figure 1.2 Solar and wind power: Expected cost reductions until 2030
LCOE development of CSP, solar PV, offshore and offshore wind technologies (G20 country averages), 2018-2030

Based on preliminary results from IRENA (forthcoming a)
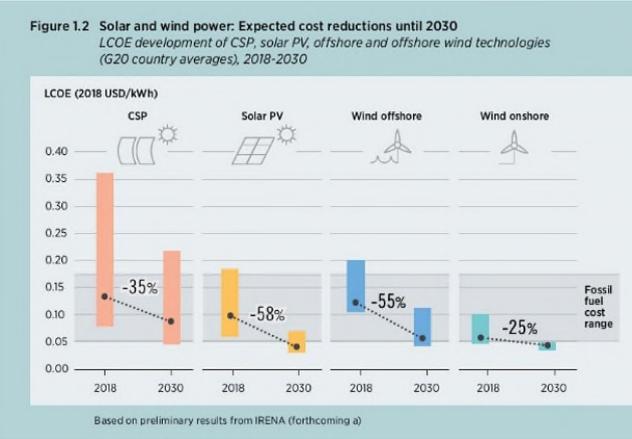
Surely, though, reality looks a little different. In 2018, the complete expansion of global renewable energy capacities did not even fully cover the growing energy demand of the world; especially gas and coal based electricity generation also rose by 4.0 and 2.6%, respectively. The total CO2 emissions from primary energy demand globally increased by 1.7% last year according to the International Energy Agency. The expected further increase of wind power capacities within the coming 5 years (pre Covid-19) is 4% annually, while the PV industry indeed believes a further growth of 30% each year to be possible.

The UNEP Production Gap Report sees the world planning to produce 50% more fossil fuels by 2030 than would be consistent with a 2°C target and 120% more than would be consistent with a 1.5°C pathway. At the same time, according to a 2019 IMF study, governments across the globe are still subsidizing their fossil industries by not pricing air pollution and other environmental damages with an unbelievable amount of 5.2 trillion US$ every year. The German Environmental Agency UBA calculated the direct subsidies and tax relieves for fossil based technologies in Germany (external environmental damages not included) to be at around 50 bio EUR in 2012, with no significant changes since.

The average meat consumption has grown by more than 50% within the last 20 years, and there is no evidence in sight that this trend may be considerably reversed in the near future.

Global meat production, 1961 to 2018

Source: UN Food and Agriculture Organization (FAO)
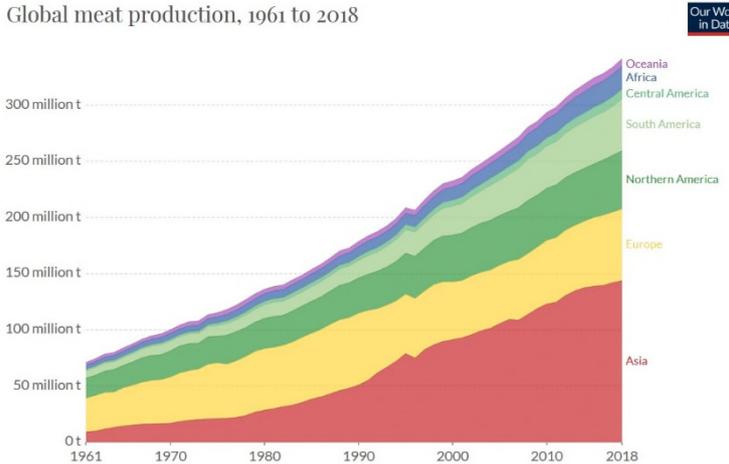
The [...] tal passenger kilometers by airplane within the coming 15 years.

From 2001 to 2018, according to #globalforestwatch, there was a total of 361Mha of tree cover loss globally, equivalent to a 9.0% decrease in tree cover since 2000 and 98.7Gt of CO_2 emissions. This meant 36 football fields' worth of trees were lost **every minute** due to deforestation. 2016 – 2018 were the three years with the highest rate of deforestation in history.

GLOBAL ANNUAL TREE COVER LOSS

SHOW ON MAP

From **2001** to **2018**, there was a total of **361Mha** of tree cover loss **globally**, equivalent to a **9.0%** decrease in tree cover since **2000** and **98.7Gt** of CO_2 emissions.

2000 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account

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➢ **What is their underlying assumption?**

It is

Summarizing these findings, theoretically it is still highly possible to reverse #globalwarming. If we decided to direct our economies, our political frameworks and our individual behaviors with more determination towards more sustainability, if we invested our time and energy towards saving the life of our planet instead of further exploiting and destroying it, then we could still do it. In practice, however, it will be difficult.

This discouraging conclusion then points to the second line of thinking in #climateactivism, which is more fundamental and more comprehensive in its analysis of the problem and in its solution. This argumentation, as laid out by writers like #KateRaworth, #MajaGöpel, #TimJackson, #RichardDouthwaite, #ChristianFelber, #NaomiKlein, the #cluboframe, advocators of the #greennewdeal, and many others, claims that there is very little chance of preventing #climatecollapse within the exploitative logic of our current production and consumption systems. In their view, we have to break with the seemingly indisputable capitalistic logic of ongoing quantitative growth.

If we don't realign our targets towards qualitative growth, so they say, replacing the GNP as the prime indicator for progress and prosperity, and if we don't strive for a more sustainable way of producing, consuming, caring, and interacting in our societies in general, we will never be able to reverse #climatechange, or any other aspect of the destruction of our planet. It is essentially necessary to turn our economic system back to its feet, so that it serves life on the planet, and not the other way around.

In a very reduced and accentuated manner, their basic argument goes like this: Instead of spending all our time to invent, develop, produce, market and sell things that we don`t need, thereby destroying our planet, so that we can earn more money to buy more of those things that we don`t need, we should rather invest this time in something that makes more sense: Helping others, renaturating the environment, producing healthy food, bringing beauty into our lives and spending time with our loved ones.

Now this article is not the place, and I am not the expert to explain how such a new economic system may be set up precisely, and even less what a transformation towards this system might look like. I have some ideas, like replacing the GNP with more meaningful metrics of wellbeing, disconnecting earnings for a decent living from paid labour through a Universal Basic Income (#UBI), realigning taxation and the distribution of wealth according to the contribution to the common good, plus strong public investments in public, social and environmental infrastructures. But regardless of how this economic transformation can be designed and achieved in particular, it makes a lot of sense to me that we will ultimately not

succeed to prevent the #climatecatastrophe without changing the inherently destructive incentives of our current economic framework.

➢ **What is their call for action?**

Climate Activists basically demand the same as the scientists do, just from a different angle. While scientists claim to have assessed and described the problem, climate activists focus on the solutions. Their call for action: use them.

The main difference to science is therefore, that they are definitely not impartial. They have developed the solution, often they make a living of the solution, they are an interest group in the name of the solution. They are on one side of the table with their claim and their opinion. The fossil industry, the meat & dairy industry, industrial agriculture, aviation and most of tourism, the steel, the petrochemical, the automotive, the cement industry and all the others, they are on the other side.

We are in a negotiation setting. Their goals and interests against ours. Let`s use our money and our connections, our access to public opinion, let`s influence whom we can, and in the end find the best possible compromise – measure by our interest. It`s a power game. So let`s be strong and persuasive.

➢ **What is their underlying assumption?**

The underlying assumptions of #climateactivism, like in the other two perspectives analyzed so far, were the most tricky to identify. We came up with the following five:

1. Our solution is fundamental and necessary in order to protect our way of living.

2. This is a battle we have to win. A compromise will not do the trick.

3. There is no time, we have to be fast and determined.

4. We are afraid that people will resist change. We therefore argue – against our better knowledge - that everything can stay the same.

5. This is a defensive fight: We try to avoid something very negative.

➢ **What is their positive and encouraging impetus?**

The stimulating essence of #climateactivism is straightforward: It is possible. It is really possible. We have the means and the solutions to do it, and those solutions are even technically and economically feasible without having to fall back to a standard of living of the 19th century. If we set our minds on it and pull everything together, we can do that.

> ➢ **What is their frustration potential, how do they draw from our sources of energy?**

However, we are not doing it. The resistance, complacency and timidity of political decision makers is too strong, the lobbyists on the other side are too powerful, mainstream media and citizens are too shortsighted to see that we are not doing enough by far. It`s a fight against windmills. Why don`t the others see that we are heading to disaster, it cannot be more obvious? It is frustrating to fight this ongoing battle every day, and we are tired.

Summary

It was very rewarding to go into this position in such depth, especially including the deeper layers of this perspective. After having reviewed everything, it does not seem such a big surprise anymore that we, the #climateactivists (I consider myself part of them) are not making much progress in our cause. Our messages are not honest, they are separatist, and they are demotivating.

➢ They are not honest, since we cannot, and we should not want to maintain and preserve our current way of living. If we are successful, we will have less consumer electronics, far less meat and dairy products, less fashion, less travel, probably a bit less comfort, and general less products to choose from. The truth is, we should strive for something better than this. More nature, more social interaction, more time for ourselves and our friends and families, more animals, more sense and more fun.

➢ They are separatist, since we pretend that there are two sides to the problem. Those causing it, and those with the solution. We are opponents. But in fact we are all part of the problem, just as much as we are part of the solution. Instead of accusing each other of wanting and doing the wrong things, we should focus on the common goal. We should acknowledge that we are all part of the same system and that we are jointly creating and maintaining it every day. Our attention should shift to the values and objectives which we share, and look for ways how we can build on them together.

➢ They are demotivating, since they are built on our shortcomings and our fears. Whatever we do and however hard we try, it will never be enough. Whatever we try to avoid, we are already in the middle of it. We strive for the absence of something, that nobody knows what it will look like. If we happen to be successful by, let`s say, 40%, nobody will be able to notice, since it cannot be quantified. We cannot win in this fight.

After learning that, it becomes more obvious why the #fridaysforfuture movement has been so successful. It is not because they are our kids and we listen to what our kids say; we don`t normally do that. The main reason is, because they represent our common goal, our common future. There is nothing ambiguous about them, they clearly show us something that is worth striving for: Them. And their message, since they are innocent of the mess we have created, is free from our separatism. They don`t pretend to have the solution. They don`t pretend that they are not part of the problem. They just want all of us to get together and to start acting. Seen that way, #fridaysforfuture should be proud and proactive about

the fact, that they do not have a solution. Once they become too much involved in the solution, they will be swallowed by the climateactivist system and immediately lose their distinct power and effect.

What does that mean for our approach to #climateactivism?

1. We should do everything we can to overcome the dualist, separatist approach to the problem. We are in this together, and we will only get out of this together. We have to be more comprehensive in acknowledging our interdependencies, and more creative in finding ways to change the whole system, not just symptoms.

2. We should more visibly and convincingly focus on the kind of life that we want to lead, the kind of world which we want to create. We need to have and to portray a more positive vision of our lives beyond the #climatecrisis, so that we can measure and celebrate the progress and successes we have on the road.

3. We should learn to listen better and to communicate at a deeper, more relevant level of our actions, our fears and our drivers. As we have learned from #fridaysforfuture: love is probably the only motivator powerful enough to really make us change our habits. We have to access our love a lot better in order to give more meaning and more power to our data and ideas.

All of the other perspectives we reviewed later in the workshop gave us further insights into what this approach could look like more specifically in practice.

IV. "It`s too late" – The #climateapocalypse is coming anyway

In response to the activist approach, which basically claims that climate change can still be successfully reversed, we then turned into the opposite direction for a fourth perspective.

Is it too late? Have we already passed the climate tipping points so that from now on, regardless of any further change in human emissions, we are in a #runawayclimatechange, irreversible and beyond our control? Are we doomed to mass extinction?

In order to review this apocalyptic perspective, we studied the article and findings about #deepadaptation by #JemBendell (http://lifeworth.com/deepadaptation.pdf) and watched a related youtube-video by him (https://www.youtube.com/watch?v=DAZJtFZZYmM&list=PLZtwXwfaROqJqcyED69KJ29PbH53QPM5i&index=35). We also read the essays "What if we stopped pretending" written in September 2019 by #JonathanFranzen (https://www.newyorker.com/culture/cultural-comment/what-if-we-stopped-pretending) and "The Uninhabitable Earth" by #DavidWallaceWells from 2017. Finally, we reviewed some of the scientific data as quoted by these authors.
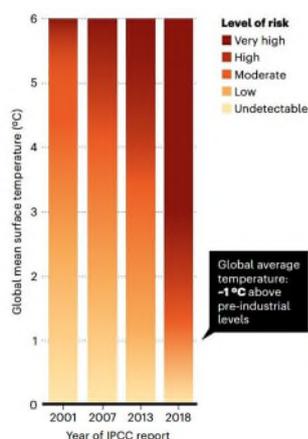
> What is their claim?

The basic assumption of the "It`s-too-late"-standpoint with regard to the #climatecatastrophe is straightforward: regardless of how successful we will be in reducing greenhousgas-emissions from now on, the self-reinforcing feedback-loops of   e decisive threshold for saving the human
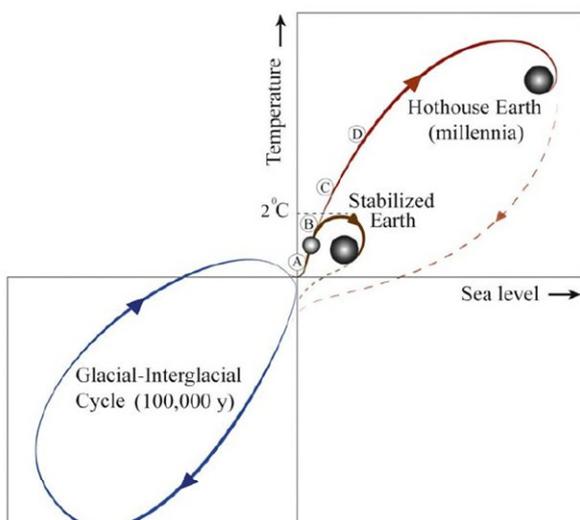
The related risks are described in detail by mainstream climate scientist in papers such as Nature (Lenton et al, 2019) or the US National Academy of Sciences (PNAS, Steffen et al, 2018). The chart above is taken from an article called "Trajectories of the Earth System", and it displays the risk that if we pass a global temperature growth average of between 1.5 and 2.0 °C, we run a severe risk of entering into a self-perpetuating Hothouse Earth scenario with average temperatures of 10 degrees and more above today and sea-levels 50 meters and more higher. These scenarios are not based on climate models alone, but even more so on palaeo-records of climatic circumstances in the geological history of the planet. As Lenton et al. phrase it: "Atmospheric CO2 is already at levels last seen around four million years ago, in the Pliocene epoch. It is rapidly heading towards levels last seen some 50 million years ago — in the Eocene — when temperatures were up to 14 °C higher."

In fact, the initial chart shown at the beginning of this article displays how the #IPCC, the Intergovernmental Panel on Climate Change, has dramatically increased lately its assessment of the risk we run towards a hothouse planet when passing the 1.5 – 2.0 °C threshold.

Hence, most the global community has signed the Paris agreement in 2015 targeting to stay below the 2 degrees and as close to the 1.5 degrees scenario as possible, allowing only (as of today, May 6th 2020, displayed by the MCC-climate clock) 321.5 more Gigatons of greenhousegases to be emitted for the 1.5 degrees target which, if emissions continue at the current rate, will have taken place within the next 8 years.

Greenland ice sheet
Ice loss accelerating

Arctic sea ice
Reduction in area

Permafrost
Thawing

Boreal forest
Fires and pests changing

Atlantic circulation
In slowdown since 1950s

Amazon rainforest
Frequent droughts

Coral reefs
Large-scale die-offs

◎ Tipping points

— Connectivity

RAISING THE ALARM
Evidence that tipping points are under way has mounted in the past decade. Domino effects have also been proposed.

Wilkes Basin, East Antarctica
Ice loss accelerating

West Antarctic ice sheet
Ice loss accelerating

SOURCE: T. M. LENTON ET AL.

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Even worse, due to the diverse tipping points, which are displayed in the chart above, the 2019 Nature paper continues to say: "Permafrost emissions could take an estimated 100 Gt CO2 off this budget, and that's without including methane from deep permafrost or undersea hydrates. If forests are close to tipping points, Amazon dieback could release another 90 Gt CO2 and boreal forests a further 110 Gt CO2. With global total CO2 emissions still at more than 40 Gt per year, the remaining budget could be all but erased already."

On top of that, Jem Bendell claims that due to the Albedo-Effect (less reflection of sunlight by water than be ice) the ice-loss in the Arctic will by itself have a global warming effect equivalent to between 25% and 50% of the entire CO2 emitted by human activity. And not the least, neither the exact amount of methane stored in deep sea arctic hydrates is known (Wallace states that it is "more than twice as much as is currently suspended in the Earth's atmosphere"), nor the time and speed when it will surface (anything from "within the next five years" to "only once we have reached above 5 degrees warming").

Hence it is not unreasonable to say, as Jem Bendell puts it: "It is a truism that we do not know what the future will be. But the evidence before us suggests that we are set for disruptive and uncontrollable levels of climate change, bringing starvation, destruction, migration, disease and war."

How precisely does the "hothouse scenario" appear in the apocalyptic scenario? Wallace mentions seven main reasons for our likely extinction: 1. Heat death, 2. The end of food, 3. Climate plagues and pandemics, 4. Smog, 5. Food, water and refugee wars, 6. Permanent Economic Collapse, 7. Poisoned Oceans. Or as Bendell phrases it: "With the power down, soon you wouldn't have water coming out of your tap. You will depend on your neighbors for food and some warmth. You will become malnourished. You won't know whether to stay or go. You will fear being violently killed before starving to death." In his view, therefore "social collapse is inevitable, catastrophe is likely, extinction is possible."

> What is their call for action?

When talking about the "call for action" by writers like Jem Bendell or Jonathan Franzen, we should make sure that we do not confuse them with advocators of so-called Inevitable Near Term Human Extinction (INTHE) who firmly believe that we have only five to ten more years to come at the most. Those find comfort in the (so they believe) supreme insight of their in-group that we are doomed, and in their better preparation for it in the sense of learning self-sufficiency and hoarding food, medication, or weapons. Apart from that, since we have no future anyway, for INTHE-followers it makes not much difference any longer how we behave today.

Jem Bendell and Jonathan Franzen, in contrast, want to point our attention to the risks involved when ignoring the true dimensions of the climate threats we have created. And

they want us to recognize that there are chances opening up once we start to give up on our hopes for salvation. What is their line of argumentation? As we have seen when discussing #climatefear in the second perspective of our workshop, if we tie all of our hopes and energies to the chance of "winning" the battle against #globalheating, we become extremely vulnerable to any news or action - or actor - that runs against this ultimate target. The sheer magnitude of the problem can easily overwhelm us. Our own powerlessness in preventing the #climatecatastrophe, combined with our own feeling of guilt since we are also part of causing it, makes us escape into psychological defense mechanisms like denial, aggression, intellectualization, projection, or compensation. Not the least, when ignoring the severity of the tragedy we have created, we are preventing ourselves from preparing for its consequences.

As Franzen describes it: "If you persist in believing that catastrophe can be averted, you commit yourself to tackling a problem so immense that it needs to be everyone's overriding priority forever. One result, weirdly, is a kind of complacency: by voting for green candidates, riding a bicycle to work, avoiding air travel, you might feel that you've done everything you can for the only thing worth doing. Whereas, if you accept the reality that the planet will soon overheat to the point of threatening civilization, there's a whole lot more you should be doing."

And in fact, as Bendell puts it, truly admitting to oneself the reality of #climatecollapse can unlock a new and more honest sense of community and of joint action in dealing with it: "In my work with mature students, I have found that inviting them to consider collapse as inevitable, catastrophe as probable and extinction as possible, has not led to apathy or depression. Instead, … I have witnessed a shedding of concern for conforming to the status quo, and a new creativity about what to focus on going forward."

So what is it, that Bendell or Franzen ask us to do?

Franzen writes:

"The impending catastrophe heightens the urgency of almost any world-improving action. In times of increasing chaos, people seek protection in tribalism and armed force, rather than in the rule of law, and our best defense against this kind of dystopia is to maintain functioning democracies, functioning legal systems, functioning communities. In this respect, any movement toward a more just and civil society can now be considered a meaningful climate action. Securing fair elections is a climate action. Combatting extreme wealth inequality is a climate action. Shutting down the hate machines on social media is a climate action. Instituting humane immigration policy, advocating for racial and gender equality, promoting respect for laws and their enforcement, supporting a free and independent press, ridding the country of assault weapons—these are all meaningful climate actions. To survive rising temperatures, every system, whether of the natural world or of the human world, will need to be as strong and healthy as we can make it."

Going into the same direction, Bendell asks for a deeper, more consistent and more comprehensive approach of dealing with the #climatecrisis, which he calls the "deep adaptation" agenda. He sees three main directions of this new focus: resilience,

relinquishment and restoration. Every measure, every company activity, every research paper, every government action and every individual volunteer engagement should contribute to any of the three dimensions of this agenda: Resilience asks us 'how do we keep what we really want to keep?', for example how can we maintain shelter, nourishment, heating and cooling during collapse, and which values and norms do we want to uphold when it happens? Relinquishment asks us 'what do we need to let go of in order to not make matters worse?', e.g. preparing for the withdrawal from coastline cities or giving up established habits of housing, consumption and communication. Restoration asks us 'what can we bring back' [in terms of competencies we have lost] to help us with the coming difficulties and tragedies? like re-localizing economies and communities or shifting livelihoods to an off-grid and self-sustaining environment. Further topics which Bendell sees of growing importance are our communicative capabilities (both technical and social) during a collapse, and any psychological, social or theological coping mechanism when facing a situation of near-extinction.

Both Bendell and Franzen maintain that despite the new adaptation focus, we must still make every attempt to prevent or to slow down #globalwarming in terms of reducing greenhouse gas emissions and restoring nature`s climate resilience. If nothing else, while nobody can predict the future of our planet with certainty, "continuing to work in the ways we have done until now is … like holding the gun to our own heads" (Bendell).

However, letting go of an unrealistic hope, in their view, does not imply giving up or surrendering the planet without resistance. Rather it helps us to take a broader look on how we can contribute to saving ourselves, and through this it can unlock new creativity, inspiration and resilience in our communities of action.

> What is their underlying assumption?

As always, that was the most difficult question to answer. Of course, the assumption seems to be the same as the claim: we have blown it. The time, when we could have done anything about climate collapse has elapsed. But what is beneath?

Bendell gives us some clues, when he talks about the feeling of sadness and despair that is coming up, when he really allows the facts to penetrate and to connect with all his senses. "Even four years after I first let myself consider near-term extinction properly, not as something to dismiss, it still makes my jaw drop, eyes moisten, and air escape my lungs. I have seen how the idea of it can lead me to focus on truth, love and joy in the now, which is wonderful, but how it can also make me lose interest in planning for the future." The form of denial, which he and Franzen describe with regard to the climate catastrophe, is a form of protecting us from our deepest fears. But to put our hopes of salvation against it, they say, is not helping us in any way. "In such contexts 'hope' is not a good thing to maintain, as it depends on what one is hoping for" (Bendell). Instead it is keeping us from leading the lives we should be leading.

Letting this sink in, a number of further assumptions appear:

1) Our established patterns of pretending and denying are understandable, but they stand in our way of preparing for what comes afterwards.

2) In that sense, since much of what we will need to be doing after the climate collapse would have most likely protected us from creating it in the first place, denying it also keeps us from truly preventing or reducing the climate collapse, too.

3) Taking this argument further, it strikes us that our whole lifestyle is built on the false assumption and self-deception that to our hearts, the climate collapse will not turn out to be as deadly as it seems. Otherwise we would have long ago seriously stopped it, wouldn`t we? So in fact, unless we really admit to ourselves also emotionally as a society how close we are to self-extinction and social collapse, we will keep not stopping it. In that sense, by pretending that climate change can still be reversed, we are prolonging it. By maintaining that we can still be saved, we are maintaining that we still have time. It is quite paradox.

> What is their positive and encouraging impetus?

There are some immediate positive take-aways from this perspective:

- Once I let go of the hope of saving our planet, it soothes my despair. It gives me freedom to do what I can to improve life on earth wherever I feel that it helps, without the pressure that it must contribute significantly and quickly to something way beyond my control. It gives me freedom to forgive myself for not being able to "do more". It gives me freedom to focus on the good things in life, and on my love for them. And it relieves me of having to be so strict and demanding with my "opponents", it allows me to be more tolerant and peaceful also with them.

- Freeing myself from this form of denial thus makes me more resilient to the shortcomings and failures in our efforts to avoid the climate catastrophe. This is not a binary code, not a black or white picture. There will be a future, as long as there will be a today. So if I succeed in improving the today, I am helping to create a better tomorrow, regardless of how it will look.

- Lastly, and perhaps this is the most exciting message about this perspective, we can see this as some kind of transition. Only accepting our extinction will enable us to prevent it. This is not a fight we can win by overcoming something. We can only win it by truly and emotionally understanding how small and vulnerable we are, and how vulnerable life is. (Only) then will we really start saving it. The sadness and despair which we will feel along this way is nothing we should avoid; in contrast, it will be a sign that we are on the right track again.

> **What is their frustration potential, how do they draw from our sources of energy**?

After having come to such strong and inspiring insights, there wasn`t really anything frustrating any more about this perspective. Surely, at first it may seem as a sign of resignation, of cynicism even, and of not caring. But in fact, it is not cynical, not at all. It has a deep truth in it which will help us tremendously in keeping up the motivation, the positive spirits, the energy and the confidence that it is important and useful what we do, regardless of the amount of CO_2 we will be able save.

