The facts are clear.
We are facing a decisive turning point. Environmental pollution, the climate crisis, and social inequality threaten our future. Together we can turn things around.

Contents

Website Overview

Aim of the website

It is an attempt to make the complex topic of sustainability understandable and to highlight how urgent it is to act now.

The website is aimed at people who are interested in ecological and social issues.

Focus of the website

The website deals with the great sustainability dilemma.

It describes the interlinked crises - climate change, environmental degradation, loss of biodiversity, scarcity of resources and socio-economic inequality. And shows how important it is to develop a sustainable, resilient economy that strikes a balance between economic issues and social and environmental responsibility.

It justifies the urgency for action with quotes from scientists and experts as well as clearly presented figures from the current state of research.

Key messages

A system collapse is a real danger due to the overuse of resources by the global middle and upper classes and the associated environmental pollution, the gradual loss of livelihoods and growing social inequalities.

The limits of our planet's capacity that must be respected in order to preserve the basis of human life have already been exceeded for the most part and require a profound rethinking in business, politics and civil society.

Conclusion

The website is a plea for systematic sustainability - a call to action against the environmental crisis and social inequality.

Join in

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Every change that happens in societies and organizations needs *individuals* who initiate it.

» The world now needs courageous people. Courage in the climate crisis means: saying what is. And also: saying what could be.

Courage grows above all where there are many of us. Where we look very closely in search of hope and see who is already doing something, where something has already been moving, where small bright spots join together to form rays.

Translated from: Luisa Neubauer, climate activist. Book: Was wäre, wenn wir mutig sind. 2025

» Climate anxiety and despair are not only caused by horror scenarios, but above all by political inaction, empty optimism and false comfort.

Hope, perhaps even something like a desire for the future, does not arise theoretically, not by talking and concepts alone. And certainly not by waiting for the world's powerful to agree on a masterplan. It comes from *lived joint action*.

We need a future narrative with the working title «The fight against the climate catastrophe and me».

Translated from source: Daniel Graf. Ja, Zukunftslust, verdammt! REPUBLIK 14.02.2023

» Everyone optimizing their individual performance while our collective infrastructure in many countries crumbles. The future isn’t personal optimisation. It’s collective transformation.

Daniela Andrade. Post on LinkedIn. 08.08.2025

» It is actually breathtaking how many opportunities we have to create a better world or preserve a good world.

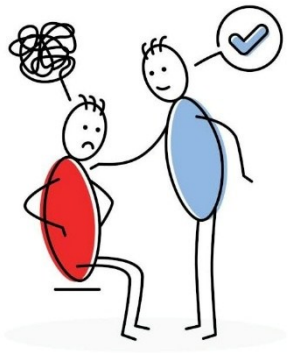
Never in the history of mankind have we had so many powerful tools at our disposal. We cannot afford not to use these tools for the betterment of eight billion people.

Translated from: Joachim Laukenmann and Martin Läubli. Klimaforscher Hans Joachim Schellnhuber über Lösung der Klimakrise. Tages-Anzeiger 31.12.2024.

» If you are living today, you are in a truly unique position to achieve something that was unthinkable for our ancestors: to deliver a sustainable future.

What makes us different from ancestors is that economic and technological changes mean we have *options*. We can make responsible choices that move us forward. But we can also stick with the status quo. A sustainable future is not guaranteed - if we want it, we need to create it. Being the first generation is an opportunity, but it's not inevitable.

Hannah Ritchie. Book: Not the End of the World. Surprising facts, dangerous myths and hopeful solutions for our future on planet Earth. 2024



» One of the hardest questions is, what can I do? What can each individual do to make the transition possible and make the world more sustainable?

A vital role that people can play is to help themselves as well as their friends and families to remain positive and not fall into despair.

To a great extent, the main challengein the current situation individuals will face is mental. It will be hard to maintain a happy outlook in the face of so many difficulties. It will be hard for people to feel optimistic when they will have so much to worry about, whether it is access to water, falling living standards or frightening weather.

Individuals can only really have a major impact by acting collectively, as activists, shareholders and voters. They can push for change in the political system and the education system. They can demand that the costs of the transition are shared fairly, so that the rich pay much more than the poor. They can stand for election.

According to: Graeme Maxton. Book: Change! Why we need a radical turnaround. 2019

» The first encouragement is to be grateful for living in a time that challenges us so much to change and awakens that sensual instinct in us to sustain life.

The second piece of advice is: Don't be afraid of the future that lies in darkness, don't be afraid of uncertainty, stress, loss, because all that is part of a drastic change. Everything new first matures in the dark. And we cannot wait for ready-made plans to take the next step.

The third tip is to roll up your sleeves. Get involved politically, get an overview, ask questions about purpose and meaning. Anyone can do that. Don't sit back, don't get discouraged or paralysed. There is so much to learn and do at this time.

Fourthly, I would say: have courage of vision. We must allow positive visions of the future to blossom within us. For nothing new will come into the world through us that has not previously taken shape in our consciousness.

Translated from: Geseko v. Lüpke. Book: Politik des Herzens. Nachhaltige Konzepte für das 21. Jahrhundert. 2015. p. 93 - 105: Im Gespräch mit Joanna Macy (1929 – 2025), Eco-philosopher, Activist and System Scientist.

Book recommendation

Human Nature - Nine Ways to Feel about Our Changing Planet.

Kate Marvel, Climate Scientist, 2025

» A captivating exploration of climate change that uses nine different emotions to better understand the science, history, and future of our evolving planet.

Quote from the book cover

Where do we stand?

» We are speechless and do not know how to overcome it in order to make reality comprehensible, to adequately describe the seriousness of the situation.