Surely, it would be challenging to turn these findings into an action plan with specific things to do later on. But it was still early into the workshop, and for the moment we were as hopeful as ever that we would come to terms with the climate dilemma during the further course of the day.

V. "We are having the wrong conversation" – The solution is beyond #climateactivism

After reviewing the #deepadaptation approach as described by #jembendell and #jonathanfranzen, we turned to another perspective, which came as a real surprise to most of us. We looked into the book #climate by #charleseisenstein.

Basically, Eisenstein claims that #climatechange is not the problem we should be addressing. He sees the #climatecatastrophe as merely one other symptom of the root cause of the real problem: our comprehensive destruction of all living ecosystems of the planet. And this destruction, he states, is caused by our dominant philosophy of *separation.* In separation, in contrast to a philosophy of *interbeing*, we see ourselves as separate from nature, separate from each other, and because of this we do not realize (and do not act accordingly) that all the harm we are doing to the planet, its animals, plants, soils and water, is actually harm we are doing to ourselves.

Eisenstein`s perspective, despite its philosophical and spiritual grounding, added many very practical new ideas and powerful tools to our position on how to fight #globalheating.

- It shifted our focus to protecting and regenerating our natural ecosystems, which is part of the "classical" climate approach by removing CO2 from the atmosphere anyway, but not at its center.

- In addition, the book pointed our attention to the fact that by focusing on Greenhouse Gases alone, we may take many wrong choices by destroying the natural resilience of an ecosystem e.g. in favor of a large hydroelectric powerplant or huge biogas monocultures.

- Moreover, Eisenstein`s viewpoint made us aware that by fighting #climatechange in isolation, we are actually fighting ourselves, since we are all part of the problem as much as we are part of the solution. In his eyes, we cannot win this battle by fighting. Instead, if we want to overcome the current ecological crisis our planet is facing, there is no other way than to follow an approach of *interbeing*.

- And lastly, Eisenstein`s position was comforting in a way, since it emphasized that we do not and cannot ever know how the earth will really react to the rise in Greenhouse Gas emissions. Who can predict how resilient our natural ecosystems could possibly be, if we protected them better? Perhaps, even if Greenhouse Gas emissions keep rising, with a planet that is intact and stable, nature could absorb them and survive?

On an interesting sidenote, the book by Charles Eisenstein corresponds well with another book coming from a completely different sphere of science and business. In "A Good Disruption" by #MartinStuchtey, #PerAndersEnkvist and #KlausZumwinkel, three former #mackinsey partners, the authors write that 63% of all the depletion of our natural resources is related to material use, and only 37% to energy use. Hence, focusing on #greenhousegases and #climateprotection alone, also according to this highly mainstream publication, will not be sufficient for overcoming the existential environmental crisis of our planet. In their perspective, we also need to switch to a completely circular production and consumption model. Hence, although coming from completely different perspectives and

being based on very different assumptions with regard to the fundamental setup of our economic system, both books try to stretch our attention way beyond just Greenhouse Gas emissions.

In our workshop and in this further article, however, we focused on the book by Charles Eisenstein, since its emphasis of *interbeing* as a necessary state of interaction in order to fight the #climatecrisis is unique to this perspective.

> What is their claim?

Trying to boil down the chain of arguments on how to overcome the #climatecrisis, the bottom lines of Charles Eisenstein`s book are:

1. We have to understand the earth as one complex and connected system (he uses the #Gaia metaphor to illustrate this, stemming from Greek mythology, with Gaia being the personification of the Earth and ancestral mother of all life, and every element, animals, soil, water, air, sea, mountains plants, etc. being its organs).

2. The human species is one element of the earthly system and not distinct, not separate from it. The destruction of our natural resources is therefore caused by our story of separation, of force, of control and of striving to rise beyond nature. Hence, we can only save the planet once we re-learn that we are part of the earthly system, and that every harm we do to animals, soils, water, air etc… is ultimately harm inflicted on ourselves. We have to treat earth as sacred out of its own right, and not just because and when it is useful for us humans.

3. #globalwarming, therefore, cannot be understood in isolation or seen the root cause of our #climateermergency. Instead, it is just a symptom of the crisis of the whole system, interconnected with the other crises of #biodiversity, of #soildegradation and #desertification, #deforestation, contamination, air and water pollution, #acidification, etc.. It`s like a patient that has high fever because of a bacterial infection. If we only fight the fever but don`t treat the infection, there cannot be lasting success.

4. In dealing with the interconnected forces of nature, we can never fully understand the level of interconnectedness there is. Therefore, treating one element in isolation and through this hurting the complex system as a whole can likely do more harm than good. Building huge hydroelectrical dams and powerplants in order to produce "climate neutral" electricity, as only one example, is likely to cause much damage to the climate by reducing the CO_2 storage capacities of the wetlands and soil if the river system, destroying climate positive agricultural practices of native inhabitants, interrupting food chains with lasting impact on other climate relevant impacts on soil, water or air etc… which we are not even aware of.

5. At the same time, we have only just begun to understand the roles of wetlands, forests, grasslands or regenerative agriculture for the climate beyond just their CO_2-storage capacities, nor the significance of water circulation for the conditions of life on earth. Non-energy related measures that safeguard and strengthen the natural resilience of

comprehensive eco-systems are therefore of considerable importance to prevent the #climatecatastrophe, possibly far more important than Greenhouse Gas emissions.

6. When trying to prevent the #climatecatastrophe, we will not be able to do so by force nor by separation. There are no "good people" and no "bad people" in this story. Not one actor is only "part of the problem" and another only "part of the solution". We are interconnected. This crisis, like any crisis, can only be overcome together.

7. In essence, therefore, we can solve the #climatedilemma only by healing the planet in its totality, in its comprehensive interconnected eco-systems and in the interpersonal relations we have as human beings with each other.

There are some very rewarding quotes in the book which I would like to share in order to illustrate these lines of thought. They are retranslated from the German edition into English, therefore the wording is likely to differ slightly from the original text:

- "Do you really believe, dear reader, that you can beat the system in its own game?" (p. 29)
- "Ironically, narrowing our environmental problems to CO2 emissions alone can even support the continuation of CO2 emitting activities [by arguing that we compensate this gas field with a forest we plant elsewhere, or by arguing that we can only afford to reduce our emissions here once other regions and countries have committed themselves to reducing their emissions there, too.]" (p. 192)
- "We cannot force ourselves to compassion by scaring each other." (p. 205)
- By reasoning for environmental protection from a utilitarian perspective [because this animal or plant is useful for humans], we implicitly agree to the argument that the destruction of nature is OK as long as it is adequately paid or compensated for. "A money-oriented mindset will not protect us from the destruction of nature which was only caused by the money-oriented mindset in the first place." (p. 205)
- "In a world where children are treated with medication to learn better at school, where we drain wetlands or dump toxic waste, where human trafficking is widely common, where livestock is fattened in containers, where punishment is mistaken for justice, where wealth is distributed to less and less, richer and richer individuals, where people hate each other for the color of their skins, in such a world the climate is necessarily out of balance, too." (p. 217/218)
- "If the destruction of nature had the power to force us into changing towards a new path of saving it, it would have done so by now. ... Nature will probably not save us from ourselves." (p. 222 / 223)
- "The many crises we are encountering today are offering new choices to us. We may not be faced with a deterioration, but with an improvement of our quality of life. Our "standard of living" may be sinking, but standards are the outcome of quantitative measurement. ... One can see the decisions ahead of us as a transition from quantitative to qualitative values." (p. 278/279).

- "A future based completely on renewable energy is within reach, but we should not burden this thought with too utopian expectations. … Just switching the fuel source will change nothing about the deeper causes of human suffering and ecological destruction in the world." (p. 283)

- 'Greed' as in capitalist logic and 'hypocrisy' as in climate activism are the wrong enemies, since they are both only symptoms of an economic system that forces us to conform to a way of living (and destruction) which all of us – once we allow ourselves to think about it – don`t want. "In an environment of purposefully created scarcity we [both as individuals and as companies] are permanently under pressure to align our lives to the production of sellable goods and services" (p. 311)

- "[What classical economics call development has in fact created] a lack of time, a lack of beauty, a lack of intimacy, a lack of real connectedness to our community and to nature." (p. 307)

- "[By entrusting the solution of the #climatecrisis to the scientific consensus on #climatechange, we are in a dilemma situation, having to] defend the establishment which we are fighting at the same time." (p. 333)

- "The vision of a *green world* is not a fantasy, but it is not realistic either. It is a possibility. It takes the perfectly unreasonable dedication of every one of us to serve this possibility, and all of that without a guarantee of success. It requires us to trust in our knowledge that a healed world, a greened world, a more beautiful world is truly possible." (p. 370)

> What is their call for action?

Eisenberg lists 18 specific action items which can be initiated on various levels in order to work towards this healed, green world. Most of them would have to be organized on a political, some even on a national or international level (like realigning the world bank from the 'development' paradigm towards the goal of preserving and restoring the world`s largest nature reserves). But many steps can also be taken on a meso level (communities, NGOs, likeminded groups, or companies), like the restoration of local soil and water eco-systems, support of regenerative agriculture, reduction of plastics, changing the distribution systems of food, or fighting unemployment or crime by providing job perspectives in any of those fields.

On a more general note, he writes: "In the *story of interbeing*, anything happening to any part of the system is to some extent happening to the whole system. Therefore we are free to attend to any call for action which matches our passion, our concerns, or our talents, be it small or large, far reaching or unimpressive. Since everything we do contains the whole, we can be peaceful in our eagerness and patient in our urgency." (p. 218). In a sense, if we bring healing to the world, even if it has no apparent connection to Greenhouse Gas emissions, or not even to nature and the environment, it still brings healing to the climate.

> What is their underlying assumption?

We identified five underlying assumptions of Charles Eisenstein:

1. **We don`t know.** We have a lot of scientific data about the development of the climate, about CO2 and methane, about carbon sources and carbon sinks, about the deterioration of important eco-systems and about many other things. So we are in a good position to make good estimates and to base our decisions on information which is likely to be not entirely wrong. But we don`t know, what we don't know, therefore we have no idea about the incompleteness or about the possible errors of our knowledge.

2. **There is always hope.** Since we do not know exactly how far we have progressed on our detrimental path to the environment up to this point, nor how all the interdependencies will work out, and since we do not know how resilient life on earth can possibly be, once we change our course, there is always a reason to feel hope. And because of this, there is always a reason to take action and to change things around in the right direction.

3. **If we stay on our current path, including how we are fighting the climate crisis, failure is for sure.** Eisenstein does not really provide a lot of hope that real change is near, nor that it will be easy. He does believe that the chasm between the conventional, linear, "modernist" and separated world and a world of interbeing and love for nature and each other is decreasing. The divide will diminish further with every crisis and with every personal experience that our current trajectory of quantitative growth is not delivering on its promises. But it will take time, it is an ambitious path, and there is no guarantee of success. However, it is the only way how we can be successful at all.

4. It does not matter where we act to create a better world, as long as we are doing so from a foundation of *interbeing*. "The task is, to use the knowledge we have, in order to do our best, trusting that honest dedication will make a difference in the world. No serious act is ever wasted." (p. 353).

5. Healing cannot come from fear, but only from love and beauty, and from grief about the loss of it. While the dominant theme of #climateprotection has been a data driven fear of the consequences of #climatechange, this approach has not worked for an obvious reason. It was too abstract, and it only made us detach ourselves even further from the harm we are doing to nature. Instead, we must reattach ourselves again to life and nature and to our feelings for both. If we allow ourselves to feel this, we cannot do any differently but change.

> What is their positive and encouraging impetus?

The most positive and inspiring message about Charles Eisenstein`s book was for us, that we can stop fighting. We can stop fighting politics, fighting companies, fighting #climatechangedeniers, fighting ourselves for being so utterly inadequate climatewise in our own lifestyle. Fighting will not save us. We cannot win this cause against anybody by force. We can only win it together and in connection with each other and our common targets as human beings. Through our love for life. That was very comforting and relaxing.

Secondly, this perspective relieved us from this tremendous sense of urgency about #climatechange. 'We only have ten more years.' 'Compared to the #climatecatastrophe all other problems are irrelevant.' 'If we fail now, disaster will be irreversible.' ...

After having read the book, the sense of urgency is still there. But now it rests in a different frame of peace and patience, that whatever I do will have an effect. And that it is not in my hands how relevant this effect will turn out to be. The interdependencies of the earth, the mysteries of life are too complex to fully understand anyway. I have to trust, and I have to let go of my desire to control the outcome of what I do. Saving the world does not rest on my shoulders alone. I share this load with many, many others.

Furthermore, this perspective made the issue of #climatechange a lot more tangible. I do not need to work so hard for a huge objective which is way beyond my capacities anyway. I can work for it within my sphere of influence. My local river, grocery store, farmer, school, forest, road tree, youth club, meadow, newspaper, rooftop, healthcare center, employer, or family, they all offer an opportunity for me to become active, and to see concrete results which are all climate relevant. Whatever I do, if it is serious and if it is the best I can, then it makes a difference which I can measure, feel, witness and share with my friends and communities.

Last but not least, the book helped to put the public disputes and debates about #globalwarming into a completely new perspective. It does not really matter how far progressed climate change already is - the deterioration of our environment definitely is far progressed, and that gives us reasons enough to become active. Changing from fossil to regenerative energies will probably help, but it will not be sufficient to prevent the

ecological collapse of our planet, and in some instances it may even be counterproductive. On the other hand, earth may be more resilient than we can imagine, if we take better care of her. There is no way how we can compensate for the destruction of the environment in one place by buying certificates or even by restoring nature in a different place - we have to safeguard nature everywhere. Which does not mean, of course, that we should not also help to protect it in other locations as well.

> What is their frustration potential, how do they draw from our sources of energy?

To some extent, the task ahead of us becomes even larger and more overwhelming when following the perspective of Charles Eisenstein. If even completely withdrawing from fossil fuels will not save us from extinction, isn`t the solution even farther away than before? And is "love, peace and happiness" not overly ambitious on one hand, and ridiculous on the other?

These were thoughts we considered – and dismissed.

Eisenstein is right in his analysis that our current approach to stopping the climate crisis has not been successful. Being a #climateactivist carries a high risk of burn out or cynicism, since "the others" just "don`t listen". He is right that it is time to try something new. His approach may seem farfetched and unlikely to work - but it can hardly be less successful than what we have tried up to now. To us, his messages felt quite sustainable, heartwarming, comforting, sensible, comprehensive, and doable.

We are interconnected. This is nobody`s "fault". We are all part of the solution, as much as we are part of the problem. We will only change the direction, if we are moved by the beauty of life and by our love for it. If everyone of us manages to touch r > 1 other person in this manner, then, like the Corona Pandemic, the healing of the world will experience exponential growth.

VI. "It`s the economy, stupid!" - The business case and the "free rider- dilemma" in #climateprotection

After looking at the perspectives of the possible Climate Apocalypse on one hand, of a completely different direction for the solution on the other hand, we realized that one very important aspect was missing: Money. Isn`t money driving the world, and climate protection is not happening because it just doesn`t pay off?

Insolvent - negative profit in the world's raw material industries with natural capital costs included
Profit margin (EBIT) before and after natural capital costs, based on top-2 companies in each Morgan Stanley Composite Index category, Percent, 2012
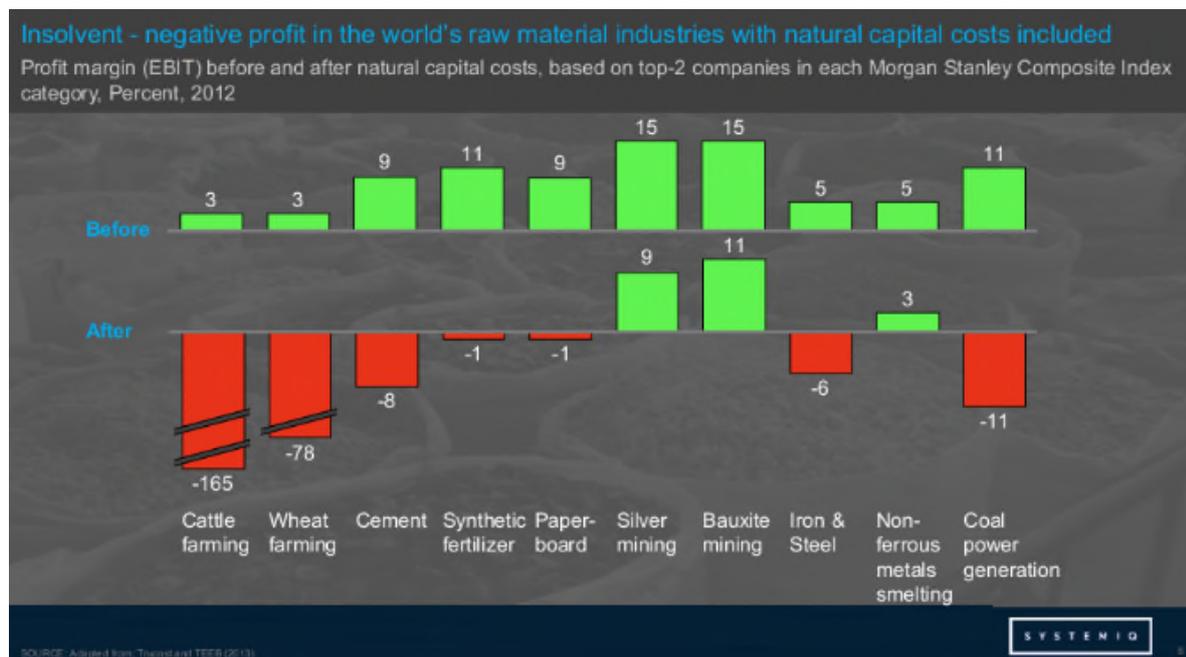
For this sixth perspective I mostly refer to the book "A Good Disruption" by #MartinStuchtey, #PerAndersEnkvist and #KlausZumwinkel, three former #Mackinsey partners, who also provide the introductory chart with profit margins by sector before and after costs of natural capital are included in the equation. In this book, the authors do not focus on climate change alone, but on the overall "bankrun on our planet`s resources" (p. 223) which our current economic system has created, as illustrated in the chart above. Since in their analysis 63% of all the depletion of our natural resources is related to material use, and only 37% to energy use, they focus on the need to install a circular, "cradle to cradle", "accretive" economy in general. In their model, clean energy is just one of three pillars of sustainability next to 2) a "circular material system" and 3) reducing waste through "High Productive Regenerative Systems" (e.g. better food distribution or city planning, sharing systems or virtualization). Their book contains a number of economic analyses valid also for the business case in climate protection itself.

Apart from that, the review of this perspective draws on literature by #majagöpel, #charleseisenstein and the assumptions of #modernmonetarytheory as described by #stephaniekelton and #usmanchohan (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3569416) and others.

> What is their claim?

Framing the perspective from the other direction, economists usually argue that any form of environmental protection requires additional effort and funds. Hence, businesses (and private persons alike) will always tend to maximize their profits (or comfort) when exploiting natural resources with the least possible fiscal or regulatory constraints, thereby "externalizing" (burdening the public with) the environmental costs of their behavior. In this line of argumentation, any business, any individual and any government that imposes restrictions on the exploitation of nature – for whatever moral, health or other reason – reduces its prosperity, harms its competitiveness, and limits its personal and entrepreneurial freedom.

On top of that, every environmental constraint which is not applied to every actor in a specific market, creates the so called "free rider" situation, where a behavior which is detrimental to nature is in fact rewarded twice: first by being allowed to externalize the costs, and second by enjoying a competitive advantage over those who don`t. Any actor who proactively exercises environmental protection – consequently argued - is therefore necessarily naïve and/or economically self-destructive.

In the case of climate change and fossil fuels, this situation is even more accentuated, since the price for fossil fuel is largely created through an artificially induced scarcity (by self-imposed limits in production by OPEC etc.). The argument by certain academics like the German Hans-Werner Sinn, for example, therefore goes that any investment in Green energy will only lead to a further decrease in the price of fossil fuel, leading to more consumption (free riders) in the rest of the world. Hence, in this view, there will be no positive effect to the climate, while only and severely harming the European competitiveness, economies, job markets and prosperity.

So how can there be a business case in climate protection? The answer is different depending on the level of actors: individuals, companies, or governments.

The individual business case of climate protection

On an **individual** level, I would like to argue only for those socio-economic segments of society who have a choice. As we can see from the two charts below – one from the UK and one from Germany - the carbon footprint of individuals tends to rise with income and with education. The more people can afford the alternatives (e.g. organically produced food), and the more people know about climate change, the more climate harmful they behave on average. This only seems to be paradoxical, but in fact it is easily explained since richer

people tend to live in larger houses, own more cars, consume and travel more. So lower income classes – whether voluntarily or not – already contribute their share. That does not mean that they cannot reduce their individual greenhouse gas emissions further, e.g. by reducing commutes, consuming more consciously or eating less animal products. But on average, they are already doing what they can. Let`s focus on the more privileged.
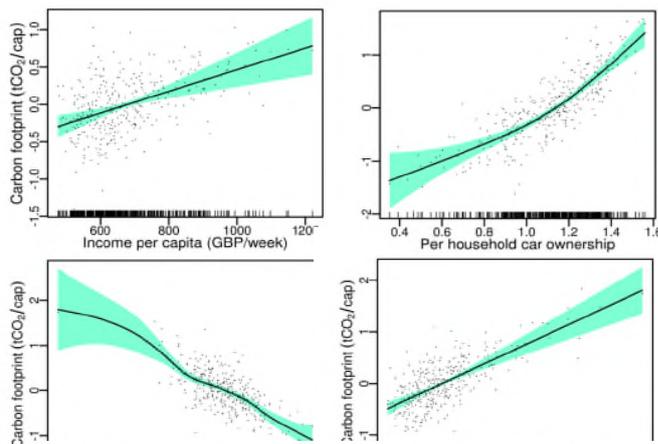
Abbildung 21:   Gesamtenergieverbrauch der Verbrauchertypen und Verbrauch nach Bereichen
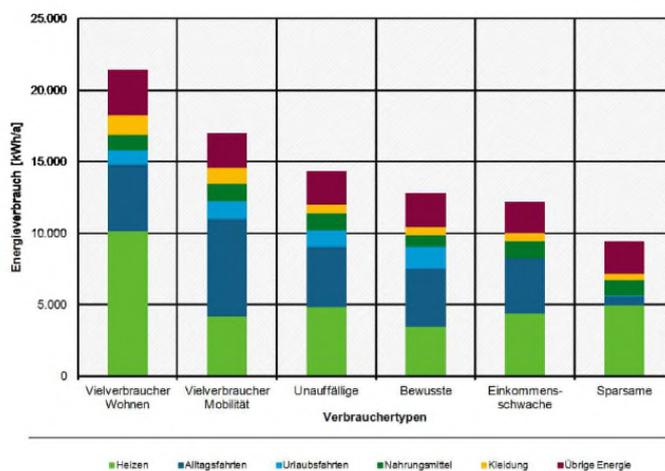
For the better off, when it comes to mobility, housing, food and electricity, **there really is no business case for no climate protection anymore.**

Let me give you a personal example: We have a household of six people and we live in a house, and our house has a roof. We are now in the process of putting photovoltaic power on our roof, which will be an investment of around 13,000 EUR (14,000 USD). We will then produce around 10,000 kwh clean electricity per year. Mathematically, that would cover our power (2,000 kwh), our heating (a heatpump will need around 6,000 kwh) and even an electric vehicle with 12,000 km per year (2,000 kwh), if we had one. This would save us 685 EUR electricity, 1,520 EUR natural gas and 1,100 EUR petrol annually. For the next 30 years, every year. Our investment would be covered after less than five years. If we depreciate the photovoltaic installation over a period of 20 years, it would generate an annual return of almost 12%. And we would save almost 8t CO2 per year.

Now of course things are not that easy, since the sun doesn`t shine at night, it shines less in winter, and we do not have an electric vehicle. So we save less, and we will still have to buy around 65% of our electricity from the utility company, while we sell our excess electricity to them at 9 Cent per kwh. Summing this up, our total savings and earnings combined will "only" amount to around 1,300 EUR annually, so ROI will be after 10 years, and the annual return will be between 4-5%. And we will still save 8t CO2 per year, since we will produce our own clean energy and buy the remaining electricity from renewable sources of our provider. **It`s a no brainer, right?**

Why is not every house owner doing that? Why are banks not pushing their clients into such investments? The size of a carport is large enough to generate the electricity you theoretically need for a small electric vehicle. You can even use your balcony to generate solar electricity. **It is inertia holding us back, and nothing else.**

Apart from generating electricity, I don`t want to dig into the climate details of individual consumption, waste or travel in this article. Knowing that a flight from Berlin to Sydney and back releases 8t CO2 (equivalent to 400% of an annual carbon budget allowed for a sustainable life on earth), it is obvious how relevant these aspects are. A trip from Berlin to Barcelona makes 700kg just for the flight. Compensating or offsetting these carbon emissions through financing GHG reductions or sequestration efforts elsewhere can do a lot of good; but since in the end we will have to do both, **reducing and offsetting** (please look at the article on perspective III for details), just compensating will not save the planet.

Foodprints by Diet Type: t CO2e/person

Note: All estimates based on average food production emissions for the US. Footprints include emissions from supply chain losses, consumer waste and consumption.. Each of the four example diets is based on 2,600 kcal of food consumed per day, which in the US equates to around 3,900 kcal of supplied food.

Sources: ERS/USDA, various LCA and EIO-LCA data

Shrink That Footprint

Only one thought: When it comes to food, there is no business case and no necessity in eating meat and drinking milk. As you can see from the chart above, changing our diet to almost vegetarian or semi-vegan would cut our greenhouse gas footprint for food in half from one day to the next, just by changing a habit. On a global scale, **livestock accounts for between 14.5% (FAO) and 51% (Worldwatch) of all Greenhousegas Emissions**, depending

on how you count. So there is no way how we can achieve a climate neutral way of life without shifting to a substantially more plant based diet.

The relevant question therefore, when it comes to our individual impact on climate change, is **how we define the quality of life**, and how we define a "sacrifice" in that regard. What is a good life, and what are the important elements of it? What can we let go of, without letting go of something that is essential to us? What will we gain if we do?

The individual framing for a planet friendly life need not be one of reduction, of "going backwards" or of missing out on something. Instead it can be a story of adding to the quality and beauty of our lives by consciously enjoying what we do, by changing how we do it, and by reducing the non-essential. Documentaries like **"Tomorrow"** (tomorrow-documentary.com/), **"Normal is over"** (http://normalisover.org) or **"2040"** (whatsyour2040.com/about/) have vividly portrayed, based on solutions already in existence, what high quality a planet-friendly and carbonneutral life could have.

Living in this manner, we may still fly sometimes, live in comfortable houses and apartments, eat a burger every once in a while, and buy a new piece of furniture with fulfillment. More importantly, though, while reducing pollution and GHG emissions, we can increase the quality of what we do and how we live in terms of personal relations, nature, time, lasting products, beauty, or the quality of food. There need not be a correlation between a good life and our individual carbon footprint.

The company business case of climate protection

On a **company** level, of course we can always argue that there is no business if there is no planet. Or that the costs of repairing and preparing for environmental disasters due to climate change far outweigh the costs of climate protection. Or that the economic disruptions due to environmental catastrophes or refugee crises caused by global heating will be so much more costly than anything we could do now to prevent them. But this line of thought does not save us from the "free rider" dilemma. It does not apply to the business logic of an individual company that suspects a cost disadvantage if it invests in green energy or resource savings in its production system.

But **the business logic of companies is not in favor of a climate harmful behavior any longer**. The climate friendly business logic is composed of five main arguments:

Figure 1.2 Solar and wind power: Expected cost reductions until 2030
LCOE development of CSP, solar PV, offshore and offshore wind technologies (G20 country averages), 2018-2030
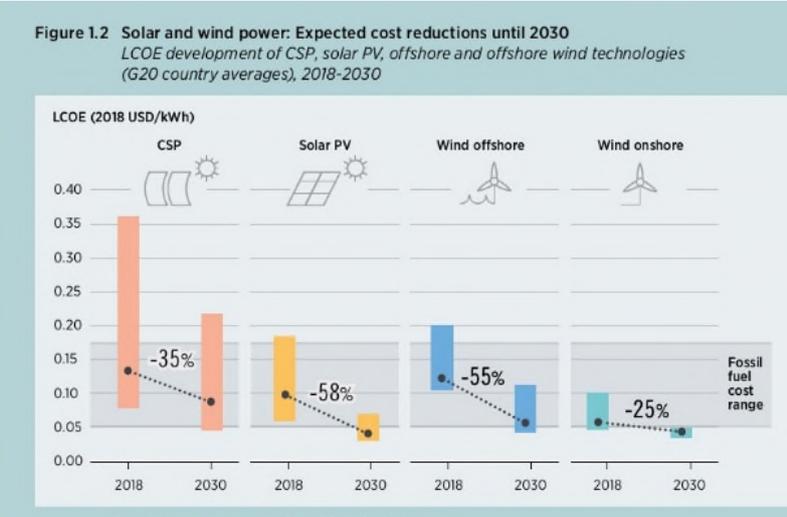
1. The business case of clean energy

As you can see from the chart above, clean energy has by now become **cheaper** than fossil sources. On top, renewable and decentrally generated electricity offers unprecedented **price stability** and market **independence**. Last not least, a **CO_2 taxation or pricing** mechanism is already imposed or will be coming soon across the globe, giving a further competitive edge to those who have already shifted their energy supplies to renewables. **Investors** know this and are more and more withdrawing their funds from GHG dependent companies, increasing the risk of "stranded assets" in fossil based energy systems.

2. The business case of a planet-friendly brand

In global markets with increasing price competitiveness, the brand of a company becomes the decisive differentiator in order to **protect margins**. Distinguishing a product or a service with a planet friendly balance will therefore become a **key sales argument**.

Internally, the ability to **attract, retain and motivate employees** will increasingly depend on having a positive impact on the planet, on creating purpose among employees, and on reducing the cognitive dissonance between „work" and „sense" in the workplace.

3. The business case of environmental risk-management

Better economic and environmental outcomes
Indexed (2012 = 100)
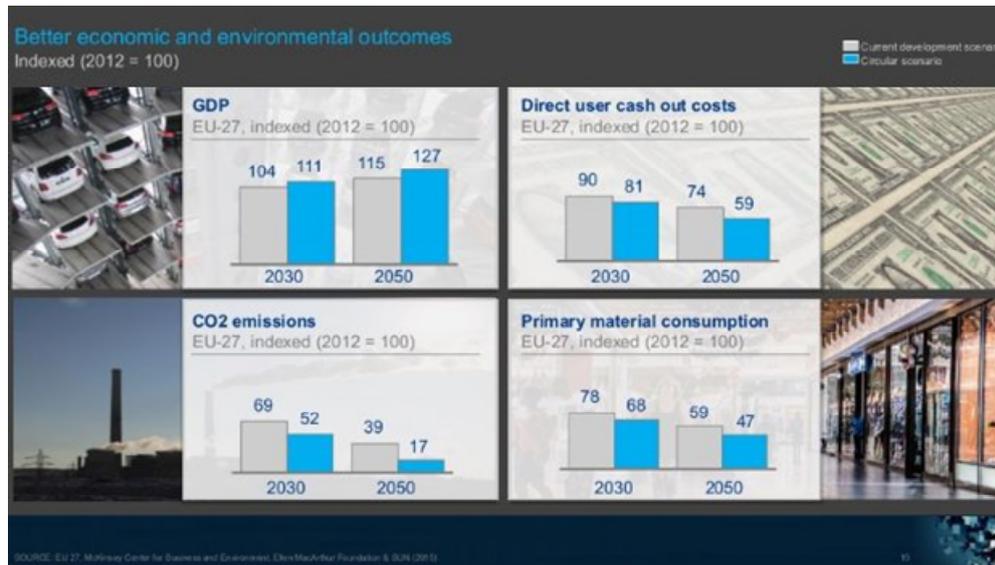
On a more systemic level, our current "bank run on our natural resources" (Stuchtey et al.) creates additional risks to companies which have to and can be mitigated by more pro-active protection of climate and environment, and by establishing more local- and self-dependent circles of value creation. These systemic risks include **resource scarcity**, **material price volatility**, **waste**, and **social and economic disruptions** due to **environmental hazards**. In contrast, consciously building resilience to these risks – as can be seen from the chart above – offers opportunities for significant **cost reductions**, for **technological and process competitiveness,** for **new market openings,** and for **higher community involvement and stability.**

4. The business case of sustainable customer-integration

With customers becoming increasingly saturated and products soon being 3D-printed and even more exchangeable, we are observing a "commoditization" of many markets, where margins are under pressure and price becomes the only remaining reason to buy a certain product or service. This in turn leads to a negative spiral to further reduce the costs, quality and longevity of products, producing more waste and environmental harm in the process.

A more **circular product cycle** can be a highly rewarding and promising way of turning this negative spiral around into a positive self-reinforcing dynamic. By delivering not products to own, but products as a service (e.g. a high quality washing machine which is leased out to a customer, serviced and taken back after a certain period), manufacturers, customers and the environment can benefit. The incentive will then be turned around to design and sell products of the highest quality and longevity, easy to disassemble and refurbish. According

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to the chart above by circular economists Stuchtey et al., the GDP of the EU27 could grow by 12% more in this circular scenario, with GHG emission reduced by 22% more, primary material consumption down 12% further, and costs to users down 15% more than in the current development scenario. These 15% can then be used both by manufacturers as additional margins, or passed on to customers as reduced prices or additional product features.

Furthermore, the best asset of this scenario for manufacturers is the "lock in"-effect created by it. In a data-driven integration of customers into the product life-cycle, as in the washing machine example above, there will be no incentive, and in fact high hurdles for customers to change to a new supplier. Whenever the lease of a machine ends, manufacturers are in the best position to offer a new and best suited follow-up product, as they know the customer, have all the user-data and have gained all the trust necessary to win also the next cycle of the contract directly and with no resellers in between. The competition will be not on price any longer, but on smart data management and customer satisfaction.

5. The business case of long term thinking

Last but not least, in order to accurately calculate the business case of any investment, one has to be clear about the time frame in which the investment has to pay off. The more short term I count, the better a business case of harming the planet and externalizing the environmental costs may look, as can be seen in the first chart of this article.

So what is the timeframe we use when assessing the business case for a company, and who decides about it? For how long can we cut the branch on which our businesses are sitting and still call this a positive business case? In how far are owners of a private company, or shareholders of a public one really driven by short term profits alone, and – if that is the case - why is it so?

There is plenty of literature on the advantages of long term thinking in management, as illustrated in the book "Go Long: Why Long-Term Thinking Is Your Best Short-Term Strategy", published in 2018. For private companies this seems self-evident, but even for listed companies, long term investors own 75% of US stock, for example. When talking about their book, the four authors claim that it takes good storytelling, both cognitive and emotional, and the right long term metrics, in order to convince owners of adopting and following long term strategies for their business: "Meaning-making as a leadership trait really comes out here." https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/leading-for-the-long-term#

What it all boils down to, in the end, is the story we tell ourselves about the reason and the purpose of our existence, both individually and as companies. If that story is long term and societal, if we are here to stay and to thrive as human beings, then climate protection has an obvious business case for every company. A "free rider" approach then just does not make business sense.

<u>The national and political business case of climate protection</u>

On the third level, what is the business case for countries and governments to impose restrictions on Greenhouse Gas Emissions, if it is harming the competitiveness of local industries? And who is going to pay for the transformation to a Green Economy?

Both questions are challenging to answer if steel, cement, chemical or automotive companies make up the bulk of your economy, or if you are dependent on revenues derived from oil, gas and coal.

But Answer A is easily given: If you are among the pioneer countries to successfully master this transformation, then you will eventually benefit from it both technologically and economically. There is no economic advantage in burning fossil fuel once we have managed to produce the energy cheaper from renewable sources. There is no economic advantage in destroying nature. As soon as the first countries have successfully mastered the shift, the others will fall in no time, losing trillions of stranded assets on the way. We better not hesitate.

Answer B seems more challenging, but in fact it is not, as long as the fiscal role of the government is mentally adjusted to its designated purpose. In our current financial system about 80% of our money is created by private banks by way of making commercial loans to their customers. By lending money, banks "create" money that hasn`t existed before. Governments, in contrast, are seen by the public as legal entities who "earn" money by raising taxes, and then spending it wisely. Debt, in this view, is something negative and irresponsible.

But this view is a myth. In fact, governments set the rules for the creation of money. By issuing public debt in their own currency, they can contribute to what the private banks are doing right now, with one very meaningful difference: they create money for a political, social, educational, infrastructure or ecological purpose. They, too, can generate money out of nothing, unless and until there is a risk of inflation. Public debt in this perspective is not something we owe, rather it is one instrument among many others available for managing the circulation and value of money and the allocation processes of the economy. This is the core of Modern Monetary Theory (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3569416).

<u>An excursion into Modern Monetary Theory (MMT)</u>

In her book "The deficit myth" Stephanie Kelton describes the main principles and conclusions of this perspective on money and on public financing of climate action:

1) Governments who can issue their own currency (and who are not owing money in foreign currencies to others) must not be seen like a private household. Contrary to a household, a city or a company, a financially sovereign nation state can never run out of money. If they issue debts, they can always pay it back just by striking a keyboard on their computers. Public debt is no concern to them. Only inflation is.

2) A public debt is not a sign of overspending. Any federal government deficit is equivalent to a surplus in the rest of the economy. It is therefore nothing negative as such. In contrast,

it can be a valuable tool available to governments to stimulate and to direct economies into whatever direction they want to direct them to. Only inflation matters - that is when there is too much money around to spend on too few available resources.

3) Taxes, in this view, are not financing government spending. Government spending needs no financing, since governments can issue their own currency, creating all the money they need. Taxes are only a tool to redistribute wealth, to create demand for a currency, to prevent inflation, and to incentivize a desired private and business behavior. Governments do not depend on taxes. "How are we going to pay for it?" therefore is not the right question: "In truth, there is only one way to pay for anything. All federal spending is carried out in exactly the same way – that is, the Federal Reserve credits the appropriate bank account(s)" (p. 239).

4) A trade deficit, and foreign nation states holding a piece of national debts in the national currency, consequently do not imply a dependency on other states. Any debt in its currency can be repaid by the stroke of a computer keyboard if a government wants to. In contrast, by running a trade deficit, an economy is in fact receiving goods from another country, and the only return they provide is an entry into a virtual excel-spreadsheet stating that a certain amount of money is owed. If trust in a currency is strong enough to support this, then running a trade deficit is in fact a pretty good deal. There can never be any dependency on money, as any debt can be repaid in a minute. The only real dependency can be on products.

5) The real deficits that matter are not budget deficits. The true challenge – apart from containing inflation – is to possess the real resources to provide for the kind of life a government aspires for its citizens: "The number that falls out of the budget box at the end of the fiscal year isn`t what's important. What matters is building a healthy economy so that all of us can thrive. … MMT teaches us that if we have the *real resources* – that is, if we have the building material to fix our infrastructure, if we have the people who want to become doctors, nurses, and teachers, if we can grow all the food we need – then the *money* can always be made available to accomplish our goals" (p 255).

Kelton later quotes former president John F. Kennedy to summarize this view on public spending: "The deficit can be any size, the debt can be any size, provided they don`t cause inflation. Everything is just talk" (p. 257).

The predominant view holds that governments depend on taxes to pay for their expenditures. This view is on one hand keeping financially sovereign nation states from adequately protecting their citizens and their economies and from investing sufficiently into a sustainable future. On the other hand, it is creating a dangerous power imbalance between the economy and the rest of societies, and their political representatives: "The myth that Uncle Sam`s [the federal government in the U.S.A.] deficit is cause for concern helps drive our very real democracy deficit: if our elected leaders believe they must either go begging to the rich before they can spend money on the public good – or that they must fight the rich for that same money – then of course the foibles and ticks and quixotic

political desires of our richest citizens will become the primary obsession of our governments." (p. 224)

I like to see every country and their currency like a separate game of "Monopoly". The money in this game is not coming from the players, it is coming from the central bank. If a player does not abide by the rules, or if he/she doesn`t like them and threatens to leave the game – then let them do it. They can take their money, the central bank has enough of that. But they have to leave their real resources (streets, houses, hotels) behind.

Governments are the conductors in the orchestra of our economies, they do not play an instrument themselves. It is their responsibility to make sure that the overall sound of our society and our economy is in harmony. Surely, when having to purchase products in other currencies, or when having to repay foreign debts, Modern Monetary Theory does not apply. But there is no reason, why the European Union, the USA, China, Japan, Brazil, Indonesia, Australia or India should not create debts in order to pay for the ecological transformation of their economies, and there is no reason why they couldn`t do so for the protection of the global rainforests as well.

Debts, money and currencies are tools, not an end in themselves. Their value is based on the amount of trust that we place in them, so they should be handled with great care. But if the planet dies, money has no relevance. "Ecological exploitation is a failure of imagination - a failure to imagine how we can simultaneously improve living standards, maintain a prosperous economy, and transition human activity so that we are protecting people and the planet" (p. 261).

> What is their call for action?

The call for action by arguing for the business case in climate protection is clear: It is economically sound to do so, so let`s do it. Striving to maximize individual profits and investing in GHG reduction is no contradiction. "Free Riders" are not only harming society, they are also harming themselves. It is not in their economic self-interest what they are doing.

However, the challenge lies in recognizing the difference between the "sticker price" and the real costs and benefits of (not) investing in the environment. In order to arrive to the above made conclusions, we had to take many factors into consideration which are not so easily spotted, which require deeper analysis, which are more difficult to measure, and which are for the most part more long term in their effect. So as long as business actors conduct a superficial analysis and follow a "hit and run" strategy, the case for climate protection is more difficult to argue.

Hence the call for action of this perspective, one level deeper, is actually to have a better, to have a more thorough look at the topic. To do a more comprehensive calculation and to factor in also those aspects which are more complex to measure and more long term to assess. This will also lead to the next perspective, the ideological one (#globalwarming is a left-wing strategy), which will be described in the next article.

> What is their underlying assumption?

There are four underlying assumptions leading to this perspective:

>> Profit is what is driving companies

Companies will always put profit first. Considerations for the wellbeing of their employees, their environment and their community only take place as far and as long as it may endanger the profitability of the company not to do so.

>> Competition and growth are at the center of companies' strategies

Companies act in a hostile market environment where partnerships are based on benefit (utilitarian) and only the fittest (often the biggest and most powerful) will survive. Growth and leadership are therefore imperative.

>> Companies should focus on their core purpose

In order to thrive in such a competitive world it is necessary to focus on core competencies and to follow a strict division of labor. Anything beyond designing, producing and selling the central products or services of the company is extra weight and should be kept to a minimum.

>> Companies follow their interest rationally

Companies will act based on facts and take rational decisions which are in their self-interest.

Now while there certainly is a lot of truth in these assumptions, we all know that they are not sufficiently describing how companies tick. Companies are made up of people, and people thrive on connection, on purpose, on thankfulness and on their emotions, not on profit and competition.

Therefore it is good to have arguments at hand to convince the rational, profit focused side in companies that investments in climate protection will pay off. Afterall, a good company going out of business is no help to the climate and a threat to its employees. On the other hand, climateactivists should be careful not to play on this theme alone, and thereby reinforcing it.

There is a lot more to companies than just profit. Why should they not grow their own vegetables and support the rainforests in Africa? Why should they not engage in climatefriendly housing or the commute of their employees and communities? Is profit their sole purpose, or what is the purpose of their profit? What stories do companies tell themselves about their destiny, how does "meaning making" take place?

Companies do ask themselves this question. "Purpose" is increasingly seen as one of the key drivers for company success (https://hbr.org/2019/09/put-purpose-at-the-core-of-your-strategy). Climateaction should invite and encourage companies to do so, and – while

always keeping the business case in mind – address the whole ecosystem of a company, not just the controlling department.

> What is their positive and encouraging impetus?

The encouraging impetus of this perspective is that a business mindset and a planet mindset can be reconciled. We don`t have to abolish the system in order to save the earth. That`s very good news!

We may still dream of a world where growth, profit and competition are not the dominant themes of our economies any more. But we don`t have to wait for this to happen before we start with #climateaction.

> What is their frustration potential, how do they draw from our sources of energy?

The frustrating side of this perspective is just as obvious: why are we not doing more to save the planet, if our business logic is not keeping us? If it is possible and if it makes sense to act in a planet friendly way, why are GHG emissions on a global scale still rising?

Are human beings just too shortsighted, ignorant and stupid? Or is it true that we are secretly all dominated by a small powerful elite financed by the fossil-military-agricultural-chemical-pharmaceutical-educational industry, which ruthlessly pursues its own destructive and exploitative agenda? If one looks at how obvious it seems to do "the right thing", it is not such a big step to believe in some kind of conspiracy which is keeping us from it. I will look at this perspective in the next article about the seventh perspective, the ideological one (#globalwarming is a left-wing strategy).

For the time being, we should all be very happy with these findings about the business case. What if it were really – as it seemed to be the case for so many years – self-destructive from a business perspective to operate in a climate-friendly manner? Having the profit-case on our side should give us enormous power and confidence. Now we "only" have to figure out how to reach more of the minds and hearts of decision makers with this message, and then turn this into climate action.

VII. "The Climate Change Conspiracy" – Tracing the ideological foundations of #climatechangedenialism

In this perspective, I will look at the ideological element in dealing with the #climatecrisis.

As we have seen from the six perspectives so far, the scientific and also the business arguments speak clearly in favor of fast and serious #climateaction. The paths to avoid or at least to mitigate #globalheating are all laid out, the solutions are more or less there, affordable and ready to use. Apart from preventing the #climatecatastrophe, the #climatefriendly alternatives also promise better air, soils and water, less damage overall to ecosystems and biodiversity, higher food quality, improved health, a more equal distribution of wealth, and more resilient communities. So why are they not pursued?

The answer to this question rests in ideological and strategic political alliances which are complex to trace and so far only scarcely researched. However, if we want to successfully influence political, business and personal decisions in the direction of #climateprotection, we have to better understand where resistance comes from, and what it is based on.

The following review draws on a variety of publications, such as a 2019 study by the German adelphi consultancy called "Convenient Truths - Mapping climate agendas of right-wing populist parties in Europe", the book #fakefacts by Katharina Nocun and Pia Lamberty, publications by the UK based NGO #ClimateOutreach, and articles by authors like Aaron McCright and Riley Dunlap, Lorraine Whitmarsh and Adam Corner, Matthew Lockwood, Larissa Deppisch, Bernhard Forchtner, Martin Hultman of the "Centre for Studies of Climate Change Denialism" (#CEFORCED), #CharlesEisenstein, or #CorneliaKoppetsch.

> What is their claim?

There are basically four different streams of reasoning why not to fight the #climatecrisis:

1) Not believing that a substantial degree of climate change exists

2) Not believing that climate change is being caused by human activity

3) Believing that we still have a lot of time

4) Believing that we have to act, but not agreeing with the proposed set of measures and policies.
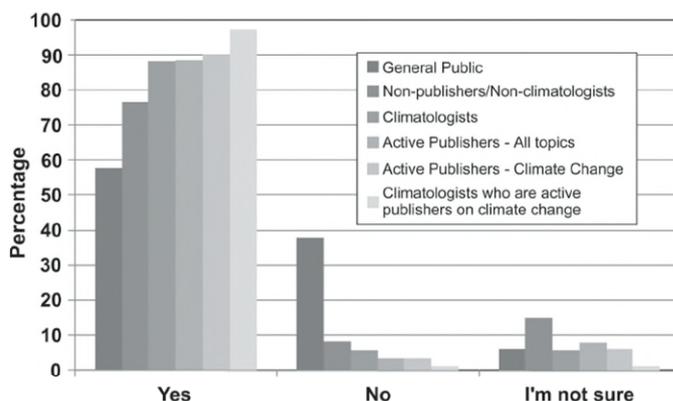
Source: Doran, Peter; Zimmerman, Maggie; „Examining the Scientific Consensus on Climate Change"; Eos, Vol. 90, No. 3, 2009, answering the question if Climate Change is happening and caused significantly by human activities, with "General Public" data being based on the U.S..

As we can see from the chart above, refusing to take climate action for reasons 1 and 2 does not really make a lot of sense, with more than 97% of all actively publishing climatologists agreeing that there is a substantial degree of climate change and that it is being caused by human activity. Another study by James Powell in 2012 found that between 1991 and 2012 even less, only 24 out 13,950 (0.2%) of peer reviewed scientific articles "clearly reject human-caused global warming or endorse a cause other than CO2 emissions for observed warming."

But **who researched that? Science did.** And this is the core challenge we are facing: if people don`t believe in the impartiality of the scientific system, then it does not matter whether 30%, 70%, 99.8% or 120% of all scientists agree with a specific data point. **The relevant topic to discuss then is not data**, research, or facts, **but belief systems, and where they are coming from.**

In a poll by the U.S. American Political Magazine "Politico" in December 2018 only 43% of all respondents in the U.S. said that they trust scientists "a great deal", when it comes to #climatechange. 31% did do "somewhat", 12% "not very much" and 6% not at all. There is little divergence in these views depending on age and gender. But sorted by political preference, only 26% of all Republicans said that they trust scientists "a great deal", 40% "somewhat", 19% "not very much" and 8% not at all. On the contrary, 62% of all Democrats trust scientists "a great deal", 23% "somewhat", 6% "not very much" and 4% not at all. Belief in the scientific system, accordingly, is – at least in the U.S. - to a significant degree based on the political agenda you follow.

Table POL24_1: *When it comes to climate change, how much do you trust the following?*
Scientists

Demographic	A great deal		Somewhat		Not very much		Not at all		Don't Know/No Opinion		Total N
Registered Voters	43%	(856)	31%	(611)	12%	(234)	6%	(118)	8%	(156)	1975
Gender: Male	43%	(396)	31%	(291)	13%	(119)	6%	(59)	6%	(59)	924
Gender: Female	44%	(460)	30%	(319)	11%	(115)	6%	(59)	9%	(97)	1051
Generation Z: 18-21	50%	(40)	14%	(11)	10%	(8)	12%	(10)	14%	(11)	81
Millennial: Age 22-37	48%	(248)	24%	(127)	9%	(46)	7%	(34)	13%	(65)	520
Generation X: Age 38-53	42%	(205)	34%	(166)	9%	(46)	6%	(30)	9%	(43)	491
Boomers: Age 54-72	41%	(307)	35%	(260)	15%	(112)	5%	(39)	4%	(30)	747
PID: Dem (no lean)	62%	(467)	23%	(168)	6%	(45)	4%	(28)	5%	(39)	748
PID: Ind (no lean)	37%	(221)	31%	(184)	11%	(67)	7%	(42)	13%	(76)	590
PID: Rep (no lean)	26%	(168)	40%	(258)	19%	(122)	8%	(48)	6%	(41)	637

Source: Politico / Morning Consult Poll of Dec 2018,
https://www.politico.com/story/2018/12/06/morning-consult-poll-voters-climate-change-1046063

In this line, only 21% of Trump voters are afraid of climate change, compared to 61% of the others. And only 34% of Republicans believe that climate change is caused by human activity, while 78% of Democrats do so.