George Marshall. Book: Don't Even Think About It - Why Our Brains Are Wired to Ignore Climate Change. 2014

» An entire society is stuck between the feeling of impending catastrophe and the inability to admit this feeling.

Quote from Joanna Macy (1929 – 2025), Eco-philosopher, Activist and System Scientist.

» We can no longer pretend that we are sleepwalking into climate catastrophe. We are doing it consciously, with our eyes wide open, and hang the consequences.

We either slash emissions now or we are in deep, deep trouble.

According to: Bill McGuire. Our world is hurtling into climate disaster and what do politicians give us? Oilfields and new runways. The Guardian 30.09.2025

» The highly industrialised modern world has pretty much reached the end of its wisdom - be it the tangible climatic changes, the creeping increase in ecological destruction, the conflict between rich and poor, the collapsing social and healthcare systems, the empty state coffers, the seemingly unmanageable increase in unemployment, the rapid growth in mental and allergic illnesses.

We are increasingly experiencing first-hand, on our own wallets, on our own quality of life, that we are at a turning point.

According to and translated from: Geseko von Lüpke. Book: Politik des Herzens. Nachhaltige Konzepte für das 21. Jahrhundert. Gespräche mit den Weisen unserer Zeit. 2015

We should *now* take bold and ambitious measures to protect and preserve our livelihoods, while keeping a cool head.

We need prudent policies without ideologies, false optimism, empty promises and without particular interests of a few.

Wallpaper © ittipon | Shutterstock, Inc. [US] 2018

The past decades have brought unprecedented prosperity to many people. However, our planet and a huge number of people are paying a high price for this.

» This is the historic novelty of the current situation: As we run ever closer to the edge of the environmental envelope – the conditions within which our species can thrive – the development of the rich world systematically undercuts the conditions for survival of billions of people in the climate danger zone.

They are not so much exploited or bypassed as victimised by the climatic effects of *economic growth* taking place elsewhere. This violent and indirect entanglement is new in its quality and scale.

Adam Tooze. The climate emergency really is a new type of crisis – consider the 'triple inequality' at the heart of it. The Guardian 23.11.2023

» The pressure of the global middle and upper classes on our planet's vital ecological systems has now become so strong that a climatic and ecological destabilization of the Earth has begun. This destabilization endangers the ecological foundations of life, which include a stable climate, a functioning biosphere, sufficient availability of clean water, healthy soil and clean air.

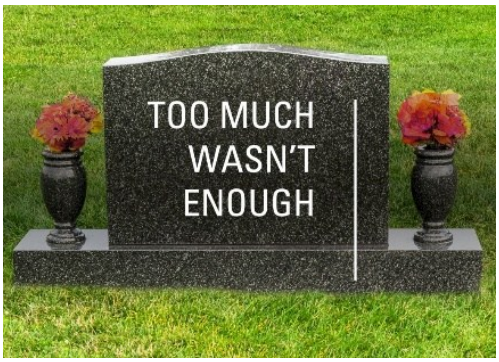
We need a discussion about sufficiency as a *«Strategy of the Enough»* - the hitherto neglected dimension of future policy.

Sufficiency as a «Strategy of the Enough» - A Necessary Debate. German Advisory Council on the Environment. 2024. PDF

» From «More» to «Enough»: Over the past fifty years, global resource use has more than tripled. Without urgent intervention, it is set to double again by 2060. That trajectory will push us well beyond planetary boundaries – undermining climate goals, destroying ecosystems, accelerating inequality and threatening future wellbeing for all.

What is needed is a shift from extractive, growth-oriented economic models toward sufficiency, circularity, and intelligent and just provisioning systems.

Monika Dittrich and Peter Hennicke. Beyond efficiency: why sufficiency must lead the resource policy agenda. Earth4All. 29 July 2025



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» The question arises: What philosophy of life is behind the *insatiability* of us wealthy people who live so stubbornly and so dispassionately and morosely at the expense of others and the environment?

Translated from: Gabriela Simon: Mehr Genuss! Mehr Faulheit! Mehr Schlendrian! Die Zeit Nr. 42/1992

» The world's wealthiest 10% are responsible for two thirds of observed global warming since 1990 and the resulting increases in climate extremes such as heatwaves and droughts.

International Institute for Applied Systems Anlaysis. The world's wealthiest 10 % caused two thirds of global warming since 1990. 07 May 2025

» Living off the fossil fuel deposits of the carboniferous era for more than two centuries gave us a false sense of an open-ended and unlimited future where everything was possible and with little price to pay.

We called this era the «Age of Progress». Climate change is now the bill come due.

Jeremy Rifkin, economist and journalist. Book: The Green New Deal. Why the Fossil Fuel Civilisation Will Collapse by 2028, and the Bold Economic Plan to Save Life on Earth. 2019

© studiostoks | Shutterstock, Inc. [US] 2023

Our way of life and our economy are causing major environmental impacts and are increasingly endangering our livelihood and living together on Earth.

Even in the Global Risk Report 2022 of the World Economic Forum WEF, five of the six biggest global risks are ecological - *climate crisis, loss of biodiversity, water scarcity, environmental pollution, natural disasters* - and the sixth is weapons of mass destruction.

- Extreme weather events with great damage to property, infrastructure and human life.
- Governments and businesses fail to mitigate and adapt to climate change.
- Great loss of biodiversity and collapse of ecosystems with irreversible consequences for the environment, which leads to a severe depletion of resources for humanity and industry.