Table POL23: *Do you think that climate change will pose a serious threat to you or your way of life in your lifetime?*

Demographic	Yes		No		Don't Know/No Opinion	
Registered Voters	42%	(839)	40%	(783)	18%	(353)
Favorable of Trump	21%	(173)	64%	(527)	15%	(126)
Unfavorable of Trump	61%	(645)	22%	(231)	17%	(185)

Table POL20: *Which comes closest to your view, even if none are exactly right?*

Demographic	Climate change is being caused by human activity		Climate change is a natural phenomenon		Climate change is not happening		Don't Know/No Opinion	
Registered Voters	58%	(1147)	30%	(589)	4%	(88)	8%	(151)
Gender: Male	57%	(526)	32%	(296)	4%	(41)	7%	(61)
Gender: Female	59%	(621)	28%	(293)	4%	(47)	8%	(89)
Generation Z: 18-21	62%	(51)	22%	(18)	8%	(6)	8%	(7)
Millennial: Age 22-37	60%	(314)	23%	(118)	4%	(23)	12%	(65)
Generation X: Age 38-53	58%	(285)	29%	(144)	4%	(22)	8%	(40)
Boomers: Age 54-72	57%	(422)	34%	(257)	4%	(31)	5%	(37)
PID: Dem (no lean)	78%	(586)	15%	(112)	2%	(13)	5%	(38)
PID: Ind (no lean)	58%	(342)	27%	(157)	4%	(21)	12%	(70)
PID: Rep (no lean)	34%	(219)	50%	(320)	9%	(55)	7%	(43)

If we look at this picture for Europe, we see a similar divide. When analyzing the voting behavior on 22 climate proposals between 2009 and 2018, we can observe that climate concern is by far the lowest at the right end of the party spectrum. However, both mainstream Conservatives and Liberals have voted far more climate friendly on a European level than most of these parties are doing in their respective home countries.

FIG 10

Position on climate change by political group (2009–2018)
counting votes for 22 important climate proposals
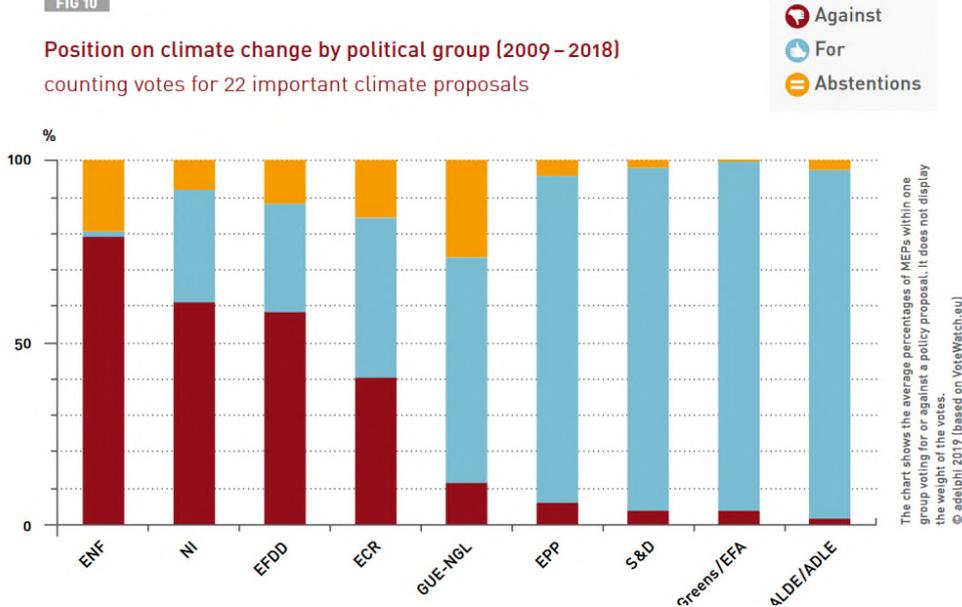
Against
For
Abstentions

The chart shows the average percentages of MEPs within one group voting for or against a policy proposal. It does not display the weight of the votes.
© adelphi 2019 (based on VoteWatch.eu)

Source: adelphi consult, "Convenient Truths, Mapping climate agendas of right-wing populist parties in Europe", Stella Schaller and Alexander Carius, 2019, with the political right wing being mapped on the left side of this chart, and vice versa

Looking ... f the right-wing populist parties ... the German AfD, the Dutch PVV or the British UKIP have voted straight against climate proposals, while other parties supported more mixed or even predominantly pro climate protection bills.
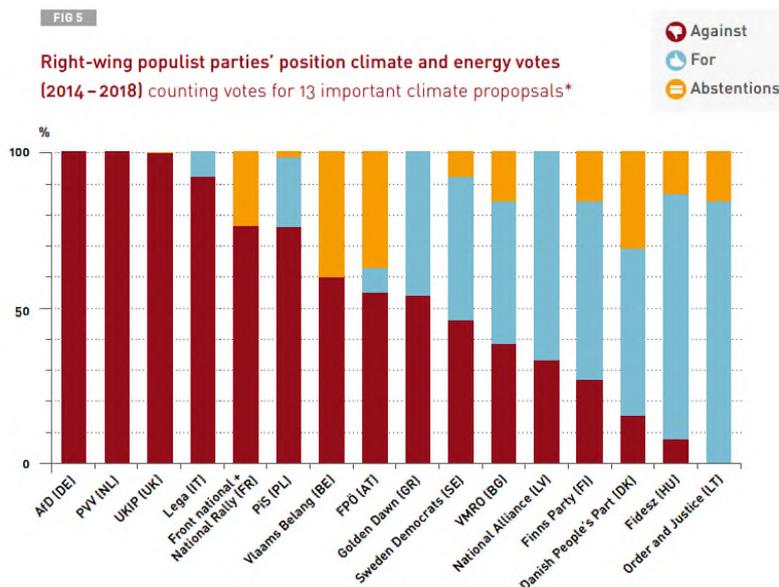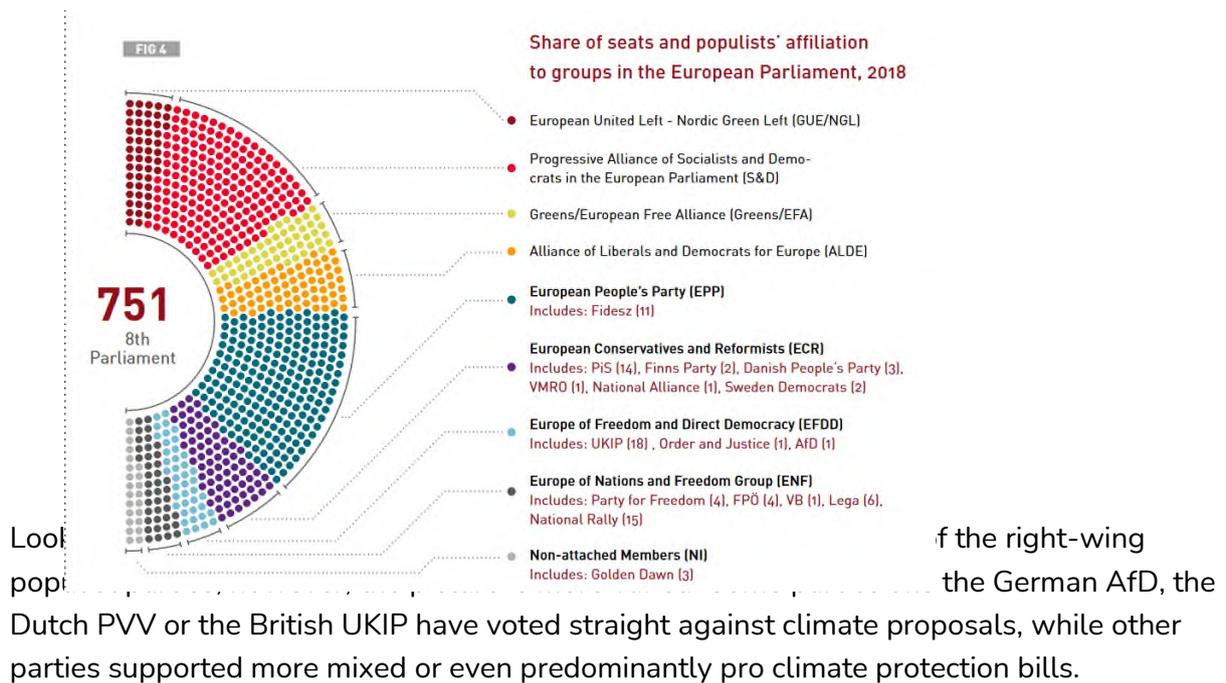
Analyzing their programs more in depth, accordingly, the above mentioned study by adelphi consult (published in 2019) does not portray a homogeneous picture: "Seven out of 21 right-wing populist parties deny the scientific consensus on climate change and its causes.

The most explicit climate science deniers are the German AfD and British UKIP, which go so far as to spread false information through press releases by drawing on 'alternative sources' that are rarely scientifcally credible. However, the majority of our sample (11 parties) is classified as disenaged or having inconsistent, sometimes ambiguous views, without openly rejecting climate science. This second group of parties includes, for instance, the French National Rally ("Rassemblement National"), Italian Lega as well as Polish PiS. Three parties affirm the scientific consensus, namely the Hungarian Fidesz, the Finns Party and Lithuanian Order and Justice."

So while there is a positive correlation between right wing populism and climate change denial, it would be too stereotypical to say that this is true in every country and for the same reasons. In India and Brazil, to name two further examples from international politics, the framing of a right wing populist agenda and the position towards climate change is also mixed, with Narendra Modi somewhat engaging to fight the climate crisis, and Jair Bolsonaro completely rejecting the scientific consensus on climate change, having appointed a Foreign Minster who calls #globalwarming a "plot by cultural Marxists".

FIG 1

Evolution of today's strongest right-wing populist parties in Europe
The chart shows the percentage of seats in the European Parliament, assigned to 19 right-wing populist parties

Legend:
- Other RWP parties
- Party for Freedom (NL)
- FPÖ (AT)
- Fidesz (HU)
- AfD (DE)
- UKIP (UK)
- Front national + National Rally (FR)
- PiS (PL)
- Lega (IT)

The chart does not consider parties relevant in the past or populists' overall share. The forecast 2019 is based on polls in which Europeans are asked how they would vote in a hypothetical national election.
© adelphi 2019 Based on national poll data from Polls of Europe 2018 and historical data from Europe Politique 2018

...ndia and Brazil, and looking at the forecast of further right wing populist growth in Europe in the chart above, three conclusions can be derived:

I. With their growing political presence, right wing populist parties pose a rising threat to an effective mitigation of the #climatecrisis,

II. In addition to their direct voting power, a more influential populist right also indirectly affects the public discourse and the political agenda of mainstream conservatives towards more climate change skepticism,

III. Since not every conservative mindset and not even every populist right voter totally rejects to take climate action, and – if they do – they don`t reject it for the same reasons, it makes sense to analyze their way of thinking in more depth, so that a more effective pro-climate communication strategy can be developed.

In order to approach such a strategy, three important questions need to be answered:

1. What is causing the science and climate skepticism among right wing populist parties?

2. Which alternative framings can be used on the content side in order to convince right wing populist and other conservative voters of the advantages of climate protection?

3. What strategies can be effective to address the root causes of climate skepticism, so that voters of populist parties can be won for a climate friendly political agenda also on the basis of their underlying motives?

<u>1. What is causing the science and climate skepticism among populist parties?</u>

Adherents of right wing populist parties are often labeled as those "left behind" in the process of globalization. Refusing to support climate action, accordingly, is then attributed to those voters fearing that they will lose their jobs and have to pay higher taxes, gas prices and electricity bills because of the energy transition.

However, while there is certainly also a socio-economic aspect involved and education plays a role, when we look into the U.S. election results, the main differentiator between Trump- and non-Trump voters was color, with gender, education or income playing only a minor role.

race and gender	clinton	trump	other/no answer
white men 34%	31%	62%	7%
white women 37%	43%	52%	5%
black men 5%	82%	13%	5%
black women 7%	94%	4%	2%
latino men 5%	63%	32%	5%
latino women 6%	69%	25%	6%
others 6%	61%	31%	8%
24558 respondents			

education and race	clinton	trump	other/no answer
white college graduates 37%	45%	48%	7%
whites no degree 34%	29%	66%	5%
non-whites college grads 13%	72%	22%	6%
non-whites no degree 16%	76%	20%	4%
24558 respondents			

Source: CNN – Post Election Poll of the US election results in 2016, https://edition.cnn.com/election/2016/results/exit-polls

As Mathew Lockwood puts it: while the socioeconomic "structuralist account might explain why populist voters and parties dislike some climate policies, it does not by itself offer a compelling explanation of why they embrace a wider scepticism about and hostility to climate science. For this, I would argue that we must also look at the ideological content of populism for such an explanation." In his analysis, he suggests three potential motives for this ideological divide:

a) an increasing suspicion towards a supranational, cosmopolitical agenda,

b) a growing gap towards the 'political elites' and the rising complexity of decision-making,

c) the repeated experience of special interest groups and "nefarious minorities" pursuing their personal targets while pretending to follow the public good.

Climate skepticism, in this line of thought, is not really related to climate science. It is the reaction to a sense of losing out vis à vis a globalized world which threatens the personal status and identity.

Other writers point in the same direction. Dunlap / McCright (2011) state that "conservative white males are significantly more likely than are other Americans to endorse climate denialist views", and that their denial serves mainly "identity-protective" and "system-justifying" purposes. Jylhä / Helmer (2020) assessed that "the strongest predictor of climate change denial was an index capturing exclusionary and anti-egalitarian preferences (opposition to, e.g., multiculturalism and feminism), followed by traditional values and Social Dominance Orientation [an adherence to group based hierarchies]. Or as Cornelia Koppetsch (2020) phrases it:

"We are talking about different previously more or less established segments of society who are disappointed with globalization and the rise of cosmopolitan elites, and who feel that their entitlements and privileges, which they had taken for granted, are jeopardized. The new right-wing parties thus mobilize a coalition of losers by symbolically promising to restore the old social order." "They operate so successfully since they do not focus on a single theme, such as 'social justice', but act polythematically by linking previously unconnected social problem areas and crisis phenomena (such as the world financial crisis, the 'refugee crisis', the corruption of the elites, emotional alienation), to which they now offer their core projects of re-nationalisation, re-sovereignty and re-communitisation as an answer."

Climate change denial then merely serves as a vehicle for anti-modernist, anti-establishment and anti-scientific sentiments, which in return reinforce the belief that the whole issue of climate change is just another invention by the establishment to deprive the (in their self-perspective) jeopardized segments of society (predominantly white male conservatives) of their heritage. Being "left behind", in this sense, is a feeling, not a fact.

This conclusion is supported by Larissa Deppisch, who analyzed the German extreme right AfD-electorate. In her summary, the frustration mainly stems from a "perceived deprivation" of status and identity, rather than from a real disadvantage in terms of the personal financial situation. As a result, she believes that if we want to better understand and battle right wing populist and nationalist agendas, we have to employ a more socio-psychological toolbox rather than real economic benefits. According to her, in order to win back the right, we need to better tackle and accomodate emotions like fear, jealousy, neglect, powerlessness, loss of control, inferiority and shame.

The ideological coalition between right wing populists and climate change deniers is accelerated further with targeted funding by the fossil industry, as Martin Hultman describes it: "An overlap in funding and financing might not be as visible. But it is there. Funding from extractive industries also goes into right-wing think tanks, which are creating

this type of distrust of climate science, which then also fuels this type of right-wing nationalist climate change denial." Extensive climate skeptical media coverage by right wing news companies (e.g. Fox News Network) round out this picture (a report found that "of the 247 segments between January and June 2019, 212 or 86% were dismissive of the climate crisis, cast warming and its consequences in doubt or employed fear mongering when discussing climate solutions.")

In summary, the level of climate change denial by followers of populist parties "demonstrates the shocking extent of public alienation from institutions of authority." (Charles Eisenstein). It displays the diminishing belief within societies that the further globalization of economies will be to the benefit of societies, and that those in charge are actually pursuing the public good. It can be understood as a sign of outrage by segments of society who feel that their entitlements are in danger. In short: Climate change denial is not about climate change.

This, in turn, offers a completely new set of opportunities on how to communicate towards climate change deniers within populist parties and their electorate.

2. Which alternative framings could be used on the content side to convince right wing populist and other conservative voters of the advantages of climate protection?

So how can we win the Populist Right and other conservatives for climate protection in terms of content and arguments?

Expecting that they may 1) not acknowledge the existence, or at least not the urgency of #globalheating, 2) place no trust in science, 3) strive for a weak state, 4) not believe in supranational institutions like the EU or the UN, 5) be fearful of enormous costs which will result in higher taxes, 6) suspect a quasi-socialist wealth redistribution, 7) believe that climate action is economically suicidal until the rest of the world is also fully committed as well, 8) think that climate change was made up as a cover up to bring more climate refugees to their countries, 9) see the oil-, coal-, and gas-business as part of the national identity, 10) denounce environmental legislation as a quasi-marxist tool to confine personal and entrepreneurial freedoms, 11) insist to protect the competitiveness of national industries by keeping energy prices low, 12) want to keep everything "as it used to be", 13) receive funding from the fossil- and agrobusiness, or 14) claim that wind turbines and solar panels destroy traditional cultural landscapes and scenery, expecting all these arguments, what can we say?

Keeping in mind that we are on ideological terrain, no discussion about facts and figures makes sense. It just doesn`t. Warning about the threat of climate tipping points, appealing to global climate justice, downplaying the economic importance of the national fossil or heavy industries, or advocating international emission trading schemes will also most likely not do the trick.

Instead, we have to find out what our conversation partners or audiences care about. We then have a great array of arguments available to choose from in order to make a climate

friendly agenda attractive also to a right wing populist or conservative mindset, as suggested by the adelphi study, an article by Whitmarsh / Corner and the Climate Outreach publications:

1) Regional income generation through decentral renewable energy, 2) improving energy independence from abroad, 3) gaining national technological leadership and economic competitiveness, 4) themes of "green patriotism" like preserving nature, woods, native animals and plants, 5) improving the quality of life, 6) reducing waste, 7) restoring community, or 8) breaking the power of multinational electricity and fossil corporations. Rather than emphasizing the alarming threats to our wellbeing, the complexity of the challenge, and the pressing need to change our lifestyles, it is more promising to focus on themes like 9) continuity and safety, 10) the simplicity of "a good life", 11) local and practical concerns and solutions, 12) nostalgia, 13) balance, and 14) the shared desire to create a better future for our children.
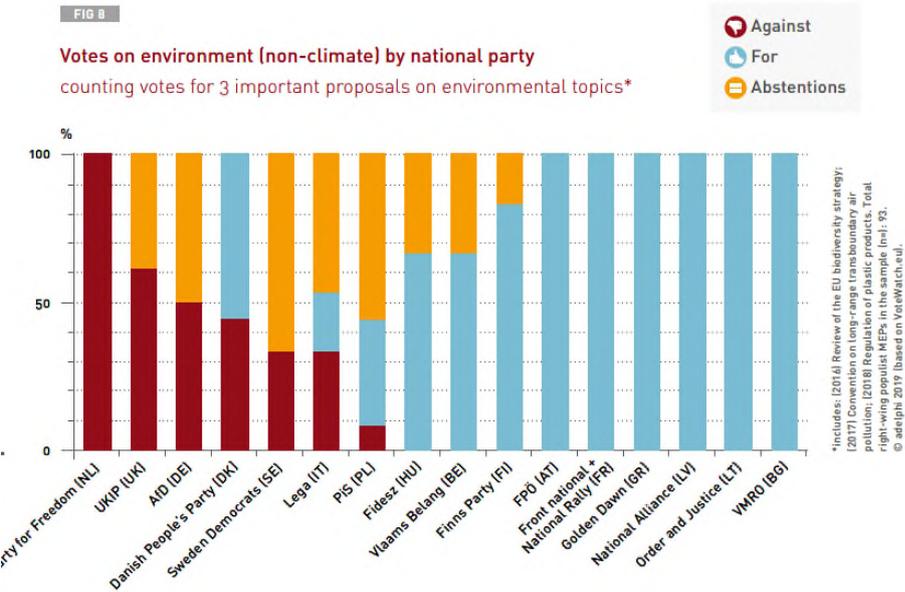
Source: adelphi consult, "Convenient Truths, Mapping climate agendas of right-wing populist parties in Europe", Stella Schaller and Alexander Carius, 2019

Right Wing Populists and other conservatives often care about the environment, as can be seen from the voting behavior of the European extreme right on other environmental – non climate – policy proposals in the past.

In addition, and this brings us to the third question, it helps to improve the quality of our conversation to listen to the arguments of our counterparts, and to ask them further about their specific worries and concerns as well as about their targets and aspirations.

And it further adds to the balance of the discussion to admit that our climate activist positions are based on ideology, too. Our ideologies (e.g. our view is rational, the scientific facts are true, climate risks are real, Greenhouse Gases are the main problem, politics / markets can fix it, a multilateral agreement is the best framework for a solution, the sacrifices involved are without alternative, we are all equal, the state should take care of it, etc…) may be less obvious to detect and shared by more people, and we may have more data points to support them. But our view is just as subjective as theirs, based on implicit beliefs, assumptions and narratives, possibly flawed. It would make us more convincing if we were as self-critical with the bases of our own opinion as we want our political adversaries to be with theirs. As the adelphi report puts it: "Taking concerns seriously and acknowledging the grain of truth contained within populist narratives – from corruption to the repercussions of neoliberalism – is an important step to regain trust."

3. What strategies can be effective to address the root causes of climate skepticism, so that voters of populist parties can be won for a climate friendly political agenda on their underlying motives?

However… When we are dealing with right wing populists, their views on the climate crisis tend to defy facts, they are shortsighted, frequently ignorant and simplistic. They often lean towards crude conspiracy narratives. Their inferiority complex and/or paranoia usually drive them to a xenophobic, sexist, chauvinist and often racist and violent attitude.

This is not an academic issue to write theoretical papers about. It describes my personal reaction when I see them act or talk. I find them inhumane and appalling. They reject everything I value, they ruin our planet for profit or for hatred, and they destroy the future of my children without even feeling ashamed about it. They make me short of breath, desperate and upset. I do feel morally and intellectually superior. But at the same time it renders me helpless and fearful when I see how many of them there are and how much destructive power they have.

But how successful can I be in reaching common ground towards climate protection with the populist right, when I speak and act from this position? And how do they see me? In their eyes, I probably come across as arrogant, naïve, and out of this world. Possibly condescending, pushy, aggressive even. Most likely disconnected with reality, and also ignorant, disinterested in their problems, since they are not my problems.

There is very little we will achieve together towards meaningful climate action as long as we don`t bridge this gap.

So we have to look behind their words to see what they are striving for, the positive impetus, the neediness in their arguments, even if it is very difficult for us. Only then can we come up with answers and proposals that have any meaning to them. Only then can we build any kind of understanding and trust. That does not mean that we should accept the content of what they say. But we may be able to react in a more productive manner, less focused on "making our point", and more oriented towards gaining trust and moving forward into the right direction.

If we look at the more personal level of their claims, we can see that they are eager for acknowledgement and recognition, for certainty and stability, for belonging and control. We can answer these yearnings by listening to their distress, by enquiring for their ideas to solve it, and by sketching out visions of a better, brighter, more equal and more sustainable future, for us, for them, for their peer groups, and why not for our nation as well. For every nation.

If we instead stress the risks of a climate disaster, highlight the dangers we are in, emphasize the urgency for change and the importance of federal and global policies created by international elites, if we withdraw ourselves from any kind of personal connectedness and label their resistance as uneducated and immature, then we are doing exactly the opposite of what we should. We are stirring nothing but resistance.

> What is their call for action?

The call for action of this perspective, therefore, is threefold:

1) Let`s focus on arguments which appeal to our audience rather than to us. As the saying goes: "The bait must be attractive to the fish, not to the fisher".

2) Let`s conduct our discussions with the populist right in the sphere where they mostly belong: that of emotions, not of facts.

3) Let`s turn the downward communicative spiral around. Instead of trying to beat them more effectively than they beat us, let`s start building trust and understanding.

Pointing into this direction, the above mentioned adelphi study phrases it that way:

"Disillusionment creates a vacuum that is filled by appeals to fear and opportunism. The populist tide is a signal that we need success narratives which convey trust in political change. ... Communication on climate change and policy needs to find a new aesthetic and a new optimistic myth that connects to lived social realities. Appealing to positive emotions and hope through stories of change will be key for redefining solidarity and gathering popular support for a just transition."

Nobody should expect that this redirection in our communicative strategy will produce miracles overnight. In a political setting as we witness it in the U.S. and many other areas, with a political divide so deep and self-reproducing that there seems to be very little source of mutual understanding left, the others won`t change easily just by us adjusting our communication. However, after reviewing the ideological grounding of climate change denialism in this article, it is quite obvious that – and why – the currently dominating communicative approach has failed. If we maintain it, more failure is certain.