» We don't know how much carbon will be in the future atmosphere, we don't know what the tipping points will be or when the thresholds will be crossed. But the biggest reason we don't know the future is simple: We have no idea what humans will do. If we continue to put greenhouse gases in the atmosphere, the risks increase. If we don't, the world will be safer.

It doesn't look likely that we will ever stop. But the science is clear: human beings are responsible for climate change, and human beings can choose to stop it. We're the first species in the history of Earth to be faced with this decision.

Kate Marvel. Book: Human Nature. Nine ways to feel about our changing planet. 2025

» The *irreversibility* of change in ecological systems in terms of restoration has simply not yet been understood:

If we reach these tipping points where the climate tips, where biodiversity tips, where the oceans tip, then we will have completely changed living conditions for humanity, for future generations.

According to and translated from: Maja Göpel. Pressekonferenz Scientists for Future zu den Protesten für mehr Klimaschutz. 12. März 2019

© Andrey_Kuzmin | Shutterstock, [US] 2023

No coming catastrophe has ever been studied as thoroughly as global warming. And none has ever been so thoroughly *ignored*.

The first World Climate Conference was held in Geneva back in 1979. World Climate Conferences have been held annually since 1995 and nonetheless global greenhouse gas emissions are still increasing every year.Never since modern measurements began in 1957 has the increase in global CO_2 concentrations been as great as from 2023 to 2024.

» At the 2021 climate summit in Glasgow, the states agreed to reduce greenhouse gas emissions by 45% by 2030, compared to 2010 levels. The aim was to limit global warming below 2°C.

However, studies on the effectiveness of the *existing* nationally determined contributions to reduce their emissions have now revealed: if they were implemented to this extent, global emissions in 2030 would not be lower, but around 9 % higher than in 2010.

According to United Nations – Climate Change. New Analysis of National Climate Plans: Insufficient Progress Made, COP28 Must Set Stage for Immediate Action. 14 November 2023

» The gap between the climate challenge and climate action, between ambition and commitment, is growing rapidly. This development justifies speaking of a *planetary emergency*.

Translated from: Hans Joachim Schellnhuber - Founding director and long-standing head of Potsdam Institute for Climate Impact Research PIK. Kurze wissenschaftliche Stellungnahme zur sich verschärfenden Klimakrise. WissenLeben 14.02.25

» For the young people who show up in the statistics as concerned or extremely concerned, the reports about the climate crisis are not nearly as depressing as the fact that these reports are *ignored*.

Translated from: Daniel Graf. Ja, Zukunftslust, verdammt! REPUBLIK 14.02.2023

» In a major international survey in 2021, 10,000 young people between the ages of 16 and 25 around the world were asked about their attitudes to climate change:
More than half of young people believe that humanity is doomed due to climate change.
More than a third of young people are reluctant to have children because of climate change.
Climate anxiety and distress correlate with perceived inadequate government response and associated feelings of betrayal.

Caroline Hickman et al. 2021. The Lancet Planetary Health. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey.

© klublu | Shutterstock, [US] 2023

The inequality in income, resource use, CO_2 emissions, etc. between countries and also within societies is enormous.

Inequality is a problem on the scale of climate change.

Over 600 economists and scientists call in an open letter for a new «International Panel on Inequality», the creation of a body akin to the UN's Intergovernmental Panel on Climate Change (IPCC) to coordinate action against what it saw as disastrous effects on modern society.

Open letter. Economists and inequality experts support call for new International Panel on Inequality. November 2025

» The imbalances in the global division of labour lead to an outrageous level of dishonesty in the climate debate: the countries of the global South are held responsible for the overexploitation of their natural resources, even though the benefits largely accrue to the global North, which also makes the extractions possible in the first place with its technology and financial capital.

Beckert Jens. Book: How We Sold Our Future. The Failure to Fight Climate Change. 2025

» The richest 1% of humanity is responsible for more carbon emissions than the poorest 66%, with dire consequences for vulnerable communities and global efforts to tackle the climate emergency.

A report shows that in 2019 Africa, which is home to about one in six of the world population, was responsible for just 4% of emissions.

Jonathan Watts: Richest 1% account for more carbon emissions than poorest 66%, report says. The Guardian, 20.11.2023. Data based on the report of Oxfam International. Climate Equality: A planet for the 99%. PDF

» It is understandable why CO_2 emission-reduction policies that ignore these vast inequalities are unlikely to gain widespread support and may meet with strong opposition.

Richard Wilkinson and Kate Pickett. From inequality to sustainability. Earth4all. 2022. PDF

» Without decisive action to drastically reduce socio-economic inequalities, there is no solution to the environmental and climate crisis.

Piketty Thomas. Book: Brief history of equality. 2022

» If we want to take the fight against climate change seriously, then it surely follows that the rich in particular must drastically reduce their consumption. The global rich also include the middle classes in industrialised countries. The climate issue is a class issue.

But it is also an issue of economic inequality between countries: the old and new industrialised countries and those that want to become industrialised. In this respect, climate change and the process of reorganising the world order are interlinked.

Translated from: Daniel Marwecki. Book: Die Welt nach dem Westen. Über die Neuordnung der Macht im 21. Jahrhundert. 2025

» The goals for a sustainable development are set [UN Agenda 2030 with 17 goals]. However, we currently do not know the *conditions* under which humanity can implement the measures to achieve these sustainability goals globally.

Christian Berg. Book: Sustainable Action. Overcoming the Barriers. 2020

» Sustainability is on everyone's lips, in politics, business and in private life. Everyone has an idea of what the term means and sets different priorities. The term is therefore in danger of meaning «everything and nothing».