In order to adjust our communicative strategy, I would like to offer an approach developed by Otto Scharmer and the Presencing Institute called the "Theory U". As you can see on the chart below, the negative U moves from a closed mind (denial) via a closed heart (hatred)

towards a closed will (fear), thereby generating manipulation, abuse, and ultimately destruction.
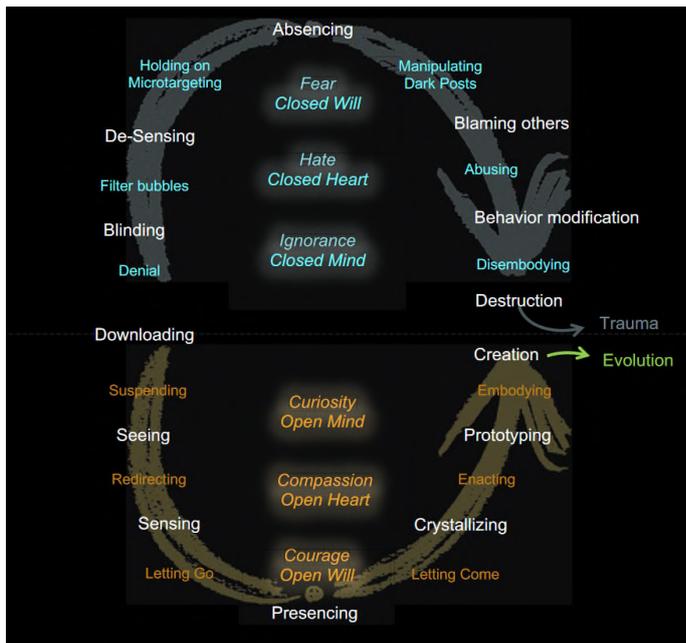
We can overcome and turn around this self-reinforcing negative dynamic with a positive "U-Curve", helping us to bring the mutually best possible future into existence:

"As the [lower half of the] diagram illustrates, we move down one side of the U (connecting us to the world that is outside of our institutional bubble) to the bottom of the U (connecting us to the world that emerges from within) and up the other side of the U (bringing forth the new into the world).

On that journey, at the bottom of the U, lies an inner gate that requires us to drop everything that isn't essential. This process of letting-go (of our old ego and self) and letting-come (our highest future possibility: our Self) establishes a subtle connection to a deeper source of knowing. The essence of presencing is that these two selves—our current self and our best future Self—meet at the bottom of the U and begin to listen and resonate with each other.

Once a group crosses this subtle threshold, nothing remains the same. Individual members and the group as a whole begin to operate with a heightened level of energy and sense of future possibility. Often they then begin to function as an intentional vehicle for an emerging future." (https://www.presencing.org/aboutus/theory-u)

Translated into a real-life and everyday situation, this means: instead of hitting each other with arguments (denial), accusations (hatred) and threats (fear), we have to connect (see), listen emphathically (sense) and reach a moment of plain togetherness (presence). From this point forward we can start building up meaningful solutions and climate action along

the lines which we both care about. We don`t need to agree with their ideology in order to do so. We can say that we are not OK with their conclusions. But that should not be the end of the discussion, but the beginning of looking for better ways how we can both get closer to what we actually want.

This may then result in more solar panels and a wind turbine, or in reducing waste and saving heat costs, in organizing car and ride sharings, in inviting the local politician for a Q&A session on regional economic development, in a used clothes exchange, an urban gardening project, in protecting a forest or cleaning a park, in improving the living conditions of animals, restoring the local river, or whatever.

Winning the populist right for our target of protecting the planet and creating a better world along this path will certainly not be easy. Believing that it is possible may sound awfully naïve. But can we achieve it any other way?

> What is their underlying assumption?

There are three underlying assumptions in this perspective.

I. We are not as far apart as it seems.

Surely, the political solutions proposed by the populist right are fundamentally different from those by most climate activists. But in their origin they, like us, have the feeling that something in society is not working and needs to be fixed. They, like us, struggle with their daily lives and the challenge to earn enough money and do something fulfilling at the same time. They, like us, feel that wealth and power are not fairly distributed. They, like us, believe political decision making is too detached from the needs of the people. They, like us, have fears about the future which they are trying to cope with. They, like us, care about something. They, like us, want a better world for their children. They, like us, prefer to live on a healthy planet. We basically want the same. The rest is ideology and a legacy of mutual and intentional misunderstanding, which can be overcome.

II. We are in a fundamental crisis of meaning.

The severe ideological divide on climate protection points to a deeper disintegration of our core narrative – and to a new paradigm emerging. Charles Eisenstein calls it **the myth of separation and of the human ascent**:

"Because we are (in this myth) separate from other people and from nature, we must dominate our competitors and master nature. Progress, therefore, consists in increasing our capacity to control the Other. The myth recounts human history as an ascent from one triumph to the next, from fire to domestication to industry to information technology, genetic engineering, and social science, promising a coming paradise of control. That same myth motivates the conquest and ruin of nature, organizing society to turn the entire planet into money." (https://charleseisenstein.org/essays/the-conspiracy-myth/)

It is no surprise that right wing populism and climate change denialism rage the worst in countries like the U.S., Brazil or – to a lesser extent as well - Australia, where the "BBB coalition" (bulls, bullets, bible) forms the backbone of power, representing a colonial story of violently subduing native land and people in the name of White and Christian supremacy. Global Heating stands in the way of this story, and that is why it must be so passionately opposed.

As human beings, regardless of the color of our skin or our political leaning, we have been shaped by this narrative and we play our role in it. If we want to overcome the climate crisis, we have to overcome this story.

III. If we fight them, we fight ourselves

Eisenstein offers the "story of interbeing" as a new framework of meaning. In this concept, we realize that we are connected not only with the earth, but also with each other, regardless of how far we may be apart geographically or politically. So by fighting the other side, trying to control or suppress their power, we are not only playing by the rules of the old paradigm. We are actually fighting ourselves.

The new story emerging can thus act as a guideline for a new communication strategy towards climate protection: listening to where the other is coming from, searching for common ground and shared visions, experiencing our connectedness with the planet and with each other, jointly looking for escape routes out of the destructive nature of existing routines. Some adjustments to the current financial, political and regulatory setup of our societies would certainly help in this quest; but we don`t need to wait for that to happen in order to start our own realignment. Since we are connected, we will make a difference.

> What is their positive and encouraging impetus?

Having understood where the populist right is coming from, now it at least makes sense. It is still sad that they have chosen their denialist path, and it will surely be a challenge to influence them to the better. But at least there is a logic to it that we can work with.

In addition, it is helpful to understand that we are in essence on the same side, and that we have been shaped by the same narrative: Trying to control the other, using power to pave our way, emphasizing the separation between us, campaigning for technocratic solutions to the problem which will not alter the underlying theme of domination and alienation from the planet and from each other.

The new narrative as an answer may be a "small step narrative", but I can start within a sphere that I can influence: myself.

> What is their frustration potential, how do they draw from our sources of energy?

Firstly, this is no "quick fix" solution. If we want to save the world by changing how we interact with others, we have a very long way to go. The dominating myth of separation and control has had thousands of years to gradually build up, how can we dare say that we can change it within a generation? But then, every crisis is a chance, every fight an opportunity. The climate crisis may be deep enough to make us transform. In every argument, once we acknowledge that the others, that`s us, then the others will recognize that, too. So from one we will get to two, from two to four, from four to eight, and we will reach billions in no time.

Secondly, what will we do if the others act violently, disgustingly, or in public, or if they are manipulating the frame of reference, so that what they do and say cannot go undisputed? Aren`t there moments where we have to fight back? This is a line that can only be drawn individually and for each situation differently. Of course, self-defense is legitimate, and so is strategy. But we have to be sure about our targets: Are we acting in order to build a better world, or are we acting to defend ourselves because we are feeling hurt and fearful? Are we acting in a useful manner in order to reach our targets, or is our behavior protective to ourselves, but harmful to what we are striving for? If the latter, is there a way how we can we be protective to ourselves and useful to our targets? Are we setting a pattern, or are the patterns setting us?

So this perspective is scary to a point, since it feels very new. Will I be big enough to do this? But it is not frustrating. It`s huge, since just pointing at the others will have no positive effect. On the other hand it`s small, since by changing ourselves, we will change the world.

So we know the ideological chasm that is separating us. We know how to adress it. Sounds like a plan. But is ideology the only reason why we are not acting to prevent the #climatecatastrophe anywhere near to how we should? What else is keeping us from meaningful #climateaction as individuals? We will look at this question in the next and final perspective.

VIII. "The absurdity of a double life" – Reframing the relevance of individual #climateaction

Do the seven perspectives described so far explain sufficiently why we are not reacting to climate change as we should?

We have seen what we need to do in five of these perspectives. And we have seen that we are not doing it. The trends still point into the wrong direction, and all our commitments are way below what it would take to reverse global heating. Some of our inaction, as we have reviewed in the second perspective, can be attributed to feelings of fear and powerlessness. Some resistance, as described in the seventh perspective, can be accounted for with ideological explanations. If we reject modern times and all the uncertainty and ambiguity that goes along with it, we may reject climate change as an element of it. But there must be more to it in order to understand the collective climate paralysis of our entire species.

What would need to happen so that we start taking the climate threat as seriously as we must? Even if politics or managers are tied too much to specific interest groups, why don`t we increase our pressure on them so that they do? As voters and consumers we should have the power to redirect our trajectory if we really want to. But do we? Or are we hopeless? Or just helpless? Or both?

In order to develop better strategies on how to fight #climatechange, we need to understand better why the strategies so far have failed. The following review makes this attempt, drawing on a number of statistics plus literature by Kari Marie Noorgard, Per Espen Stoknes, #luisaneubauer and Alexander Repenning, #majagöpel and #charleseisenstein.

By calling this article "The absurdity of a double life" I am following Kari Norgaard, who borrowed the term herself from Robert Lifton when writing about societal coping strategies with the nuclear threat and the experience of the Hiroshima atomic bombings: We know that our lives can end at any moment, yet we live as though we do not know this.

This article sketches out how this mechanism of societal self-deception works with regard to the climate threat, and how we can possibly escape it.

> What is their claim?

In most surveyed countries, majorities see climate change as a major threat

Global climate change is a ___ to our country

■ Major threat ■ Minor threat □ Not a threat

Country	Major threat	Minor threat	Not a threat
Greece	90%	6%	4%
South Korea	86	9	3
France	83	14	3
Spain	81	13	5
Mexico	80	11	6
Japan	75	18	4
Argentina	73	11	10
Brazil	72	9	12
Germany	71	23	4
Kenya	71	18	9
Italy	71	16	8
Netherlands	70	22	6
Sweden	69	26	4
Philippines	67	18	13
Hungary	66	26	6
Canada	66	25	9
UK	66	23	7
Tunisia	61	18	16
Australia	60	29	9
U.S.	59	23	16
South Africa	59	20	16
Indonesia	56	20	12
Poland	55	31	10
Russia	43	33	18
Nigeria	41	26	21
Israel	38	40	18
MEDIAN	68	20	9

Source: Spring 2018 Global Attitudes Survey. Q22d.

PEW RESEARCH CENTER

63

As we can see from the survey above of the renowned Pew Research Center, Climate Change is seen as a major threat by vast majorities of most countries across the globe.

|	
TOTAL 'NOT A SERIOUS PROBLEM' (1-4)	6 / 6 / 8 / 9 / 9
TOTAL 'A FAIRLY SERIOUS PROBLEM' (5-6)	14 / 18 / 22 / 21 / 21
TOTAL 'A VERY SERIOUS PROBLEM' (7-10)	79 / 74 / 69 / 69 / 68
DON'T KNOW	1 / 2 / 1 / 1 / 2
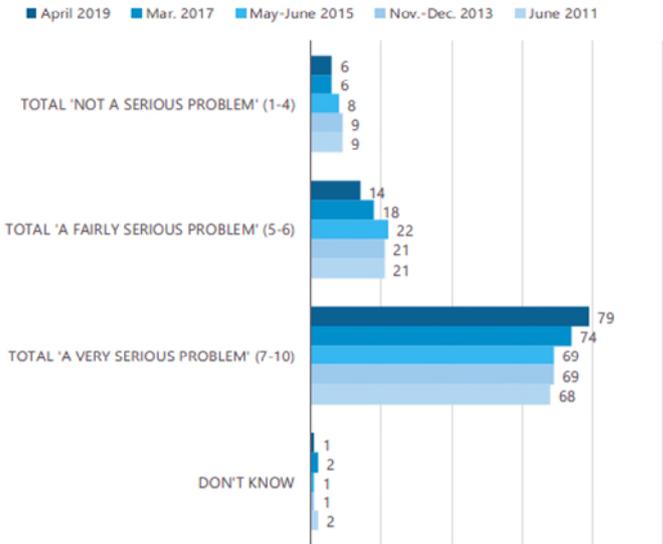
In line with this, a comparative study conducted by the European Union, as can be seen in the chart above, found that 79% of respondents in the EU see Climate Change as a very serious problem (between 7 am 10 on a scale from 1 – 10), with an additional 14% calling it "fairly serious" (5-6), and only 6% seeing it as neglectable (1-4).

However, when asked about who is responsible for tackling Climate Change, only 36% agreed that they are also personally required to act. 64% delegated this responsibility to politics, administrations, environmental groups, and companies.

|	
NATIONAL GOVERNMENTS	55 / 43 / 42 / 48 / 41
BUSINESS AND INDUSTRY	51 / 38 / 35 / 41 / 35
THE EUROPEAN UNION	49 / 39 / 35 / 39 / 35
YOU PERSONALLY	36 / 22 / 19 / 25 / 21
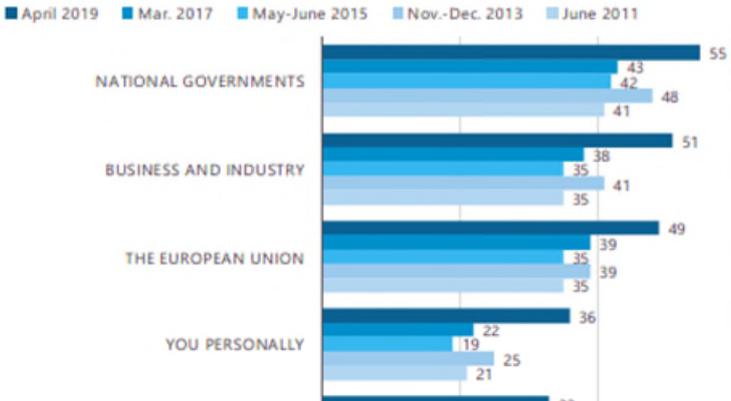
So we have to take a closer look. First of all, we see in the first chart of the European Commission that the perception of Climate Change as a "serious problem" did not increase dramatically (from 68% to 79%) between 2011 and 2019.

Since 2013, concerns about climate change have increased in many countries

Climate change is a major threat to our country
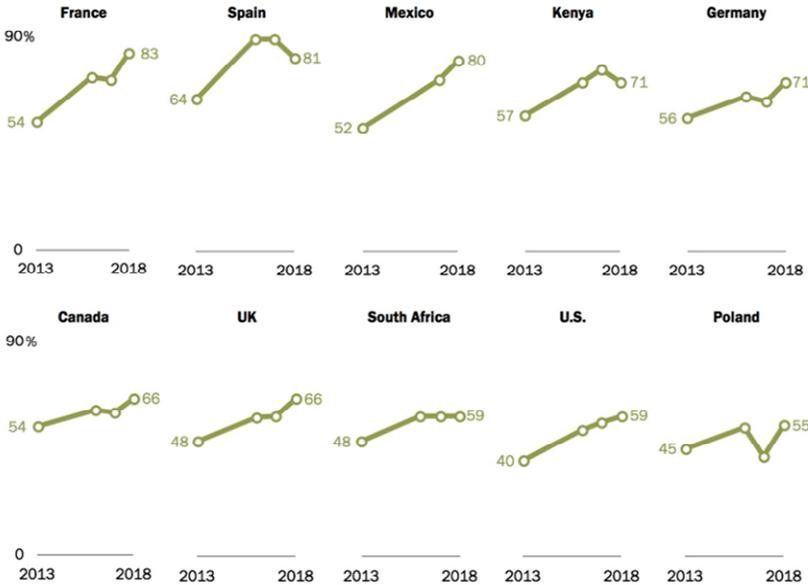
Note: Countries shown experienced a 10 percentage point change or greater over this time period.
Source: Spring 2018 Global Attitudes Survey. Q22d.

PEW RESEARCH CENTER

In some countries even, as the second chart above of the Pew Research Center shows, concern for Climate Change even dropped in some years despite rising evidence of global heating. This was the case for example in Germany, France, UK or Poland in 2016 and 2017, when a high number of refugees fled to Europe and other topics such as globalization, identity, terrorism and migration dominated the headlines. Or it happened in Spain in 2018 after the Catalan parliament declared independence from Spain.

Across much of Europe and North America, climate change is a top concern, but so are ISIS and cyberattacks

___ is a major threat to our country

■ Top choice

|	Global climate change	ISIS	Cyberattacks from other countries	North Korea's nuclear program	Russia's power and influence
Greece	90%	69%	63%	63%	33%
France	83	87	67	55	40
Spain	81	75	59	59	41
Italy	71	80	45	56	20
Germany	71	68	66	47	30
Netherlands	70	67	72	39	42
Sweden	69	61	55	41	40
Hungary	66	59	35	51	26
UK	66	64	64	40	45
Poland	55	59	53	53	65
MEDIAN	71	68	61	52	40
Canada	66	54	57	47	32
U.S.	59	62	74	58	50
Russia	43	62	36	30	—
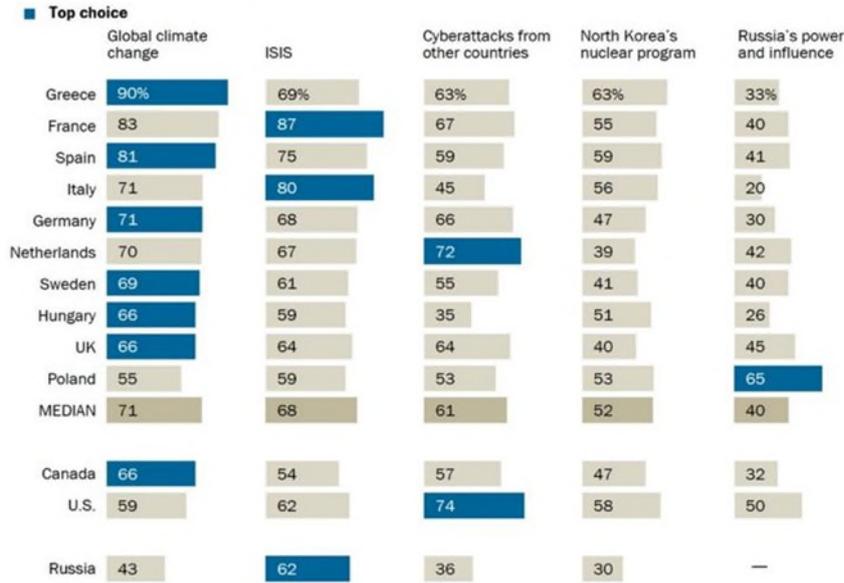
Source: Spring 2018 Global Attitudes Survey. Q22c-g.

PEW RESEARCH CENTER

This is in line with the third chart by the Pew Research Center survey as can be seen above, which shows that other worries such as Islamist Movements, international cyberattacks or North Korea`s nuclear program reached very high levels of agreement as well. The same variety of "prime concerns" holds true for the European Union, as can be seen from the chart below:

QB1a Which of the following do you consider to be the single most serious problem facing the world as a whole?

(% - EU28)

■ April 2019 ■ Mar. 2017 ■ May-June 2015 ■ Nov.-Dec. 2013 ■ June 2011

	April 2019	Mar. 2017	May-June 2015	Nov.-Dec. 2013	June 2011
POVERTY, HUNGER AND LACK OF DRINKING WATER	27	28	30	35	28
CLIMATE CHANGE	23	12	15	16	20
INTERNATIONAL TERRORISM	15	24	19	8	11
THE ECONOMIC SITUATION	12	9	16	24	16
ARMED CONFLICTS	8	9	9	4	4
THE INCREASING GLOBAL POPULATION	7	6	4	5	5
PROLIFERATION OF NUCLEAR WEAPONS	4	6	2	3	3
SPREAD OF INFECTIOUS DISEASES	3	3	3	3	4

66
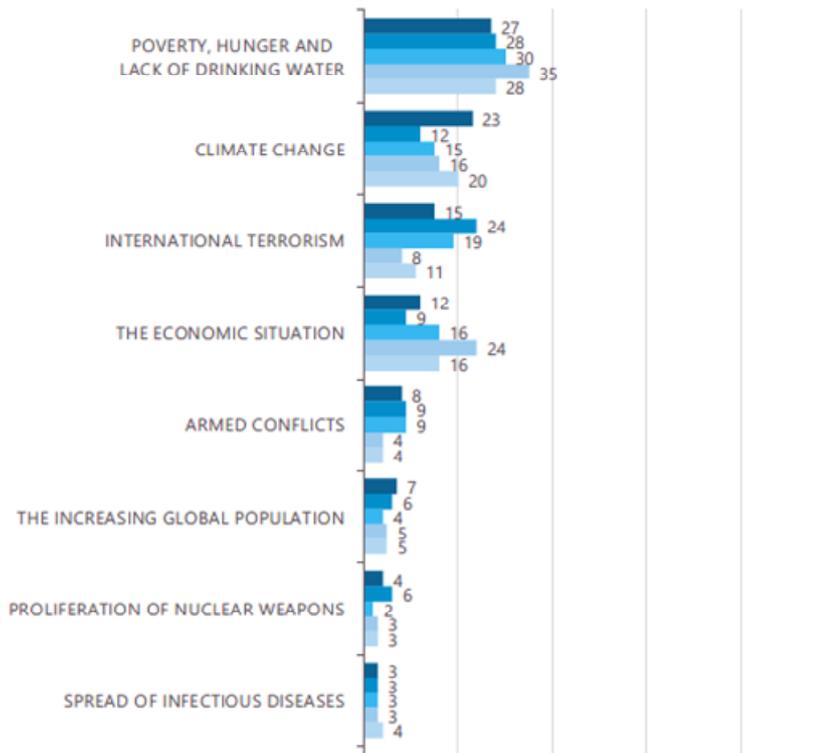
Consequently, only 41% of all Germans, as can be seen from the next chart below, were actually "afraid of the consequences of climate change" in 2019:

Die Ängste der Deutschen

So viele Deutsche fürchten sich vor den Folgen des Klimawandels

Gesamt	41%
Ost	45%
West	41%
Frauen	45%
Männer	38%
14-19 Jahre	35%
20-39 Jahre	43%
40-59 Jahre	43%
ab 60 Jahre	40%

Befragt wurden 2.446 Personen ab 14 Jahren

Quelle: R+V-Infocenter, "Die Ängste der Deutschen 2019"
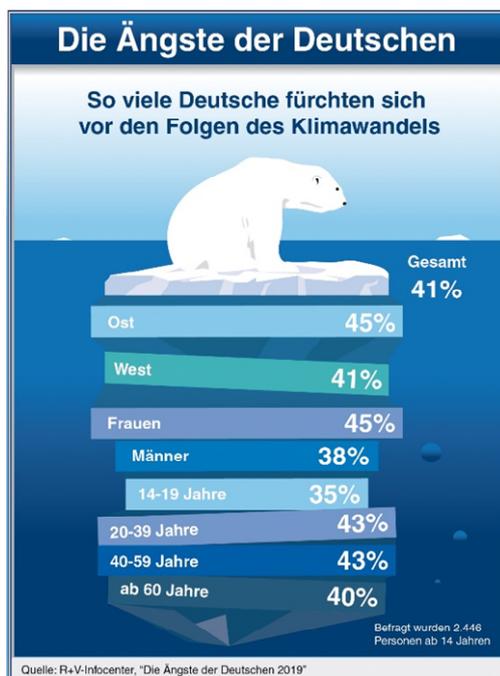
So while Climate Change is of increasing concern to the populace across most of the globe, it is not necessarily seen as more dangerous than other problems. The existential threat of the topic is nowhere near to being understood. On top – or perhaps because of this - the responsibility for solving the problem is largely "outsourced" to those who hold positions of authority.

Not surprisingly then, individual behavior in practice is not seeing dramatic changes towards more climate friendliness. To use Germany as an example, where a high concern with Climate Change (between 70% and 80%) is prevalent, less than 20% of all private households purchase their electricity from renewable sources (so called "Ökostrom"). The market share of organically grown food is still below 6%, less than 2% even for meat. The average annual meat consumption has been steady at around 60 kg per person for years, which is more than twice as much as recommended by the German Dietary Society and hugely harmful to the climate. The number of vegetarians is at less than 10%, while only about one percent prefer a completely plant-based (vegan) diet. The average engine output of new passenger cars has increased from 130,5 horse powers in 2010 to 153,4 hp in 2019, with the market share of electrical vehicles in 2019 being less than 2%. It should be 100% electrical, though, given the average lifecycle of a car, if we want to be at a 100% electrical fleet in 15 – 20 years from now.

Likewise, the number of vacations by Germans spent outside of Europe (involving long distance airtravel) has gone up by more than 26% between 2010 and 2018, with 2019 having seen another 3% increase in intercontinental departures from German airports. Only 2% of airtravel is compensated for in carbon offsetting projects at NGOs like #atmosfair, #myclimate, #climateneutralgroup or #southpole.