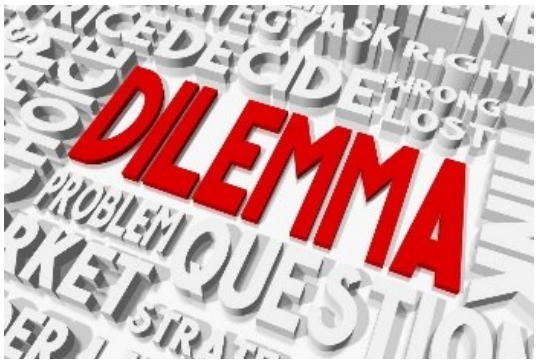
Translated from: Agentur für Forschung. 2019. Wahrnehmung von "Nachhaltigkeit" - Bericht zur qualitativen Studie. Mannheim, 05. September 2019

» *Greenwashing:* A research project funded by the European Union (2023) revealed that more than half of the environmental claims made regarding products and services - 53% to be exact - are either ambiguous, deceptive, or unfounded, with 40% of claims lacking evidence altogether.

Alexandra Walker and Hélène Gaudin. Paint it Green: Strategies for Detecting and Combatting Greenwashing in ESG Ratings. ERM Sustainability Institute. 2024

» The 2030 Agenda progress report shows at the mid-term that just 12 percent of the Sustainable Development Goal (SDGs) targets are on track. Progress on 50 percent is weak and insufficient. Worst of all, we have stalled or gone into reverse on more than 30 percent of the SDGs.

Antonio Guterres. Secretary-General's remarks to launch the Special Edition of the Sustainable Development Progress Report. 25. April 2023



» As long as man was small in numbers and limited in technology, he could realistically regard the Earth as an infinite reservoir, an infinite source of inputs and an infinite cesspool for outputs. Today we can no longer make this assumption.

K.E. Boulding. Earth as a Space Ship. Washington State University Committee on Space Sciences. 1965

» Today's belief and thinking patterns all come from the time of a world almost *empty* of people and are not suitable for today's world *full* of people.

Today, actually since the mid of the twentieth century, humanity lives in a full world. A hundred years ago there were around 1,700, by 1950 around 2,500 and today around 8,000 million people live on our planet.

The limits are tangible, palpable in almost everything people do. And yet the world continues to pursue a policy of growth, as if we were still living in the empty world of that time, when the abundance of natural resources on Earth seemed endless.

According to Weizsäcker v. Ernst Ulrich and Anders Wijkman. Book: Come on! - Capitalism, Short-Terminism, Population and the Destruction of the Planet. 2017

» Our institutions and governance have been designed for a world characterised by relative stability and progress, but they have not been designed to steer our society in times of rapid change, when widely held assumptions, such as the pursuit for growth, are turning against us.

We need policymakers to take bold and ambitious action that embraces the urgency and interplay of overlapping crises while ensuring a truly just and inclusive transition.

Katy Wiese, Senior Policy Officer at the EEB. In: Andreas Budiman. The tricky path to financing our way out of the climate crisis. Meta from European Environmental Bureau EEB. April 5, 2023.

» We are looking for a grand narrative that will overcome the present gloom. But we forget that many a grand narrative from the past has led to disaster.

For the moment, we have to accept that there is not yet a good answer to the great challenges of our time, perhaps there cannot even be one.

We do not know whether and how major disruptions caused by climate change can be avoided; for the time being, we can only experiment with small interim solutions.

Translated from: Jürgen Wiebicke. Book: Erste Hilfe für Demokratie-Retter. 2024

© andriano.cz | Shutterstock, [US] 2019

» All of us seem to be sleepwalking towards disaster with almost zero change in our consumption habits or lifestyle. Companies are walking back from their commitments, cheered loudly by their shareholders as they do so. Climate summits are falling short.

The tragic thing is that we have so many ideas, solutions, technologies and even the resources to address climate change substantially. What we lack is the leadership and collective will to implement them at scale and with speed.

Ravi Venkatesan. Social Entrepreneur and Writer. Post on LinkedIn. 30.12.2024

» In the fight against climate change, the dilemma here is obvious.

On the one hand, consumption in an economy dependent on fossil fuels increases CO_2 emissions and also causes other environmental damage, such as biodiversity loss. The more people consume, the greater the impact on the environment.

On the other hand, the social system is based - economically, politically, and culturally - precisely on this consumption and its continued growth.

Beckert Jens. Book: How We Sold Our Future. The Failure to Fight Climate Change. 2025

» Modern societies have more detailed knowledge than ever before about the state of and changes in the environment and about the causes, consequences, correlations and interactions of these changes.

However, their political will and their political ability to stop and possibly reverse these changes has not grown as a result of this knowledge, but has perhaps even shrunk.

Translated from: Ingolfur Blühdorn. Book: Die Gesellschaft der Nicht-Nachhaltigkeit. Skizze einer umweltsoziologischen Gegenwartsdiagnose. In: Nachhaltige Nicht-Nachhaltigkeit. 2020. Seiten 83-160

» When climate change moved from a comfortably future issue in the 1990s to an issue that we had to do something about *now*, that is when the political polarization began.

It's when science implies societal action that people begin to reject the science in order to avoid the need for action.

Amanda Buckiewicz. Prominent climate scientist argues it's time to ditch the 'myth of neutrality'. CBC News posted Jan 17, 2025

That leaves the justified question:

Do we really want to achieve the climate protection goals or are we content with climate protection goals?

The question is not *how*? The question is *when* do we decide to do business more sustainably?