Fernreisen 2018 – Marktanteile nach Weltregionen

Fernreisen		
Jahr	Reisen	Marktanteil
2010:	4,5 Mio.	6,5%
2018:	5,7 Mio.	8,1%

Basis: Urlaubsreisen (5+ Tage), nur Fernziele; Summe der Ziele rundungsbedingt über 100%
Quelle: RA 2011, 2019 *face-to-face*
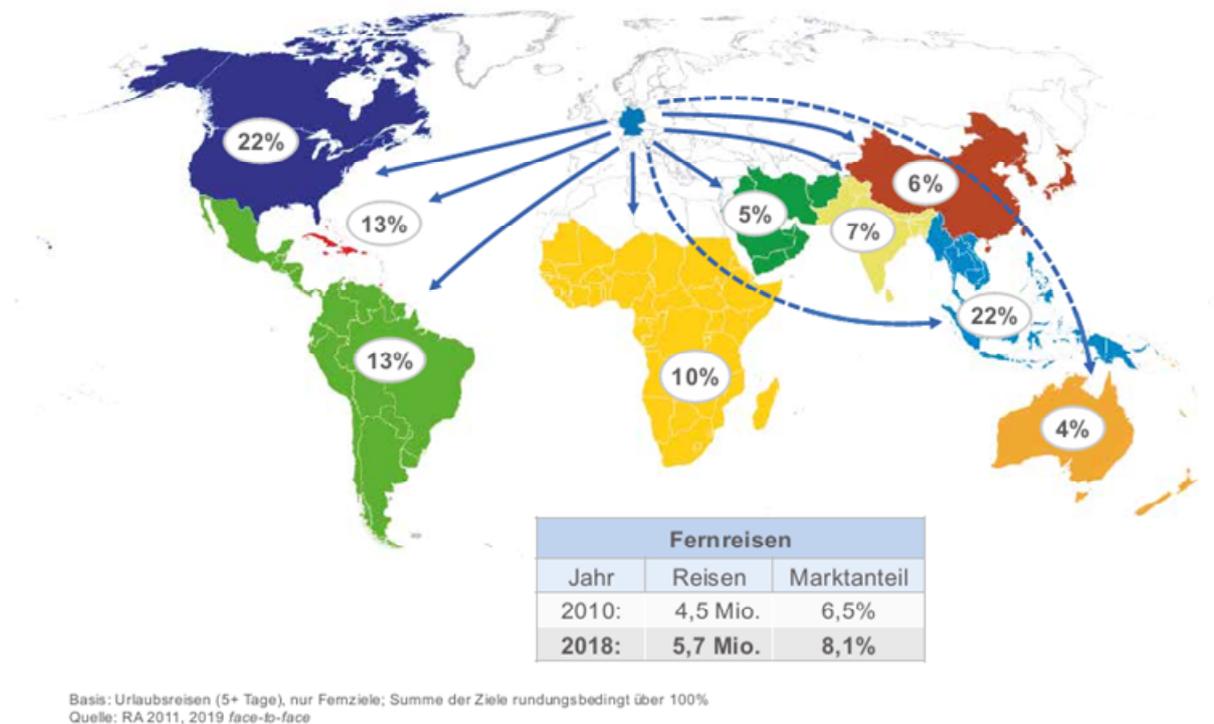
What is happening? Are we not informed enough? Or are we not translating our knowledge into meaningful action? And if the latter is the case, why not?

Maja Göpel, Secretary-General of the German Advisory Council on Global Environmental Change and a strong voice behind Scientists for Future, is very clear about the "to do`s" in her book "Unsere Welt Neu Denken" (p. 135): "Our consumeristic behavior in the rich Western societies is only possible through externalizing its [environmental] costs. … It is therefore imperative that we change the role and style of consumption if we are to live in a more sustainable manner."

But that is easier said than done, as the German face to the "Fridays for Future" Movement Luisa Neubauer phrases it in her book "Vom Ende der Klimakrise" (p. 37/38): "Our individual fight for a more sustainable future is like a fight against windmills, as long as the structure

of our societies isn`t sustainable. … This is about developing an awareness for the dilemma of growing up in a society that dumps its responsibility for the future on individuals alone. … We want to do everything right – but we can`t. We are part of the problem ourselves. We are overwhelmed and overburdened."

The surveys above are quite illustrative of the fact that 90% of our societies know at least that much about climate change: it is a potentially severe threat to our lifestyle and even to our lives. It therefore definitely would make sense to learn more about it. But – by and large – we don`t really want to know more.

Every relevant piece of information about the reasons and effects of climate change, climate tipping points, the risks of a self-reinforcing and irreversible "runaway climate change" and its consequences is easily available. However, even if all commitments made at the 2015 Paris climate agreement were kept, we would still be on a 3.3 degrees heating trajectory instead of the necessary 1.5 degrees. And societies – media, politicians, companies, artists, consumers, citizens – lead their normal lives, and pretend to balance out climate vs. business decisions as if these were two equally viable alternatives. There is so much more information in the news on football, on business matters, on violence and earthquakes, on community affairs, or on stars and starlets than there is on climate change and how to reverse it. Are we out of our mind?

In fact we are not, quite the contrary. Our reactions make perfect socio-psychological sense. Climate change is a threat with no enemy (we are doing it ourselves), it is potentially lethal, it is invisible, it is complex, it jeopardizes the key patterns and structures we are familiar with, and we have no solution to it. If we were really facing it, how could we keep on living our lives? It is, as Kari Norgaards describes it 2010 in her study on "Cognitive and Behavioral Challenges in Responding to Climate Change": "In some sense, not wanting to know is connected to not knowing how to know."

Per Espen Stoknes, author of "What We Think About When We Try Not to Think About Global Warming", calls these reasons for our non-action distance, doom, dissonance, and identity. Climate Change is happening in faraway countries and in the future, it is putting our lives and that of our children in danger, we are causing it with our own behavior, and it is unstoppable unless we dismiss everything we have been told about ourselves since we were children.

We have no answer to this. Even if we did change our behavior individually by 180 degrees, it would have no effect on climate change, unless we all change. Our personal contribution to the problem is as irrelevant as our personal impact on the solution can be. We feel overwhelmed and overburdened.

So we react with the classical psychological defense mechanisms: Displacement (e.g. fighting the messenger instead of the message, or resisting immigration), Denial (either not believing the problem, or accepting it but not drawing the necessary conclusions), Suppression (keeping information out of our conscious awareness), Sublimation (e.g. buying "eco-efficient" products, banning plastic straws), Projection (e.g. blaming China, or

politicians, or greedy managers), Rationalization (e.g. casting doubts on science, discussing the cost disadvantages, believing that a carbon tax will stop global warming, or that a technical solution will come up in time), Regression (e.g. focusing on trivialities instead, or going "revenge shopping"), Acting Out (e.g. overambitiously fighting climate deniers), or Compensation (e.g. buying an SUV out of spite or overemphasizing the advantages of our current lifestyle).

As Norgaard describes observations from her research: "People describe feelings of guilt for their own actions, and the difficulty of discussing the issue of climate change with their children. It isn't a topic that people are able to speak about with ease - rather, overall it is an area of confusion and uncertainty. Yet feeling this confusion and uncertainty goes against emotional norms of toughness and maintaining control. Furthermore, thinking about climate change threatens our sense of individual identity and our trust in our government's ability to respond. At the deepest level, large scale environmental problems such as global warming threaten people's sense of the continuity of life." We don`t want to be reminded of the subject. If we are, we change channels. And we hate those who are reminding us, because we hate ourselves for being so inadequate.

Politicians, Managers, and Journalists are of course not immune to these unconscious defense mechanisms. They are human beings. On top, they are the most successful products of the system that has created the problem which they are now asked to solve. Their dissonance is multifold that of normal citizens.

In addition, they are serving a constituency (voters, customers, readers) that does not reward "bad news" or strong changes. And they are exposed to interest groups (lobbyists, shareholders and investors, political allies) who invest enormous resources in order to distort their judgment and to manipulate their decisions. How can we expect them to change, if we cannot do it ourselves?

As a conclusion, and in a reverse of **d**istance, **d**oom, **d**issonance, and **id**entity, if we want to make climate change successful, we need to make it 1) near and local, 2) lively and hopeful, 3) in line and connected with our everyday lives and experiences, and 4) acknowledging and appreciative of how and why we have lived differently up to now.

As Per Stoknes puts it in an interview on "How to overcome apocalypse fatigue around climate change":

"More than 80 percent of all news and mainstream media play up the issue of doomsday or catastrophe. From psychological research, we know that if you overdo the threat of catastrophe, you make people *feel fear or guilt or a combination. But these two emotions are passive. They make people disconnect and avoid the topic rather than engage with it.*"

> What is their call for action?

Before making specific suggestions on actions derived from this perspective, I would like to read you from the summarizing chapter of a climate book called "When, if not now?" written in 2018 by a very popular German science journalist called Harald Lesch:

"Mankind has set a dramatic climate change in motion, and yet keeps burning oil and coal with no restraint. Justified by ultraliberal capitalism, we keep ruthlessly exploiting nature and people. But despite these contradictions we cannot afford the luxury of despair, since the battle calls of greed on one side are only amplified by the echo of helplessness and indifference on the other. …

Will we never ask ourselves again, what we can do? Every one of us can do a lot. Now. Right away. … Instead of railing at politicians, car makers, oil- and coal industry, SUV drivers, or Plastic-Bottle-Drinker, let`s bear with those contradictions and use our time and energy to take the ecologically correct actions. … The responsibility for it lies in the daily decision. Every one of us can decide again every day; that`s all, that can be expected of us. … And when we take our decision, we can and we may make mistakes, as long as we pursue a target, namely the responsibility we have for our fellow human beings and for our environment, with everything we do."

How does it make you feel to read these lines? Do you feel hope and confidence? Does it activate and energize you to read these sentences, motivate you to take climate action and change your life? Or does it scare and overwhelm you, making you want to go to bed and pull a blanket over your face? And when you wake up the next morning, will you change your life, or will you feel bad and do nothing?

I don`t want to be unfair to this book. It of course pursues the right target, and it contains great interviews and valuable examples of wonderful climate action. But it does not help the reader. Instead of explaining the dilemmas we are in as individuals, and showing viable avenues how to escape them, it increases the pressure and despair of our helplessness. If it does convince us to change, this change will not be endurable, since it will not be grounded on hope, but on force which we apply to ourselves. More likely it will make us withdraw, or resist the topic even further, and look for distractions somewhere else.

The solution, as Norgaard and Stoknes describe it, is beyond the individual level. "Both the reasons for and the process of denial are socially organized. A focus on individuals in the absence of attention to immediate culture or economic context leaves out relationships between individual cognition and the larger social context." (Norgaard).

In a review of the effect of social norms on climate friendly behavior (https://pdfs.semanticscholar.org/8791/b3ce170ee1328adb2df83d75c36fdad326e9.pdf) researchers have discovered many examples of how we change our behavior the most, when we see or assume that other people around us are doing it, too – and vice versa. In one study around 4,000 households were asked by their municipality to conserve power or energy. One quarter of these households each were asked to do so a) for environmental reasons, b) to conserve power for future generations, c) to reduce their utility bill, or d) since their electricity consumption compared negatively with that of their neighbors. The fourth explanation had twice the effect of any of the other three reasons.

So it is the feeling of community, of joint efficacy, and of being part of a group effort behind a positive and shared target which makes people change most easily.

Hence Norgaard concludes that we should:

- Create a sense of community by building on the knowledge that individuals are part of a
  larger committed and motivated citizenry.
- Provide specific opportunities to engage in realistic actions. People must be given not only information, but something to do.
- Build on positive stories of success.

Stoknes adds to the last item by stressing the need for better storytelling:

"Like the story of smarter, more resource-efficient growth, where we reduce waste while improving our lives. This story fits well with businesspeople. Another is that what we're really looking for in life isn't more stuff, but the good life. The good life includes better relationships, more meaningful jobs, and connecting to nature. That's the happiness story. Another story is a shift from dominance over nature to stewardship of God's creation, which is an ethical story."

And how can we provide answers to the problem which are near, hopeful, connected, and appreciative instead of distant, doomed, dissonant and identity threatening? By creating collective efforts to make our communities climate friendly. Putting solar panels on local roofs or installing windpower on a municipal level. Starting urban gardening projects. Restoring the local rivers or forests together with youthgroups. Setting up an action group to replace or refurbish air conditioning, insulation, and heating systems in the neighborhood. Making products and manufacturing processes in companies more circular. Organizing carpooling. Convincing the local bank to start a loan program for investments in energy saving or renewables. Starting a network of "Architects for Future" in order to promote climate positive building technologies. Opening a repair and sharing workshop for household equipment and power tools. Adopting a partner community in Africa and helping them to preserve or restore their rainforest. Joining community supported and regenerative agriculture projects, or supporting your local farmers to create such an initiative. Changing the menu in the canteen, or in the local fast food restaurants. Organizing an exhibition on nutrition, health and climate change. Finding investors for a municipal and low priced charging station for electrical vehicles, or reserving extra parking for them, perhaps in cooperation with the local supermarket.

There are so many things that can be done together, that are fun, that create community and connection and help to protect the climate at the same time. We can work with the groups we are in anyway, e.g. the company we work for, our neighborhood council, the local tourism or trade and industry agency, our church group, our boy or girl scouts, the volunteer fire fighters or our sports club in order to start something like this together. We can kick off these initiatives, celebrate and share them, feel good about them, and motivate others to do the same. Plenty of such projects already exist and have great effects. Documentaries like

"Tomorrow" (tomorrow-documentary.com/), **"Normal is over"** (http://normalisover.org), or **"2040"** (whatsyour2040.com/about/) have displayed in specific and inviting ways how such efforts can substantially increase not only the environmental, but also the social and the economic quality of our lives.

Surely all those activities will not be large enough to prevent climate change on their own. Changes in policies, regulation, subsidies and taxation will have to follow suit. But as we have seen above: Politicians and managers are human beings. They are part of the system. They follow social norms and they want to please their constituencies. If society goes ahead, they will follow.

> What is their underlying assumption?

The *first underlying assumption* of this perspective is very comforting: We are not bad people. Even though our climate actions are completely insufficient, our characters are not.

As Charles Eisenstein phrases it, we are in a "double bind" situation: on one hand we are required to spend our money and time on buying and producing products which are harmful to the environment; on the other hand we want to protect it. We cannot do both, so we strike a poor compromise in favor of our "normal life", and we feel guilty and inadequate about it. We know that we are not doing the right thing, but we see no alternative, so we safeguard our self-esteem by ignoring, avoiding, downplaying, sidelining, or diluting our knowledge. We are helpless, not hopeless.

The *second assumption* is equally promising: If we are not a lost cause, then we have apparently just not received the right invitation yet. We need better avenues for climate action which are near, hopeful, connected, and appreciative. Dear Climate NGOs, this is your call to attract us to more tangible climate action. Dear governments, this is your chance to leverage your resources, to gain support and to multiply your climate efforts at very little costs by funding grassroot climate projects. Dear companies, this is your opportunity not only to fight global warming in a very cost efficient way, but also to engage your employees and to add purpose to your brand.

As mentioned above, this kind of efforts cannot replace changes in regulation, taxation and large scale political strategies. The political climate approach is still needed. But they have the power to break the two circular mental gridlocks we have subconsciously created for ourselves:

1) We do nothing, since the others are also doing nothing. They are doing nothing, because we are doing nothing.

2) We feel ashamed, guilty or scared about doing nothing. So we evade the topic and keep doing nothing.

The *third assumption* is derived from this, and it is perhaps the most powerful: Individual climate actions may be irrelevant in terms of their greenhousegas effects. But they are not

meaningless. They draw their relevance from the effect they have on our environment in the broader sense.

If we do something that is near, hopeful, connected, and appreciative, the others will join in. We will not only feel good because we are doing something of value to the climate, but also since we are doing something of value for them. We do not only save the planet somewhere else and sometime in the future. We save it here and now. Our feeling of guilt can disappear, because we do something meaningful. And we are not doing it for somebody anonymous, and we are not doing it out of a moral obligation. We are doing it for us, and because it brings us joy to do it. If we don`t enjoy it, we should look for something that does, or else it will have no effect.

Per Espen Stoknes, when asked about what gives him hope facing the climate catastrophe, describes a very similar frame of mind:

"There are versions of hope that are passive: Somebody will fix this problem with technology and soon magically remove the CO2 from the air. That hope is dependent upon a kind of magical, technical fix. And there is a more active, optimistic hope: If we just fight hard enough, we'll turn society around.

I have hope that is not dependent on what happens around me, but is grounded in my inner values. I do this work because it's aligned with who I am.

It gives me joy to take action today. It brings out a sense of satisfaction in me, because I'm contributing. I'm not passively waiting for a fix or magically expecting my own contributions to solve the problem. I'm part of something larger. And, sensing that connection to a larger call to action, working through and in me, I feel connection — to the air, to society, to a larger transition. It brings me a feeling of flow, participation, groundedness, and sense of purpose that is larger than me."

Individual climate action may be the decisive factor to a true and deep environmental transformation of our economies and societies. But this will not happen because we save CO2 or reduce plastic with it. If it happens, it will happen because we start leading different lives, which are more near, hopeful, connected, and appreciative. How can a society which is leading such a life keep ruining the planet?

> What is their positive and encouraging impetus?

The exciting part of this perspective is that it resolves many of the dilemmas of the traditional frames of climate action:

- It resolves the contradiction between my "normal life" and my climate ambition, since it allows me to be part of the good side (contributing to meaningful changes) and part of the bad side (still emitting sizeable GHG) at the same time. I don`t have to be perfect to be good, since I can be inadequate and still make a difference to the better. I shouldn`t *not* do something because I know that it will be insufficient anyway.

- It resolves the frustration of not making a difference regardless of how hard I try. Whatever I do will have a positive impact, as long as my approach is near, hopeful, connected, and appreciative. If the others are not doing it (yet), it`s not such a big problem anymore, since I am not doing it for them or for the world, but in order to improve my personal environment. Nobody can take that away from me.
- It resolves the risk of "climate depression", since it does not tie climate action to the one and ultimate success of reversing global warming. The solution is not big, and it is not black or white, it can actually be quite small and colorful. So my efforts can be organized, celebrated, shared and reinforced around many small steps and successes which make the world a better place, regardless of the big outcome of the planet.
- It resolves the need to draw a separating line between "me" and "them". Since none of us is only "good", none of us is only "bad" either. So everybody is welcome to join in and contribute, if they are serious about it, even if they eat meat, drive an SUV or work for a fracking company. If they do join in and contribute, they are part of the solution.
- Last and not the least, this perspective resolves the need to be stronger than the other side. We don`t have to be the majority to start, or more powerful to win. We can start out of our own right, anytime. And we always win, since we create value with what we do. Every tomato in an urban gardening project is a win, every ride shared, every frog saved, every veggie burger liked.

> What is their frustration potential, how do they draw from our sources of energy?

This perspective may sound like giving up. If my goal is to save the planet, how can I find fulfillment in a tomato? Isn`t this an invitation to reduce our ambitions to a minimum? By following this approach, are we perhaps just managing our expectations downwards, so that they can match the pitiful low level of climate protection which we have succeeded to achieve?

It may feel that way, and some people may take this line of thinking as an excuse for their inaction. But that won`t hurt, since those people are inactive already. For the others, it is a chance of revitalizing their hope and their energy.

This perspective is not calling to give up on political lobbying, scientific arguments, campaigning, or legislative work. But it is adding another avenue, which may be better suited to truly mobilize and transform our societies.

There are reasons why we have not been successful up to now. Some of these reasons are described in this article. We can keep trying the old ways, try harder, and hope to see better results. Or we start trying a different approach.

IX. "The answer to the #climatecrisis is community, not CO²" – A new approach to saving the planet

So what will we now do with all this? In this final chapter I will summarize the findings of the eight perspectives above, and sketch out the solutions they point to. I will try to give answers to the two main question which were driving us in that workshop in March 2020:

1) Why are we still ruining the planet, and what do we need to do differently as climate activists in order to reverse this ongoing self-destruction?

2) How can we find a sustainable and hopeful position with regard to Climate Change ourselves as individuals, given the fact that our climate future looks grim, and daily news are more often frustrating and discouraging than positive?

Discussing and then writing down these eight views on Climate Change turned out to be an extremely valuable journey in order to come to terms with these two questions.

But before we start, let us dive into an illustrative exercise to set the frame for this summary: Imagine you are from Mars and you just finished your anthropology studies. Your first research project takes you to Earth in the year 2020. What will you find? Among many other things you will find:

- People destroying wonderful rainforests (36 football fields per *minute*) so that other people on the other side of the planet can eat burgers,

- Hunters who kill the greatest and rarest mammals so that others can use their skins, furs or teeth as decoration,

- A distribution of wealth in which 1% of people own as much as the bottom 50% - and who find this quite normal,

- Fantastic medicine that costs almost nothing, but is artificially made so expensive that large parts of humanity cannot afford them,

- A business logic directed not primarily at creating products to meet peoples` needs, but instead of creating needs to buy existing products,

- Exciting advances in productivity and innovation, but none of which over the last 40 years being used to reduce people's working hours,

- Tremendous investments in order to reduce manual labor further through automation and digitization, while fearing nothing more than unemployment,

- Macroeconomic metrics in which a heart attack, a traffic accident or an oil spill increase wealth and prosperity, but a healthy pedestrian, clean air, or a beautiful songbird do not,

- A work environment where just 15% of all employees worldwide are "engaged" (Gallup), while 41% believe that their average coworker is "not happy at all" at work.

- Brilliant inventions, beautiful songs and lyrics, or astute scientific analysis, deliberately withheld from much of society as "intellectual property",

- Organizations that have the same goal and complementary skills in the same market, but rather than working together trying to drive the others out of the competition,

- Governments that have handed over control of the money to private banks, and are now begging for understanding if they want some of it back to keep the communities functioning,

- Managers and heads of states who actively and consciously destroy our planet, even though they know that we have just this one,

- Billions of people who see no economic alternative for themselves but to help those managers and Heads of States doing so,

- 15,000 children under the age of 5 dying every *day* (5.6 million per year), the vast majority of them from hunger, simple diseases and lack of hygiene, and no one preventing it,

- At the same time almost 2 billion people worldwide suffering from obesity, and 11 million deaths each year due to tobacco and alcohol consumption,

- And almost no government committees existing, no newspaper editorials, no scientific symposiums, no business conferences who seriously ask themselves for the structural reasons of this insanity and for possible alternatives to it.

You could never go back to Mars with a story like this, no one would believe you under any circumstances. And yet it is true!

What does this exercise tell us? The crisis we are witnessing is far beyond a climate crisis. It is a fundamental crisis of how our societies and economies are organized. So the solutions must be on that level, too.

The Corona pandemic has made the shortcomings and irrationalities of our current system even more evident: Our global capital in terms of food, housing, energy, available goods, education, health systems, infrastructure etc. was almost untouched by the virus. As societies, we had as much of all that as before, at least in the industrialized countries and on a global scale. To the contrary, when looking at the true wealth of our lives and looking not only at our means for subsistence, but also at other valuable assets such as nature, time with family, or clean air, we even got substantially richer.

Nonetheless, the Corona crisis brought us – and is still bringing us further at the time of writing - into the deepest economic crisis since the Second World War, forcing millions into poverty, hunger, homelessness, and despair. The resources were still there. But the individual access to these resources, which we organize through money, was severely interrupted, and for many it was cut.

The climate crisis is not a climate crisis. #Globalwarming is just a symptom. There could be abundance of everything we need in this world. There is no reason to destroy our planet for our survival and a good life. We make resources scarce by intentionally limiting access to them. But now, perhaps, the danger of a climate collapse is such an existential symptom that it can force us into true and comprehensive changes to the better as a whole.

So when giving answers to the two questions about Climate Change raised above, we have to make sure that we give answers to the heart of the problem and not just its symptoms. In addition, we have to take care to address the problem and provide solutions in a way that is helpful and connected to our lives. The answers must be helpful in two ways: Helping to understand the structure of the problem. And providing realistic options for addressing and ultimately solving it.

> What is their claim?

So what`s my claim after reviewing these eight perspectives? Briefly rehearsed, the findings of the eight viewpoint are:

I. The scientific perspective:

It`s bad. We are running severe risks of irreversible and self-accelerating climate changes, jeopardizing the livelihood of many, possibly all human beings. We are already seeing it happening, and it will get a lot worse. We therefore must take action now, and this action must be powerful, serious and all-encompassing. We have perhaps 8-10 more years of time for substantial climate action, then it will be too late.

II. The perspective of climate fear:

We are afraid of these risks, and we are even more afraid since we don`t seem to be able to do anything about them. This anxiety makes us emotional and unstable. The intuitive reactions to this fear are basic and individually different: Fight (either fight climate change, or fight climate activists), Flight (run away from the problem and work on anything else, but not the cause), or Freeze (do nothing and hope it will pass). Often we show all three types of reactions at the same time.

III. The solution side:

We can still fix the problem if we act strongly, jointly and immediately. In order to do so, we have to reduce Greenhouse Gas emissions into the atmosphere (e.g. through renewable energy sources, carbon free materials and through substantially reducing meat and dairy consumption), and simultaneously remove existing Greenhouse Gases from the atmosphere

(e.g. through regenerative agriculture and restoration of forests, soils, marine ecosystems and wetlands).

IV. The apocalyptic position:

We have already passed the point of no return. "Social collapse is inevitable, catastrophe is likely, extinction is possible" (Bendell). Accepting this truth allows us to prepare for the worst, while not necessarily giving up to hope for the best. Facing possible extinction then allows us to ask ourselves the most important question: How do we actually want to live, given that life as we have known it can no longer be taken for granted? How do we want to use the time we have?