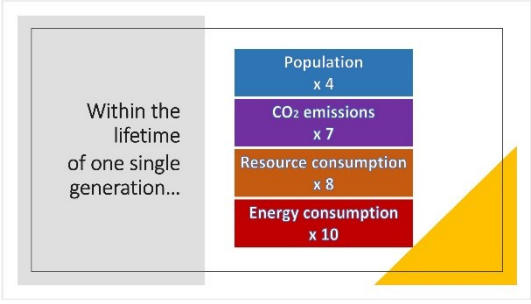
» The world is changing – environmentally, socially, economically. The only uncertainties are the pace and direction of that change, and whether societies will find pathways to long-term sustainability and prosperity or instead settle for increasing volatility and accelerating decline.

Transitions are very rarely smooth, and the sustainability transformation is perhaps the most difficult that global societies have faced. Seemingly contradictory truths and deep uncertainties must be factored into short-, medium-, and long-term plans.

Like previous transitions – the ongoing digital transformation is a good example – significant value is at risk, and enormous value can be created.

Jacco Kroon etal. 2024. Report: Catching the wave - Seizing the opportunities of sustainability transformation. Executive Summary. ERM Sustainability Institute and World Business Council for Sustainable Development. PDF

We are not on a sustainable path. Within the lifetime of *one single generation* the world population, global CO_2 emissions, resource and energy consumption increased at an unprecedented rate.



Data source: Christian Berg. 2020. Online presentation of the new report to the Club of Rome - Sustainable Action. Overcoming the Barriers.

Sustainable development is hardly conceivable without

- **an economic transformation inclusively moving towards a consistent circular economy,**
- **simultaneously cutting back on over-consumption,**
- **rapidly reducing CO_2 emissions and**
- **a fundamental change in the way we manage land.**

We must move from the deeply internalized attitude of *competition* and *self-interest* to a basic attitude of *cooperation* and *common good*, if for example, we really want to curb global climate change.

Definition of Sustainability

Sustainability is a development that satisfies the needs of the present without risking that future generations will not be able to meet their own needs.

Brundtland Report - Our Common Future. World Commission on the Environment and Development, 1987

Sustainability [ecology] is a principle according to which no more can be consumed, than can respectively be regrown, regenerated, and provided again in the future.

Translated from: Duden German Dictionary

Sustainability means - concisely formulated - good life for about ten billion people within the ecological boundaries on our planet.

Translated from: Uwe Schneidewind. Book: Die Grosse Transformation - Eine Einführung in die Kunst gesellschaftlichen Wandels. 2018

Sustainability is a guiding concept to secure and foster humane living conditions for all people worldwide, in the present and future, and to facilitate restoring and preserving the environmental foundations to enable this.

Mark Lawrence. 2023. How can I live sustainably. RIFS Research Institute for Sustainability. Helmholtz Centre Potsdam.

As simple as these definitions are, it is difficult to achieve a unified, shared understanding of sustainability.

But without a common understanding of sustainability, the transformation to a more sustainable society can hardly be accomplished.

» Transformation means that we determine what we want to keep and preserve - and at the same time what we want to part from.

Translated from: Stefan Brunnhuber. Book: Die Kunst der Transformation – Wie wir uns anpassen und die Welt verändern. 2023

17 Sustainable Development Goals

UN 2030 Agenda

» These goals answer all three design questions for good policymaking in the 21st century: What are our needs? What are the circumstances? Which resources are key?
In detail, they are:

1. Overcome poverty
2. End hunger and ensure healthy nutrition
3. Improve health and well-being
4. Guarantee quality education
5. Guarantee gender equality
6. Guarantee clean water and sanitation
7. Provide affordable and clean energy
8. Decent work and sustainable economic growth
9. Sustainably renew industry, innovation and infrastructure
10. Reduce inequality between and within countries
11. Develop sustainable cities and communities
12. Sustainable consumption and production
13. Climate protection measures
14. Preserve life under water
15. Sustain life on land
16. Peace, justice and strong institutions
17. Partnerships to achieve the goals

Translated from: Maja Göpel. Book: Werte – Ein Kompass für die Zukunft. 2025

» In order to achieve the UN 2030 Agenda's Goals, we need to fundamentally change the way we do business and consume.

Although digitalization is hardly mentioned in the 2030 Agenda, it will greatly influence its implementation.

WBGU German Advisory Counsil on Global Change. Digitalization: What we need to talk about. 2018.

» Recent studies on the interactions between the Sustainable Development Goals identify the *conservation of biodiversity* as one of the most potent levers to achieve sustainability.

Swiss Academy of Sciences. Achieving the SDGs with Biodiversity. 2021. PDF

Overview and explanation 2030 Agenda for Sustainable Development

» The UN warned that without an improved performance by the G20, which makes up two-thirds of the world's population and is responsible for 75 per cent of global CO_2 emissions, the Agenda will fail.

A primary point of criticism is consumption behaviour on the part of rich industrialised countries.

If the estimates forecasting a rise in global population to 9.7 billion by 2050 are correct, humanity and the planet will face immense challenges. Asia's rise will certainly lead to greater energy demand, consumption, and production.

This is not a call for a backward-looking «ecological agenda», but instead for overdue reforms regarding economic modernisation, climate protection, and innovation.

Sabina Wölkner. 2030 Agenda: The courage to achieve sustainability. Konrad Adenauerstiftung. International Reports 3/2019.

Wallpaper © ra2studio | Shutterstock, Inc. [US] 2018

Anyone who really wants to change something cannot get around thinking about the dogma of «ALWAYS MORE».

» In the race for «more», we lose sight of the fact that «better» is a completely different objective.

Translated from: Maja Göpel. Book: Werte. Ein Kompass für die Zukunft. 2025

» No intelligent person still believes that the existing economic system and the level of consumption of the present can be continued for another one or two generations, a thought that would have been self-evident in 1900 or 1950. This makes it clear: we are at the end of something.