Hence, this position does not advocate an attitude of indifference, inaction and irresponsibility. In contrast, it calls for better preparation for a world of social disorder, and it calls for a deeper reflection on how we want to organize our lives here and now. Instead of putting all of our energy into chasing a target which has become a phantom and illusion, we should invest our resources in something we can reach: resilience (limiting the consequences of climate change), relinquishment (purposefully deciding what to give up, instead of being forced to), and restoration (revitalizing skills and tools and ways of life which we used to know and which will help us to survive in a world of social collapse). Bendell calls this the "Deep Adaptation" agenda. It includes reducing Greenhouse Gas emissions and restoring our natural resources, since this will both improve our resilience and help to revitalize important assets we had access to in the past. While many fear this perspective, since it seems to imply evasion of the problem, it means in fact the opposite: Only by opening our eyes to the danger we are in, we put ourselves in a position for meaningful action.

V. The comprehensive view:

Climate change is not the real problem. The real problem is the systematic destruction of all our natural resources (soils, plants, water, biodiversity) through our economic system, which is focused on quantity (making money) instead of quality (improving life). The planet has fever, but fever is only a symptom; the cause of the disease lies deeper.

If the rest of nature were to remain intact, it could possibly absorb a lot more of our Greenhouse Gas emissions than we can imagine. In contrast, if we further destroy nature by focusing on the reduction of Greenhouse Gases alone – e.g. through large dams and hydropower-stations, or through chemically fertilized biodiesel monocultures – we will further kill what we wish to preserve.

We will therefore not solve the climate crisis just by exchanging one (fossil) fuel source with another (renewable) one. And we will also not solve it by creating financial incentives for destroying less nature. We will only solve it if we overcome the ruling paradigms of *separation*, of quantitative growth, of control, and of the human ascent over nature, and reach a self-conception of *interbeing* instead. As human beings, we are connected with and

part of the whole, and therefore have to treat everything else – humans, animals, plants, water, soils - as sacred out of their own right. Every harm we are doing to them, even to our opponents in our fight against climate change, is something we are in the end doing to ourselves.

VI. The business case:

There is a business case in climate protection for states, for companies, and for individuals. Even if we did not care about the planet and the future of its inhabitants, it would make business sense to act sustainably just from a pure management standpoint.

As a state, the first country to successfully complete the transformation of its power generation and production systems to a truly circular and planet positive model will have a head start and a competitive advantage in the new era. Period.

As a company, renewable energy sources offer an abundant, inexpensive, decentral and stable power supply without precedent. Circular production processes provide an almost undepletable wealth of material, while new sharing and "products as a service" models help to retain customers and to protect margins. Both approaches mitigate price, supply and environmental risks. Not the least, the brand towards customers, employees and applicants will strongly benefit from a purpose driven business model.

As an individual, living in a planet friendly way will reduce costs for housing and transport as well as for many other high quality products which are produced, serviced and refurbished in a completely circular manner. In addition, it will help us to refocus on the quality instead of the quantity of life. What is essential for making us happy? What are happy moments composed of, and how are those ingredients related to Greenhouse Gas emissions? Barely.

VII. The ideological foundations:

Apart from just fear, the denial of climate change and the refusal to take action is correlating significantly with a right-wing, conservative ideological opposition to the changes incurred by modern times. The uncertainties and ambiguities of globalization, coming along with disintegrating societal structures, roles and norms, challenge the assumed entitlements and privileges of mainly white, male, and Christian segments of Western societies. These perceived threats are answered by deeply longing for "the old times" to be preserved, while fiercely opposing any substantial transformation of the status quo. And Climate Change is a major challenge to the status quo.

The answer to this ideological calling is not facts about the risks of #globalheating, and it' s not advocating multilateral carbon trading and reduction schemes. The answer to this perceived jeopardy of a large and powerful social group is acknowledgement and listening, it`s playing on the themes they care about (like national wellbeing or independence), and it`s jointly establishing a new common ground. This is certainly a difficult path; but there is no other.

VIII. The relevance of individual climate action:

The truth about climate change is hard to sustain. Accepting that our lives are in danger, that it will happen at some unknown time in the future, that we are causing this danger ourselves with our lifestyles, and that no one seems to have a solution for reducing this danger, causes an unbearable cognitive dissonance. We can only react to it with any one combination of psychological defense mechanisms, like denial, compensation, projection, suppression, or others.

However, these defense mechanisms are socially organized, so they can also and only be socially escaped, in groups and together with others. We therefore have to mutually turn the negative messages of **d**istance, **d**oom, **d**issonance and a threatened i**d**entity into positive messages of closeness, hope, connection, and appreciation. Individual climate action has no measurable impact on global Greenhouse Gas emissions; but it is a powerful tool to create a social momentum for change. Instead of talking about something very negative and unescapable which is happening to us in climate collapse individually, we should therefore talk about something very positive and impactful which we can do for a better climate collectively.

This is the essence of the eight perspectives. What are the answers they provide to the two questions laid out above? How does each of them help us to deal with the climate threat, and what are the new solutions they point to?

Before answering those questions, let us first remind ourselves of what has been done so far to reverse global warming. To phrase it in a mildly accentuated form:

Businesses have minded their business as usual. Politicians have tried to keep their electorate happy, and the vested interest groups they are affiliated with. Climate Activists and scientists have tried to alarm the public by displaying the scientific facts and depicting the dangers we are in. Citizens have taken sides whom they believe, but the climate behavior of either side did not differ much. There has been change in the climate system, but not enough to reverse any of its destructive trends.

Surely, we have been seeing the speed of change accelerating lately. Renewable energies have become cheaper than electricity from fossil sources. The effects of Climate Change (droughts, record temperatures, ice loss, floods, hurricanes, migration, resource wars, etc..) have become increasingly visible. Investors have begun putting pressure on and shifting their money away from companies depending on fossil resources. Our children have started joining collective climate protection movements like Fridays for Future, Extinction Rebellion, or the Sunrise Movement; now they are showing us vividly what we are doing to those whom we care the most about: destroying their future. The transformation towards a climate friendly society has picked up.

Temperaturänderungen im Jahr 2100:

- 4,8°C
- Weiter so! „Business as Usual"
- 4,1 °C
- 3,7 °C
- Aktuelle Richtlinien
- Pariser Selbstverpflicht.
- 3,2 °C
- 2,6 °C
- ← Pfad für 2 °C
- Pfad für 1,5 °C →
- Negative CO$_2$-Emissionen →
- 2,0 °C
- 1,5 °C

Jährliche Globale Treibhausgas-Emissionen

0

1990 2018 2030 2050 2100
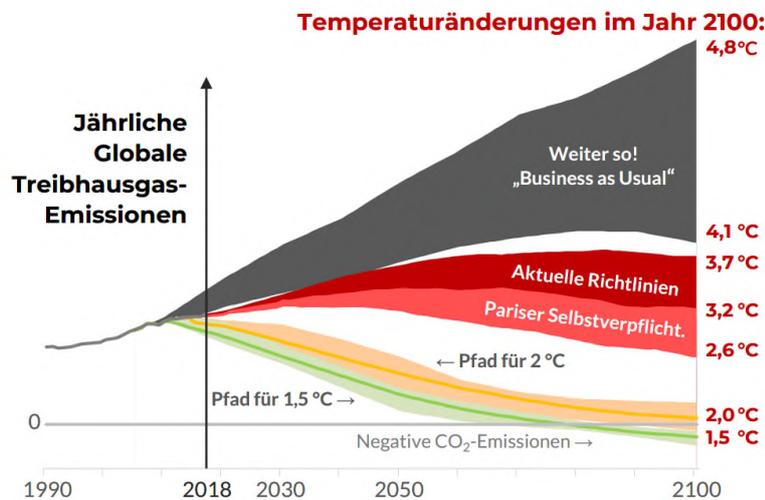
Yet the resistance of the "old system" is strong. The climate projections based on the political and business decisions that are made today will take us way beyond 3-4°C. global warming until the end of the century, possibly – due to climate tipping points – even further. The negative climate trends described in the scientific perspective of this paper have not been reversed yet. Political decision making is indecisive at best. It would be naïve to trust that the current business transition and more political agenda setting will do the job on their own. We have to do more.

And this is the point where conventional climate arguing usually gets off track. Do more and faster. How can we possibly do more? And what will we achieve if we do? If we keep doing the same things, but harder, the effect will be the same, only with yet more fatigue. A nice quote which has falsely been attributed to Albert Einstein (in fact the source is unknown) goes: "Insanity Is Doing the Same Thing Over and Over Again and Expecting Different Results."

We don`t have to do more. We have to do less. But differently. Each of the eight perspectives described above has provided valuable insights into the lock-in effects we have created for ourselves, each one of them holding us back from acting differently. They have pointed at solutions to the climate crisis which have not been in the center of attention up to now. What do these lock-in effects look like?

I. We are **locked in by science** in three ways:

1. We should not be deceived by the fact that this time science has taken the side of nature. It was our belief in science and technology that has brought us here in the first place. We will not turn around Climate Change by using the same tools that have caused it. Instead of using science to dominate and control nature, we should use it to observe, learn and compliment better the natural self-sustaining and self-repairing processes. We should employ our scientific means to adjust and integrate our human activities more organically into those of the planet.

2. The scientific system, like any other system, is a circularly created system which follows our beliefs. We innovate what we ask for, we analyze what we know about, and we

measure what we assume to be important. Those who challenge climate science therefore have a point that "our" data are also possibly flawed, our findings are generated with an agenda in mind, and our arguments are deliberately polished in order to support the decisions we believe in. Instead of debating data, we should therefore focus on our intentions and be humble about the fact that there is a lot which we do not know.

3. Climate science may be wrong after all, or it may be partially mistaken. It may overestimate climate tipping points. It may underestimate the regenerative capacities of the oceans, soils, grasslands, or microbacteria. It may overlook reverse dynamics. It may misjudge the relevance of a rising temperature compared to the importance of the water cycle. We simply cannot know for sure. "Toxic positivity" based on our trust in technology will stall our initiative in the same way as continuously alarming the public based on disastrous climate scenarios. Science cannot tell us whether to have more hope or more fear, and science will not drive us to act. Climate action will have to come from our attitudes and from our relations with the world.

II. We are **locked in by fear** of climate change on one hand, and by fear of life change on the other. But fear makes us tight and want to hold on, to keep control. Holding on to the way how we have created a dysfunctional world, however, will maintain its dysfunctionality. So we have to let go and gain trust. Trust that we cannot predict what will happen, but that it can turn out well, if – and only if - we dare to try something new.

III. We are **locked in by our focus on Greenhouse Gas emissions**. Surely CO^2, Methane Nitrous Oxide and Ozone play an important role in shaping our climate. But what about all the other nine planetary boundaries which human activity is stressing and in many cases already exceeding? How are they interconnected with the climate, and how threatening to our livelihood are they on their own?
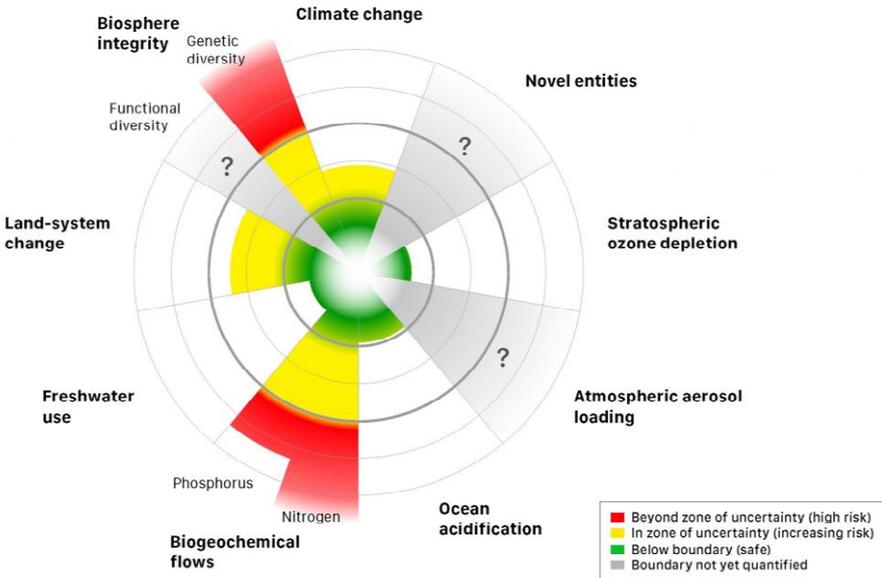
By focusing solely on Climate Change we run the risk of agreeing to trade-offs which create more harm than what they solve.

IV. We are **locked in by a tunnel-view of the ultimate target** we are pursuing. By claiming the reversal of global warming or nothing, we blind ourselves to the comprehensiveness of the problem, we overburden our sphere of influence, and we distract ourselves from the diversity of potential solutions. The climate crisis is not the only important crisis in the world. And the climate crisis cannot only be solved, or not solved, but most likely it will be "somewhat solved". So we have to look at protecting and improving the quality of our lives in total. The more severe the climate crisis may become, the more important it will be to maintain a well-functioning society. And despite the hurry we feel, this will not be a sprint, but a long distance run. We must be careful not to overpace. Sustainability starts with the way we treat ourselves.

V. We are **locked in by our system of moneymaking**. In our current financial system, money is created by private banks, issued as credit and debt, received as loans in order to finance commercial activities, repaid with interest. That is the reason why most of us work in the private sector, and why salaries there can be substantially higher than in the public sphere. Because that is, where the money is.

There is no money in the public sphere out of its own right. Nature, in our system, has no value itself, unless we exploit it and turn it into sellable products. Money which we spend on protecting and improving nature, or on investing into social systems and infrastructure, has to be retrieved from the private sector through taxes and fees first, before it can then be redistributed or invested in public goods.

This system makes nature exposed and vulnerable in three ways:

Firstly, the only way to make money in the primary (private) sector is through commercial activities, which all of them in the end are derived from turning natural resources (energy, materials, soils, animals, plants) into sellable products and services.

Secondly, the money spent on nature has to be taken away from those who "earned it" through their commercial activities first, which immanently entails resistance and conflict, which ultimately those "with the money" have a better chance to win.

Thirdly, since it costs money to use money (we have to pay interest rates on our loans), there is an inherent pressure to create more money out of existing money by producing

growth. Without growth, our current economic system is almost impossible to sustain. More growth, however, means turning more natural resources into sellable products.

The solution to climate change therefore lies beyond climate change and beyond individual efforts to behave better. It is not lack of knowledge, nor greed or moral decay which puts money before nature, but the economic system itself. We can therefore only overcome the destruction of the planet if we change our fundamental perception of how money works and how it should be treated.

VI. We are **locked in by a narrow perception of the business case.** Protecting the climate is usually associated with increased costs, lower returns and sacrifices in terms of prosperity and consumption. The opposite is true. If we analyze the business case in a more comprehensive and more long-term manner, every argument speaks in favor of a planet friendly business behavior. And even in a very linear and short term analysis it is often not the business case, but rather our habits, our ideology and our behavioral inertia that keep us from doing the right thing.

VII. We are **locked in by our story of separation and control.** Throughout our history of the last few thousand years, and largely accelerated since the industrial revolution, we have been telling ourselves that human beings are on this planet to control it. Quantitative growth, military might, and technological advances have accompanied this story of the human ascent over nature. This story has come to an end now. Our planet has reached its limits, our story has turned out to be a dead end street. We now have to start telling ourselves a different story, one of interbeing, grooming, balance and connectedness. It is very hard to let go of the old story, though, especially for those who have benefitted from it the most.

VIII. We are **locked in by our idea of fighting climate change as individuals**. We like to believe that individual politicians, individual managers and individual consumers can stop global warming by taking different decisions. However, the system creates itself. We are social beings, always trying to live up to the expectations which we expect others to have in us. "There is no one driving the bus" (Eisenstein). We can only turn this around collectively, by creating system-changing social dynamics. A crisis as deep and severe as the climate crisis shakes up the boundaries, structures and barriers of the system. We now have the chance to take advantage of this crisis and the imbalances it creates, pushing the center of gravity in a group effort, trying to tip over the system and to create a better one.

> What is their call for action?

How do we now escape those boxes? What can we do differently in order to reverse global warming?

The first level actions necessary against Climate Change are all described in the third perspective of this paper. They are basically the same for individuals and companies alike: Install and purchase renewable energy, reduce meat and dairy products, switch fossil technologies for heating, transport and manufacturing to electrical ones, transform to a fully circular economy, reduce travel and shipping, replace inorganic with organic materials, rethink building, landscape and city design, -technologies and -material, switch to regenerative agriculture, protect and restore forests, soils, rivers and wetlands. The winning formula can be taken from the circular economy, they call it ReSOLVE: Regenerate, Share, Optimize, Loop, Virtualize, Exchange (Source below, including the potential cost savings by sector: Stuchtey et al.: "A good disruption").
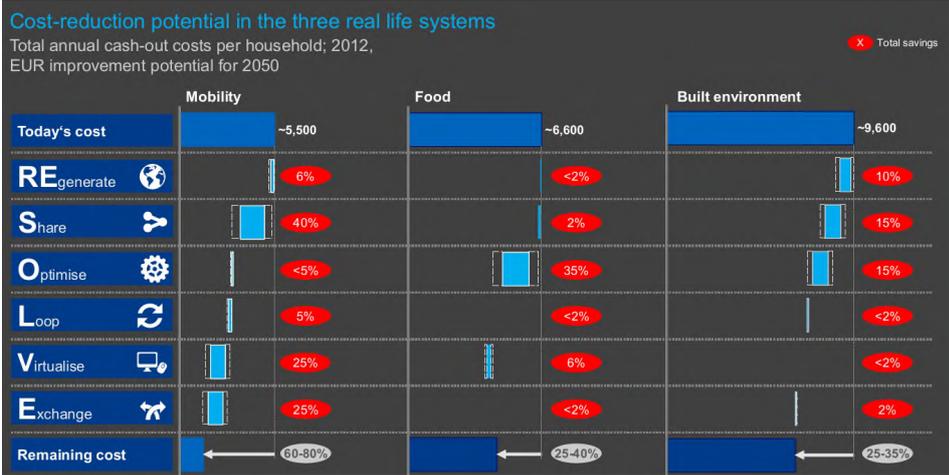
These are the "conventional answers" about what to do. It`s not that difficult. The solutions are all there. Please use them.

However, on a societal level it is obviously more complex, as we have seen in these eight perspectives. If it were really this easy for us, we would be doing it. We need to individually and politically achieve a complete transformation of our societies towards an immanently planet friendly lifestyle, and we need to achieve it despite the obstacles and resistances analyzed above. In order to achieve that, we have to transcend the lock-ins we have created for ourselves, we have to leave our boxes. To do so, we should focus on four interconnected themes which lie below the climate surface: Money, Community, Purpose, and Trust.

Money

As we have seen above, the dynamics for the destruction of nature are largely immanent to the way how we create and treat money.[1]

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[1] This line of thoughts largely draws on the works of Charles Eisenstein and his books "Climate" and "Sacred Economics". It is also influenced by the Modern Monetary Theory as depicted by Stephanie

The solution to the "money dilemma" does not lie in expropriating the private sector and abolishing capitalism, though. Apart from many other reasons why not to suggest that, the basic assumption of what money is and where it comes from is no different in communist states than in capitalist ones. Economist John Kenneth Galbraith once paraphrased that nicely by saying: "Under capitalism, man exploits man. Under communism, it's just the opposite."

The solution instead is to maintain the capitalist assumption of ownership, individual freedoms and economic initiative, but to strip money of its function to store value in this system. Generally it is assumed that money serves three functions: 1) As a medium of exchange (a trading tool), 2) as a unit of account (a price tag), 3) as storage of value (a container for future spendings). Only the third function allows those who possess it to "make more money out of money".

In contrast to the eternal cycle of nature (all other natural assets become rotten, rusty, slow, out fashioned, dysfunctional and diminishing as they grow older), money does not only maintain its value over time, it even increases it through interest rates. It therefore makes sense to hoard money for two reasons: A) Money is the most practical and convenient source of saving power to purchase anything anytime later. B) Since those without money have to pay money for being allowed to use it (by paying interest rates on loans), those who possess money can increase it without investing any further work.

This is the reason why money transformed from being a tool, to trade with each other more effectively, to becoming an end in itself. If money, like any other asset, would lose its value over time, we would use it not to make more money (e.g. by chopping down a forest and making money out of it), but to maintain something of real value, and use it wisely over time so that its value increases. Possessing money would be an elusive advantage; as time goes by, nothing would remain. Possessing a forest, in contrast, would make business sense, and it would make even more sense to groom and improve it over time, and to use it only as much as it regenerates itself.

Hoarding money would not make much sense any more then. Making more money than you need would become very unattractive. Quantitative growth would not be needed any more, since any money borrowed over time would lose its value, hence it can be repaid with the same amount or even with less money.

This may seem like a totally unrealistic scenario, but in fact there are various ways how to get there, and we are seeing many of them already taking place or being seriously discussed:

Negative interest rates on loans (returning less money than you borrowed), restrictions to ownership of ground and natural resources, increased government spending based on debts or on creating its own money, increased taxation on wealth, reduced taxation (or no

Kelton in "The deficit myth" and summarized by Usman Chohan here: (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3569416).

taxation at all) on income, increased taxation on the usage of natural resources, and a social dividend (Universal Basic Income) for everybody regardless of work.

In such a framework, money is back to its original function of a tool, a technology, not a target. It may appear to be complete nonsense to think that we can transform our monetary systems in that way. But in the end it is a choice how we design money, not natural science.

The economic dynamics today already point in that direction. We already have examples of negative interest rates in Europe and of wealthy zero growth economies sustained only by debt based government spending in Japan. The idea of a Universal Basic Income has been widely discussed and supported for a long time, not the least facing further automation in our manufacturing processes and through this challenging our conventional social security systems. There are restrictions already in place on how we use buildings (to protect renters) or companies (to protect employees). The argument that "capital would be fleeing the country" in such a system would not count, since the real capital would not be money any longer. Trees, rivers, soils, rails & roads, hospitals, well-functioning social systems, or educated, healthy and motivated citizens don`t flee. It is completely doable, if we choose. It is necessary.

According to Stuchtey et al., however, only 6% of the European tax base today is derived from environmental taxes (that is taxing the use of natural resources), while 51% come from charging labour and social contributions, 21% from taxing capital income and 22% from taxing consumption. Only four European countries even have a tax on wealth. In such a system, it is no surprise that the unconditional exploitation of nature continues, and that average citizens have no alternative other than to play along.

Now these proposals are policy proposals which we can influence (only) as voters, party members, or in demonstrations and campaigns. What can we do individually in this regard?

We can localize our economies and withdraw economic transactions from the money cycle. This can happen by issuing local currencies, and through non-monetary trading as in community supported agriculture, bartering circles, or just mutual communal, neighborhood, and family support. The legal infrastructure of most societies somewhat impedes such strategies to informalize our economies, pushing such activities to the verge of illegal employment, or tax and social security evasion, as soon as the official currency is involved. However, it is not illegal to barter, it is not illegal to share, it is not illegal to give presents, and it is not illegal to help each other. Much of this kind of informal economies is totally legal, or at least legally unknown territory. Therefore, if we can follow such a pirate-approach of degrowing the official economy while growing our community base and community happiness, we should go for it. It would be climate action.

Apart from that, we cannot escape the necessity to earn money and to "make a living" in the official world. The only thing we can do is to adjust our own understanding of money, and how we deal with it. If we can afford it, we can work for a good cause without money, or for less money. If we have excess time or money, we can donate it to projects we believe in to create a better world.

In fact, this is already happening everywhere. People working on open source projects, artists openly making their work available, entrepreneurs turning their companies into a public good, all of us helping our neighbors and friends with their shopping or renovation, volunteers investing countless hours in social, political or environmental projects. Because this is where our heart is, and where we see purpose in what we do. All of that is climate action.

Of course it is highly unfair and it can be demoralizing to witness how much money is readily spent for destroying the planet, while it is so much harder to earn money for saving it. That is why in the long run we have to change that system. Political action is one approach. Another way to change it, is to boycott it from within, whenever we can afford it, and just not use it. As soon as we see that we are many doing so, we will create the system changing momentum we need.

Money is not a target in its own right. Money is a useful tool in order to organize our lives and transactions, so that we all benefit. If it is not producing the results we want, we have to change how we use it. In order to so, we first have to change how we perceive it.

On the way there, it is ok to play by the rules of the existing system and still try to change and undermine it wherever we can. That`s not hypocritical, but without alternative for most of us. We needn`t feel bad about it. When it comes to money, we have to do both: Conform to the current system as much as we must, and try to change it as much as we can.

Community

Community will become the decisive factor in our strife against climate change, in our strife to stop destroying nature, and in our strife to improve the quality of our lives. The term "community" in the sense of this article encompasses any kind of group level structure, be it a village, a suburb, a neighborhood, the inhabitants of a house or a bloc, employees of a company or a division or subsidiary of a company, members of a club, fans of a band, professional associations, or the like.

Why will they have such an impact?

CO_2 Reduction

On the most obvious level, more community orientation will mean saving CO_2 by reducing travel, commutes and shipping, by increasing sharing opportunities (hence having to produce less products), by creating a new hubs for decentral and renewable power generation, or by improving heating and cooling because of more climate friendly city planning and building design.

CO_2 Removal

On the other hand, communities will have more incentives and better opportunities to engage in local urban and regenerative agricultural and gardening initiatives and to improve

local parks, woods, soils, lakes and landscapes, all of which helping to strengthen the natural resilience of our planet and to remove CO_2 from the atmosphere.

Monetary Degrowth

In addition, communities can more easily organize their economic transactions outside of the growth dependent official currency cycle, looking after children or elderly people for each other, growing their own food, helping with education and small repairs, exchanging and sharing used clothes, lawn mowers or power tools, cooking for each other, etc...