Translated from: Blom Philipp. Book: Das grosse Welttheater. Von der Macht der Vorstellungskraft in Zeiten des Umbruchs. 2020

» As restrictions on consumption are not actually being pursued owing to their unwanted consequences, business and politics are focusing instead on a strategy of promises, and consumers on symbolic surrogate actions.

The order of the day is for example: fewer cars, fewer cruises, and smaller homes. But this will not happen. Since economic growth and consumerism are built into the DNA of the system, a politically prescribed contraction of the economy is simply not feasible.

Beckert Jens. Book: How We Sold Our Future.The Failure to Fight Climate Change. 2025

» The idea that consumption should be limited according to the needs of a planet shared in common by eight billion is, for many, especially in privileged nations, unthinkable as an individual orientation and forgettable as a political program.

Anna Katsman. Planetary Commons. The New Institute. 25.05.2024

» It is understandable that the idea of having to renounce some of the wealth you have gained causes anxiety. It helps to realise that a fulfilled life cannot be measured by the number of cruises taken or the size of your wardrobe.

Renunciation is often associated with loss, which leaves a gap *forever*. But where there are gaps, there is also space for something new.

Translated from: Silvia Liebrich. Wir müssen lernen zu verzichten. Süddeutsche Zeitung. 30. Juli 2022.

» We do not have to renounce happiness, well-being and justice, but excessiveness, abundance, stress and consumption decadence.

Translated from: Stefan Brunnhuber. Book: Die Kunst der Transformation. Wie wir uns anpassen und die Welt verändern. 2023

» In rich countries, renunciation means actually nothing more and nothing less than refraining from ruining the planet and in return preserving the basis of life in the future. - That's a big word, of course. Couldn't it be a little bit smaller? Unfortunately not.

Translated from: Maja Göpel. Book: Unsere Welt neu denken. Eine Einladung. 2020

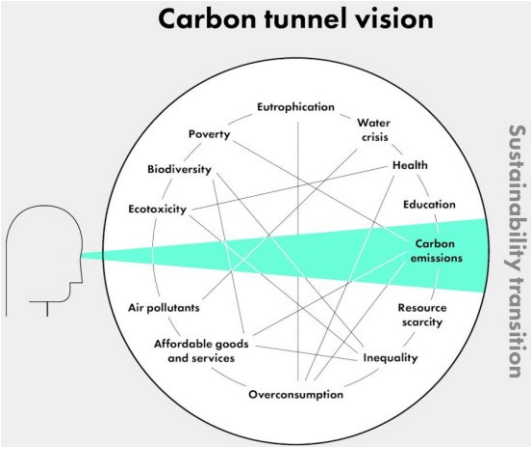
Climate

» Like when fever strikes, global warming is a symptom of a deeper malaise. Climate change is telling us loud and clear that our growth-based economy is unsustainable.

Margarita Mediavilla in: Khaled Diab. 2021. How Europe can grow without growing. European Environmental Bureau META.

» When talking about climate change, we are all too often trapped in what is known as the ‘Carbon tunnel vision’. This means that when it comes to climate change, we only think about carbon emissions.

However, this obscures the bigger picture. In the fight against climate change and for a future worth living, we have to take many more aspects into account:



Source picture: PLOS Global Public Health. Breaking free from tunnel vision for climate change and health. 9. March 2023

» Even today, we are presumably much better at understanding the social consequences of climate change than the *social conditions* for limiting it.

Christian Berg. Book: Sustainable Action. Overcoming the Barriers. 2020

» The rights of future generations are just as weak in today's political decisions as the rights of people in the Global South or the rights of nature.

None of the signatory states to the Paris Climate Agreement have yet fulfilled their commitments. Externalising the costs of our lifestyle is still too easy for political actors to face up to the responsibility of restructuring and doing without.

Translated from: Josef Mackert. Newsletter WBGU Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen. 22.10.2024

» For more than 6,000 years, the human race has learned to live within a relatively narrow band of environmental and climatic fluctuations. The mean annual temperature over that period has been around 13ºC.

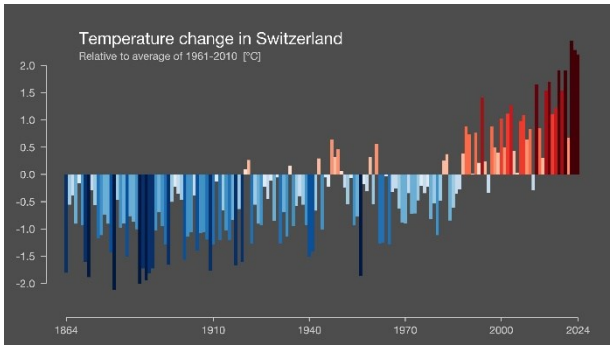
Currently, around 1% of the Earth's land surface - mainly in the hottest parts of the Sahara - has an average annual temperature of 29ºC,

By 2070, almost a fifth of the Earth's land surface could reach these temperatures, and this could affect around 30% of the forecasted world population.

Chi Xu etal. 2020. Future of the human climate niche. Proceedings of the National Academy of Sciences (PNAS) Vol. 117 | No. 21.

The average near-surface air temperature in Switzerland has already increased by about 2.9 °C above the preindustrial average (1871-1900).