Social Momentum

Not the least, as we have seen in the 8th perspective, we cannot solve the climate crisis as individuals. Communities can create a momentum for climate action which is near, hopeful, connected and appreciative. They can set examples and benchmarks for each other, and for other groups and communities. In companies and professional networks, they can generate a completely new sense of connection, climate efficacy and purpose by setting targets and implementing hands-on climate protection plans together. In clubs or associations, they can use their specific interests, talents and networks to work on those specific areas of climate protection which they want to focus on. While one group may work on replacing cement with wood or bamboo, others may immerse themselves in seeweed or algae cultivation, yet others might organize a financing scheme for replacing fossil heating and cooling with renewable electrical one. The only way we can reverse global warming is by doing it together.

Ideological reconciliation

As we have reviewed in the 7th perspective, a significant amount of resistance to climate action can be accounted to a right-wing ideological agenda in opposition to a modern, open and globalized world. These notions, as we discussed, can be reframed in favor of climate action on the basis of arguments like 1) regional income generation through decentral renewable energy, 2) improving energy independence from abroad, 3) gaining national technological leadership and economic competitiveness, 4) themes of "green patriotism" like preserving nature, woods, native animals and plants, 5) improving the quality of life, 6) reducing waste, 7) restoring community, or 8) breaking the power of multinational electricity and fossil corporations, 9) continuity and safety, 10) the simplicity of "a good life", 11) local and practical concerns and solutions, 12) nostalgia, 13) balance, and 14) the shared desire to create a better future for our children.

All of these arguments are represented in community work. On top, the underlying fears by the right wing populist electorate of being "left behind" can largely be met through a community approach that by definition advocates togetherness, solidarity, mutual acknowledgement and appreciation

Resilience

As a further aspect, as described in the 4th perspective in the "Deep Adaptation Agenda" by Jem Bendell, the risks of a climate collapse are already materializing, and it is more than likely that they will get a lot worse. Working on both the physical and the social resilience of our societies should therefore be of high priority to Climate Action. Strengthening communities serves this target, as it establishes and strengthens structures and patterns of trust, solidarity and support. Moreover, it helps to build up self-sufficient networks which can produce their own energy, shelter and food even in times of a climate emergency or collapse.

The good life

The Climate Crisis, as we have outlined especially in the 5th perspective, is not just about excess Greenhouse Gas emissions. It is a symptom of a fundamental crisis of how we lead our lives and organize our societies, expressed by the systematic destruction of our natural resources. Reorganizing our interactions towards a more connected, sustainable and balanced structure therefore is the ultimate target we are pursuing beyond just reversing Climate Change.

Strengthening community, in that sense, bypasses the symptom and aims directly at the goal we essentially strive for: a good life. Leading, protecting and striving for a good and sustainable life is the target of Climate Action, it is one of the prime drivers for us to take action, and it is the most important tool for achieving it. By focusing on community, we nourish this theme and thereby push our motivation, our actions and our impact.

Connection to source

Lastly I would like to refer back to the sociologist Otto Scharmer and his "Theory U", briefly described in the 7th perspective (to overcome ideology). One of Scharmer`s credos is that in order to create the best possible future, we have to be connected not only to each other, but also to our source. The whole "U"-process is designed to touch base with where we are coming from at the bottom of the U, so that from there we have access to our true intentions. It is like closing your eyes, taking a deep breath, touching your heart, and feeling within yourself a place of origin which tells you what really matters and where you need to go.

We humans are social beings. From the first day of our lives we are part of community which protects, feeds and warms us. We are on this planet to enjoy one another, to inspire each other and to relish our company. Focusing on and invigorating communities will help us to touch base with this source, which will in turn make it impossible to keep destroying it.

Our true intention is to maintain and savor the beauty of our planet, which is the basis of our existence, not to waste it.

Purpose

Money and Community lead us directly to the third theme which we need to focus on in order to overcome the Climate Crisis: Purpose

Why are we on this planet? Why do we interact? Why do we found companies, and why do we go to work? What is it all for?

Every individual has his or her own calling, every organization does, too. And it is certainly not to make money. Money is the tool and the representative for what we really care about. For most of us this will be recognition, security, intimacy, adventure, the quality of our lives as individuals. Beyond that, most of us will want to make a difference, have an impact on others, and help to make the world a better place. Most of us want to be good people and do good things.

If we really lived by our purpose, there would be no Climate Change and no destruction of nature on our current scale. There would be so much more cooperation, with competition being reduced to a playful way of triggering positive excitement, effort and thrill. Of course this is far easier said than done. But the most fundamental thing we can do to reverse Climate Change is to find our purpose and to live by it.

Trust

The final element which deserves more attention below the climate surface is trust. Our core narrative as human beings, as we have depicted in the 5th and 7th perspective, is that of the human ascent over nature (Eisenstein), accompanied by our belief in separation and control. How does that go together? If we perceive ourselves as meant to rule the world, and we see ourselves as separate from it, then the world is an outside element which we are meant to control. That`s what the word "environment" literally means: Around us – we are not part of it. We see the world as an accumulation of meaningless matter, its only value (as measured in money) derived from the use it has to us.

So we create all our technologies and inventiveness to take advantage of and to control nature. The world is presumably hostile, so the biggest scare we have is that "things get out of control". That is how we can destroy nature, treat animals like products, and tell ourselves that this is in line with our destiny.

The only escape route to that story is to let go. We cannot control the world, and we should not want to control the world. We should use our genius to enrich it, not to control it. But in order to let go, we have to develop trust.

Learning to let go of our drive to control requires us to trust. Learning to trust that things will turn out well, to trust that we are capable of finding solutions, to trust that nature is

stronger than we think, to trust that mistakes can be made, and to trust each other, in that sense, is Climate Action.

This is not to be confused with "toxic positivity". Things will not turn out better by themselves. We have to make an effort, and we may not be successful in our Climate Action. But if we keep fighting for control because we don`t trust one another, we are following exactly the same path that brought us here. As human beings, if we really want to reverse the destruction of our planet, we have to give in to the flow of life, to let go of our fears and to trust that life can be even more beautiful if we don`t control it.

> What is their underlying assumption?

My underlying assumption to these conclusions of the eight perspectives is plain and simple: Human beings, in their heart, are good. We feel the greatest kind of happiness and fulfillment when we put a smile on somebody else`s face. Deep down, we want to give and to enrich.

Whenever we are bad, we are doing so because we learned it that way, or because we are afraid. Often it is a combination of both. We have learned a pattern in the past which protects us from our fears.

So in order to do good things, we have to relearn, and to trust. In some ways we have to relearn to trust. Charles Eisenstein, from whom I took a great number of thoughts and inspirations in the course of this review, believes that humankind is currently in a state of adolescence, on the verge to adulthood. The growth process is coming to an end, and we are now entering a stage of balance, abundance and maturity. This transition inherently entails confusion, turbulence and inner conflict. But in the end, as adults, we will have learned to put our talents, which we have taken so much time to shape and develop, to a perfect use.

Taking this thought further, like any adult, we now have to learn that the fears of our childhood are not real any more. They are history. We can protect ourselves more easily now, since we are better equipped. Our protective reflexes based on our infant fears have become obsolete.

The whole story we are telling ourselves of the human ascent over nature, the story of separation and control is probably just a reaction to the fears we had of the threats of nature when we had nothing but furs and stone weapons to defend us. We are better equipped now. It is time to realize that.

> What is their positive and encouraging impetus?

The most positive, encouraging and exciting part of this learning journey on Climate Change is the fact that I have found answers to my two questions.

1. What do we need to do differently in order to be more successful in our battle against Climate Change?

2. How can I personally find a position of inner peace, sustainability and hope with regard to the topic, given that bad news and frustrating experiences will become inevitable companions of my new job?

In terms of Question 1, apart from the "Level One"-Climate Solutions as laid out in the 3rd perspective, my take aways are:

- Focus on near, hopeful, connected and appreciative messages
- Focus on strengthening community and joint action, achieving fast and tangible results
- Focus on comprehensive interventions beyond just reducing Greenhouse Gas emissions
- Choose climate actions that touch you and what your talents call for
- Take people out and give them nature experiences, show them your love for life on this planet
- Build up highly self-sustaining local or regional structures and networks
- Support regenerative, community supported agriculture
- Don`t always talk science, talk life and nature
- Focus on purpose, ask for purpose, don`t shy away from the question: how is what I am doing, how is what you are doing, how is what we are doing contributing to making the world a better place?
- Reframe ideology, talk about what we care about
- Reframe the business case, talk about captivating your clients and protecting margins, mitigating risks and boosting the brand,
- Stop fighting, start embracing – we are all part of the problem, and we can all be part of the solution
- Undermine and localize the monetary system and support monetary degrowth wherever you can; vote and campaign for alternatives to making more money through money
- Try to combine solutions on all level: e.g. strengthening community structures and purpose by engaging in meaningful climate action, like offering bicycle repairs with disadvantaged youth sponsored by a local company, or urban gardening with convicts trained by local farmers, or the like.

In terms of Question 2, from now on I will find hope, stability and comfort by telling me that:

- It is not my responsibility to save the world
- The solution is not black or white, but in fact quite colorful
- We cannot win this by fighting
- We cannot win this by following the path of fear

- We are all part of the problem – no reason to feel guilty
- The solution is to let go
- We can be proud of what we achieved up to now
- Resistance to Climate Action is usually not about Climate Action
- Nobody really knows what will happen to the Climate
- There is more to this planet than the Climate Threat
- There are many good ways to fight Climate Change
- We cannot create a new world by behaving as we did in the old world
- I do what I can
- My focus is to improve life
- The Climate Collapse is a chance to build a fundamentally better world
- If we don`t believe in it, it will not happen
- If we want to save life because we love it, than we might as well enjoy it
- Life always goes on

I will write these mantras into my memory and take them out whenever I feel desperate and frustrated about people not seeing what I see, not wanting what I want, and thereby apparently putting my future and the one of my children in danger. They are not. They are doing, what they can, too. My outrage will not help me, the planet, my children, nor my cause. I can let go and trust that this will do the trick.

Before closing this review, let me quote Charles Eisenstein one last time from the final page of his book "Sacred Economics" (retranslated into English from the German version by myself):

"I know that my generation [Eisenstein was born 1967] will live in an unimaginably more beautiful world within their lifetime. And it will be a world which will be improved further year on year. We will reforest the Greek Islands, which were cut bare more than 2,000 years ago. We will turn the Sahara desert back to the abundant grassland it once was. There will be no more prisons, and violence will be rare. At work, we will ask ourselves "How can I turn my talents into the most precious gifts?", instead of "How can I make a living of it?". … Our houses will be organic extensions of ourselves, and what we eat will be grown by people we know. We will use tools that have the highest quality humankind with all its talents can produce. We will live in a richness of intimacy and community that does not exist today. And for most of the time the loudest noises we hear will be the sound of nature and the laughter of our children."

Too good to be true? Probably. But a world which we could have, if we used our talents and inventions and the richness of our planet as we could.

> What is their frustration potential, how do they draw from our sources of energy?

It seems strange to answer this question as the final part of this paper. It doesn`t make sense to close this article with a negative outlook. It`s a bit like spoiling everything I wrote by letting it end on a pessimist tune.

So I have decided not to answer this question. Afterall, we shouldn`t follow a pattern which does not make sense, only because we are used to it, right?

I hope you enjoyed reading my thoughts, and that they gave you some valuable insights, as they did to me. I look forward to seeing you out there!

………………

Epilogue – A message from my granddaughter

With the apocalypse seemingly approaching in the year 2020, not only because of Climate Collapse, but even more so in the shape of the Corona Virus, my learnings from writing this book kept their inspiring and encouraging effect from this day forward. Ever since, when people asked me what to do about Climate Change, about what tiny and irrelevant impact they thought they had, about the hopeless- and pointlessness they assumed about their own climate efforts, and about the lack of a positive vision for a better life that could be achieved, I felt that I had found an answer. In fact, it was not my answer. I received it from my grand-grand-grand-grand-grand-granddaughter.

She gave it to me during this workshop which inspired me to write this book. It happened within a breathtaking exercise that was called "The 7th generation", a format developed by Joanna Macy. I was sitting across this young woman, who represented my daughter seven generations down, speaking to me from the year 2220. Apparently humankind had survived the climate crisis and found a sustainable way to inhabit planet earth, so I was eager to hear from her how we did it. But at first it was her who asked me some very touching questions:

1) "From what I read, and from what my parents and grandparents told me, your situation 200 years ago must have been really awkward. Apparently you knew everything back then, how you ruined the planet and destroyed the environment, and still for a very long time you did nothing about it. That seems so hard to believe, since you were so bright already back then and all the knowledge was available. Please explain to me, as it seems hard to comprehend: why did you not stop?"

I tried to explain it to her, how the fear of systemic change was still greater in society than the fear of climate change, and how the existing forces and powers tried to maintain their balance and status quo with so much force and perseverance, so that very few people dared to move for a very long time. It made some sense what I said, but I was very ashamed

of it nonetheless, for all the stupidity, blindness and inadequacy we displayed as human beings during my generation. So she kept asking.

2) "Sometimes when I go to get water or harvest some food, I think of the fact that I owe this to people like you and your other climate activist friends, who did not want to accept that destroying the planet was inevitable. What made you resist and take action? What were your first steps?"

So I explained to her what I did, and how little I thought that I achieved. I told her about all the resistance we encountered and the frustration we felt, about the counter-effects we saw due to the climate tipping points we had already passed, and that often enough it felt like the sisyphus-myth of strenuously rolling up a stone but never being able to reach the top of the hill. So she went on to ask.

3) "Now I know that you did not keep it to those first steps, you went further and it took roots. In the end you succeeded, and it is only because of your work and the work of your friends that we still have a life today. I'm sure your efforts to save the environment and to turn around the climate crisis were often hard and frustrating. How come that you kept going, and from which source did you take the power for your struggle?"

That was when I got really emotional, tears bursting into my eyes. It was such a powerful moment, to sit in front of my own descendant whose life I had helped to save, who was thankful for my efforts to protect this planet. Instead of being completely upset with me and my generation for destroying the richness and beauty of nature and depriving future generations of it, she was simply grateful to me for helping to avoid that it go even worse than that.

And while I tend to feel completely insufficient, and so desperately irrelevant in my effort to make a difference to the global climate, in this very moment I knew that I was not. My work did have a purpose, and it did have an effect, and it mattered what I did.

So I tried to explain it to her, how we became more and more people in our movement who realized that we needed to change, and who took many different measures to start a new journey to a better life consistent with the planet. In the end it was taking action which saved us, I believe, and working on concrete and tangible steps together for the better life which we dreamed of. At some point, the climate deteriorated so much that we did not care about the climate so much anymore, but rather focused on life as such, and on the life which we wanted to live. It just became more substantial, and we rediscovered what actually counted, and that helped to carry us through.

After answering her questions, I was then given the chance to ask my daughter from 7 generations past me how things developed after the year 2020, and to seek some words of feedback and advice from her. This is what she said:

"Thank you, Tim. I really cannot say anything else but thank you for what you did. It seems that we have come a long way. If it weren't for people like you, who did not wait for others to take action, but who just got to work, then I probably wouldn't be here anymore to talk to you.

In order to tell you about what happened after 2020, most of my account is from my history books. But my grandparents (your grand-grand-grandson Leo, to be exact, who was born in 2124, and his wife Stephanie) told me stories about life when they were young, and things have already improved a lot since.

So in 2020, the people on the planet finally seemed to start realizing on a larger scale that they could not go on destroying the planet as they did. But at the time they still believed that it would be enough to just fix some of the symptoms, like emitting less carbon dioxide, and to keep the rest of their system as it was. And even that was still disputed then. Apparently it took many more weather disasters and another virus crisis for the momentum to really tip. From what I read, they say that 2028 was the year when things started to substantially change.

Luckily, a lot of pioneers had already prepared the roadmap to a sustainable life as we live it today. There were some countries who had created something like templates for where we needed to go. They were leading the way and setting the example. But it was only in 2028, when a combination of global draughts and floodings destroyed 45% of the entire crops on the planet and forced societies to slaughter 63% of global life stock, that the transformation gained enough traction to become irreversible.

Still, living conditions kept deteriorating for a long while, because many of the climate tipping points had been passed by then. All the glaciers and ice fields were gone by 2070, the sea level had risen by 15 meters, 65% of global forests that existed in 2020 were destroyed, and weather conditions were more than harsh, to put it mildly. Millions of people died as a consequence of the degradation of the environment and a continuation of severe weather catastrophes.

But then "Drawdown"- the point when levels of greenhouse gases in the atmosphere started to steadily decline - was reached in 2063. By around 2070 humankind had reached some kind of equilibrium with the planet, where a vast array of technological solutions helped them to survive despite extreme weather conditions, and they could save the rest of nature that was still there. Or in fact it was nature that saved humanity, not the other way around. Nature proved to be so resilient and versatile in its reactions, that whenever there was a tiny space opening up for new and better adjusted life to appear, it did. After every catastrophe, regeneration took place at an unimaginable pace. So when humans finally understood that they should support nature do its course instead of trying to control it, once that happened, then things started to get better. It still took many years to regenerate the planet, and we are far from done; but living conditions are a lot better now, and we are on the right track. Humanity has learned its lessons, I would say.

So this is basically the most fundamental message I can convey to you. Life started to come back, and the climate began to stabilize at the very same moment when people understood that they were part of the planet, part of nature, and not on top of it. That they were on earth to guard, to groom and to sustain it, and not to dominate, to control and to exploit it. The term "planet friendly", I understand, was coined already when you were around. But it took another 40 – 50 years for people to really deeply realize that they were connected with nature and with everyone else, so that there can be no value and no purpose in anything produced if it leaves the planet in a worse condition than without it. If anything we produce does not make the world better as a whole, then it has no value, regardless of the benefit it may bring to any specific individual or group.

So let me give you an idea of how we live today. Perhaps this can serve as some kind of vision for you and your friends, a positive ideal world that you want to create. Perhaps it can provide a source of confidence and energy whenever you get frustrated with your work. Perhaps it can help you to convince your fellow earth-inhabitants that changing their lifestyle can in fact lead them to a fantastic new life full of joy and fulfillment, that it is something they can look forward to. Perhaps it can stir the imagination of those who live with you in the year 2020 that fighting climate change does not mean going back to some place in the past, but instead it means building a brighter and more promising future.

So first of all we are still organized in a democratic and capitalist way. We still have private ownership and people who want to make money. But the role of the government has shifted tremendously. At some time our governments realized that in fact money was coming from them, or the people, whom the government represented. Money was not produced by companies or rich people and given to the governments, it was the other way around. Once this was established as common sense, governments could all of a sudden handle the pressure and the lobby groups and the vested interests better, because they knew that they did not depend on their money for creating wealth. It was the other way around.

This shift in paradigms helped governments to enforce regulations which made it a lot less attractive to destroy the planet, and it also made it less attractive to accumulate wealth. They raised taxes on resource consumption and on higher incomes. Digitization helped to enforce these taxes all along the supply chain also to international manufacturers, so that they soon became global standards. On the other hand governments reduced taxes on labor and they subsidized everything needed to fulfill basic needs like housing, food, or healthcare, as long as it was generated in a planet positive way.

In fact by 2048 all OECD countries had started to provide a Universal Basic Income, so that hoarding money and doing destructive things because you needed to "make money" really was not necessary anymore. On top of that they increased spending on the restoration of nature tremendously, and they restricted the ownership and use of land, housing and natural resources through a variety of instruments. Through all this, it just wasn`t that

important any more, and it was a lot less desirable "to make money" or to become rich at the expense of our natural resources.

Parallelly almost all governments throughout the world officially abandoned the GDP as a general metric for measuring prosperity. They replaced it with a set of KPI based on the UN Sustainable Development Goals. Quantitative monetary growth from then on became an irrelevant indicator of macroeconomic success. This was an even more obvious step since many economic activities were withdrawn from the money cycle as a consequence of climate change and the repeated breakdown of global supply chains. Urban Farming saw a real revolution in those years as a decentralized and more resilient production of livelihoods for citizens, creating community and solidarity, at the same time removing carbon from the atmosphere. In fact those countries survived our ecological crises better who had had started early to promote decentralized and self-sustaining networks in cities and municipalities, producing and sharing their own food and electricity from regenerative sources.

Abandoning monetary growth as a target, which had been strongly feared by so many, in reality then turned out to be almost no problem. Governments provided loans with no or even negative interest rates, when they believed a project to create value to the common good, and they fueled the economy with government investments whenever it was needed. That was also how we succeeded to preserve and restore the last remainders of our original ecosystems like rainforests, wetlands, boreal forests, grasslands, marine ecosystems, and mountain wildernesses. And it was through such investments that we managed to build a 100% regenerative energy system on a global scale successfully by 2046. Most of the energy in this system was produced in decentralized installations, but some larger solar power plants were also built in the desert countries, which then simultaneously desalinated water and provided livelihoods for areas which would have otherwise been completely uninhabitable by then.

The best part, and that came as a surprise to most historians and social scientists, too, was the amount of solidarity and humanity which was displayed during the great ecological catastrophes between 2025 and 2075. It may have been due to the extreme sufferings during these times that brought out the best in us humans. Or it may have been the changes in our economic system that I described above which helped our mindsets to shift. Or it may have been just the Zeitgeist, the renewal in generations which helped the transformation from an age of competition and control towards an age of collaboration and trust. My personal believe is that it mainly came about because money just wasn`t so important anymore, so there was no point trying to get the best of the other one any longer. More for you was more for me - people knew they would benefit both the most if they worked together and shared. And it was also a lot more motivating and fun. We kept being competitive, but only as some kind of sports event or game, in order to test our skills, to gain respect and recognition, and to challenge each other.

This collaborative thinking was prompted further because all our inventions and resources needed to be shared in order to prevent the ecological collapse. From what I read this started with the Corona Virus in 2020: intellectual properties were released, global

research cooperation was intensified, and media coverage about the important subjects was no longer hidden behind paywalls, since everybody knew that they were in this together.

The most fundamental and abrupt change, I think, was the agricultural transformation which we witnessed after the great catastrophes in 2028. Luckily there had been so much pioneer work beforehand, so the solutions were all tested and available by then. After we had to kill 63% of our livestock in 2028 since there was just no food or water any longer, we shifted to a largely plant based diet in a huge and unprecedented global wave of change. Technologically produced meat alternatives helped, but many were finally convinced and turned vegan, or almost vegan. That shift enabled us to survive although almost 30% of global agricultural land was destroyed by then. In addition, all of farming was converted to regenerative methods, many of them permaculture. This required a substantial number of additional workforce, but people were not the bottleneck at the time, food was. The first 3-8 years were hard, but then results began to really show. We did not only become a lot more productive then we were before, it was also truly amazing to see how the diversity of nature came back and reestablished its presence. Already by 2040 there was no lobbyist or farmer calling for a return to the industrial agricultural practices of the past. Even the fertilizer companies turned regenerative.

So what can I say, Tim, we had to learn it the hard way, I guess, but we did. CO_2 density is now back below 450 ppm, and it is sinking by 3 – 10 ppm each year. It is hard work, and the weather conditions are still challenging, but we have adjusted the way our cities, farmlands, forests, and houses are built, so we are fine. Compared to the peak CO_2, which was at 488 ppm in 2063, we have already made great progress.

When I compare our life now to the stories I read about your time, I find it really hard to believe that you put up with that for so long. I don`t even mean the destruction of the environment, when I say that, but everything else. You had all the resources, and you used them so inefficiently, and life must have felt so stressful then, how did you cope with all that?

Nowadays we have no pressure to work at all. We do, because we want to, and because we care. Many of us grow their own food, and nature is all around us. We have a lot of fun together, and we share what we have, because that is, what we are there for. We are just very connected. Some of us work for the high tech companies, some of us work for the municipalities and municipal supplies, and some of us work to teach or to take care of children, the sick or the old. Many of us do some kinds of arts and music. About 25% of us do nature work, both as experts and paid work and – in their own communities – as volunteers. We see life and nature as a gift that is given to us, so we try to give some of that back.

Luckily we have great technology available, and we are really thankful for much of what we inherited from your times. If it wasn't for that, we would have to work much harder. But there is a great 3D-printer and plenty of energy and mobility available in each community, so there is no scarcity in the products we want. Everything is produced completely circular, of course, there is no waste. When a product breaks down, or we don`t like it any more, we

return it to the "3RE"-center (Repair, Reuse, Recycle), and they make sure it will get back into the cycle.

Dear Tim, you asked me for advice. That is hard to give, since I know that you have to make your own experiences and cannot learn from the future. Or in fact, I heard that at your times there was a professor who claimed just that, that people should "learn from the future" by extending their awareness from their eyes, ears and minds to their hearts and on to their will, I believe Otto Scharmer was his name. Perhaps you should all try that.

I am convinced that all the work you are doing is important, it helps to prepare the ground. At some point humankind will be ready for the great shift. The earlier this shift comes, the better it will be, also for me, seven generations down the line. But you cannot force it. The climate crisis will give you the necessary push at some point in time.

You can call it preparation for the climate collapse or mitigation of it, your "to do`s" are the same: Create communities of practice and live as much as possible like you would if it had already arrived: Regenerative, local, circular, self-sustaining, in solidarity, and with great love and joy for life. Even companies should do that: create value chains which are as local, regenerative, and as circular as possible – then they are the most resilient and the most planet-friendly.

Dear Tim – we both have to go back to our families now. It was great talking to you. Thanks again for every minute you invested in your planet work. I owe you!