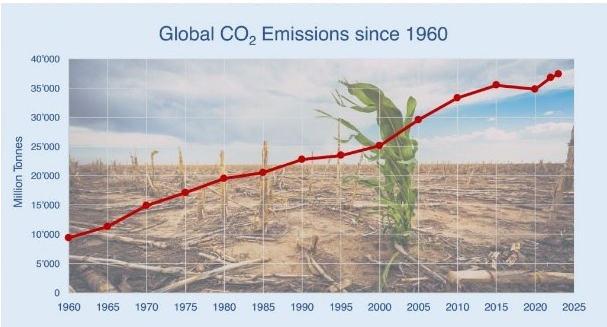
Source: MeteoSwiss. 2025



Website ShowYourStripes. Institute for Environmental Analytics. University of Reading

In 2024, 37.4 billion tonnes of CO_2 will be emitted from fossil fuels.

Source: Global Carbon Project. November 2024



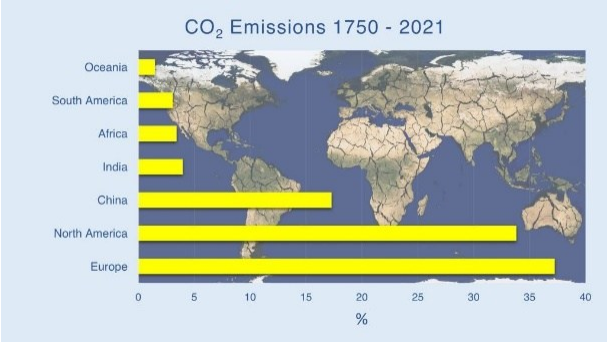
Wallpaper © Scott Book | Shutterstock, Inc. [US] 2019

A continuation of current policies would result in a 100% chance of exceeding 1.5°C, a 97% chance of exceeding 2°C and a 37% chance of exceeding 3°C by 2100.

CarbonBrief. UNEP: New climate pledges need 'quantum leap' in ambition to deliver Paris goals. 24. 10.2024

The Global North's share of Global Warming to date is over 60 %, China's share is around 15 % and the share of all other countries together is around 24 %.

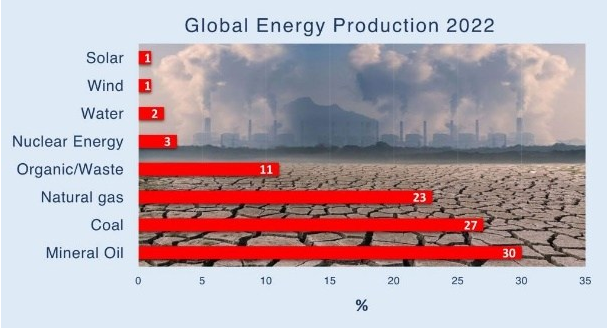
Source: Global Carbon Project 2023



Wallpaper © Barnaby Chambers | Shutterstock, Inc. [US] 2019

Fossil fuels currently generate around 80% of the primary energy consumed worldwide.

Source: International Energy Agency's World Energy Outlook 2023.



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» In stark contrast to the trickle of climate finance, fossil fuel subsidies have surged in recent years. In 2022, total spending on subsidies for oil, natural gas and coal reached a record $7 trillion [according to IMF]. That's $2 trillion more than in 2020.

Chelsea Harvey and Zia Weise. The state of the planet in 10 numbers. Politico.eu. November 20, 2023

Resilient Ecosystems

There is no prospect of achieving climate targets without protecting ecosystems *at the same time*. Reducing greenhouse gas emissions alone is not sufficient.

Major efforts are now needed to protect the natural carbon reservoirs such as forests, soils, wetlands and oceans, in order to *simultaneously* mitigate the rapidly advancing loss of biodiversity.

Some 50 percent of man-made greenhouse gas emissions are absorbed by natural ecosystems on land and in the sea. Soils are, after the oceans, the second largest natural carbon sink.

» Wetlands cover just 3-4% of Earth's surface but store twice as much carbon as forests. Yet are among the least understood and monitored ecosystems.

Source: Global Peatland Hotspot Atlas. 2024.

» Since the pre-industrial era, it is estimated that more than 80 % of the world's wetlands have been lost due to changes in land use and drainage, and most of the remaining wetlands have been degraded.

WBGU. German Advisory Council on Global Change. Water in heated world. Summary. 2024. PDF

Climate change is also taking place in the oceans in particular. They cover more than 70 per cent of the planet's surface, are getting warmer and sea levels are rising. To date, they have absorbed around a quarter of global CO_2 emissions.

» The lack of appropriate wastewater treatment and the release of pollutants from the manufacturing industry, agriculture, tourism, fisheries and shipping continue to put pressure on the ocean, with a negative impact on food security, food safety and marine biodiversity.

The ocean plays a crucial role in the achievement of the Sustainable Development Goals and the livelihoods of billions of people. We urgently need to change how we interact with it.

The Second World Ocean Assessment. United Nations. 2021.

The «Climate Decade»

We are in the «climate decade». A period where our collective actions will determine the kind of world our children and grandchildren will inherit.

» We think of climate change as slow, but it is unnervingly fast. We think of the technological change necessary to avert it as fast-arriving, but unfortunately it is deceptively slow, especially judged by just how soon we need it.

David Wallace-Wells. Book: The uninhabitable earth. Life after warming. 2019

» The goal of *halving* global emissions by 2030 represents the absolute minimum we must achieve if we are to have at least a 50 per cent chance of safeguarding humanity from the worst impacts.

Christiana Figueres and Tom Rivett-Carnac. Book: The Future We Choose - Surviving the Climate Crisis. 2020

AI generated image | Shutterstock, Inc. [US] 2024

» The primary challenge is to stop the flow of money to oil, coal and gas and to establish a clear path towards de-carbonization.

The «sustainability» of finance can be gauged by how far and how fast it shifts us away from the fossil fuel economy, rather than simply allowing the financial sector to develop new «green» markets alongside a core business that continues to bankroll climate change.

Oscar Reyes. Change Finance - Not the Climate. 2020.

» The climate crisis is not interested in the promise to be climate-neutral in 2050: It doesn't matter *when* humanity stops burning coal, oil and gas, and thus blowing greenhouse gases like CO_2 into the atmosphere. It depends on how much we burn in the meantime.

Translated from: Maria Stich. 18 Fakten über die Klimakrise, die jede:r wissen sollte. Perspective Daily. 27. März 2023

Biodiversity

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The rapidly declining biodiversity on land and in the sea is a serious risk to the food security of mankind.

» When we have defeated nature, we will find ourselves on the losing side.

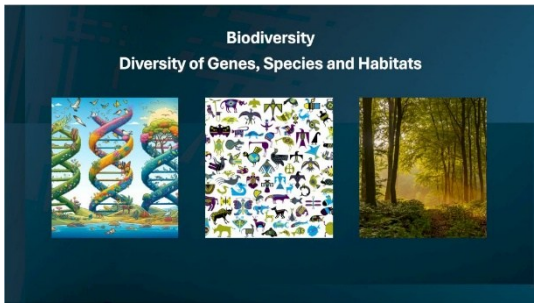
Translated quote from Konrad Lorenz, biologist and Nobel Prize winner. 1903 – 1989

» In 2022, 2.4 billion people, comprising relatively more women and people living in rural areas, did not have access to nutritious, safe and sufficient food all year round.

The State of Food Security and Nutrition in the World 2023 - in brief. FAO, IFAD, UNICEF, WFP and WHO. PDF

» While fossil records show that extinctions of species happen naturally, current extinction rates are estimated to be 100 to 1000 times higher today than what is considered natural.

Elizabeth Claire Alberts. Global biodiversity is in crisis, but how bad is it? It's complicated. Mongabay Series. 11. April 2022



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» Biodiversity means «biological variety» or «variety of life». Biodiversity can be described on three levels: the *diversity of genes*, the *diversity of species* and the *diversity of habitats*. These three levels of biodiversity are closely and dynamically interlinked.

Biodiversity is not only in itself worth preserving, but also provides indispensable services for society and the economy, so-called ecosystem services. The diversity of these services is immense: Among other things, biodiversity provides food, influences the climate, maintains water and air quality, is a component of soil formation and, last but not least, offers people space for recreation.

Translated from: Beate Kittl. 2024. Fragen und Antworten zur Biodiversität in der Schweiz. WSL Eidgenössische Forschungsanstalt für Wald, Schnee und Landschaft

In 2022, 188 countries agreed at the 15th UN Biodiversity Conference with a ground-breaking final declaration to protect at least 30 per cent of the world's land, sea and inland waters by 2030.

» Land use change linked to massive expansion of globalized, highly commercialized industrial agriculture is the main overarching driver of declining agrobiodiversity.

Globally, the FAO [Food and Agriculture Organization of the United Nations] estimates that 75 % of crop diversity was lost in the 20th century. Historically about 7,000 plant species were cultivated for food, today only about 80 plant species make major contributions to food supplies at the global level.

In fact, half of all plant-based calories come from only three species - rice, maize, and wheat. And 93 % of global meat supplies come from just four animal species - pigs, poultry, cattle, and buffalo.

Looking ahead, restoring agrobiodiversity – the richness of what we cultivate, breed, consume, and conserve in the wild – is crucial to ensure resilient food systems against the backdrop of climate change.

Swiss academies factsheets Vol.15 No.1. 2020. Variety is the source of life: Agrobiodiversity benefits, challenges, and needs. PDF

» The production of meat and dairy products already takes up 70 - 80 per cent of global agricultural land*), although it only covers 18 per cent of humanity's calorie requirements and

37 per cent of its protein needs.

Poore et al., Reducing food's environmental impacts through producers and consumers. Science 360, 987-992 (2018)

**) Cultivation of animal feed and grazing land for animals*

» Almost all of the world's mammal biomass is humans and livestock. Both account for 95% of all mammals. Humans 36 %, our livestock and pets, which are primarily cattle, 59%.

That leaves just 5% as wild mammals, which includes thousands of different species, from elephants and deer to lions and whales.

According to: Our World in Data. Almost all of the world's mammal biomass is humans and livestock. December 01, 2025

» Global wildlife populations of mammals, birds, fish, reptiles and amphibians have declined by an average of 73 % since 1970. This corresponds to an average annual decline in observed population sizes of 2.6 per cent.

Source: WWF. 2024 Living Planet Report. Executive Summary. PDF

» Biodiversity is experiencing a dramatic, human-induced mass extinction worldwide. This also greatly reduces the capacity of ecosystems to contribute to climate regulation and food security.

Only if there is a fundamental change in the way we manage land can we reach the targets of climate-change mitigation, avert the dramatic loss of biodiversity and make the global food system sustainable.

WBGU German Advisory Council on Global Change. 2020. Rethinking Land in the Anthropocene: from Separation to Integration. PDF

» Driven by climate change, marine biodiversity is undergoing a phase of rapid change that has proven to be *even faster* than changes observed in terrestrial ecosystems.

Hodapp D. etal. 2023. Climate change disrupts core habitats of marine species. Global Change Biology, 00, 1–14.

»The oceans are home to an estimated one million animal and plant species. The phytoplankton in the oceans produce as much oxygen as all land plants combined.

Translated from: Greenpeace Schweiz. 2023. Wer atmet braucht das Meer.

» In seeking to curb climate change and biodiversity loss, the following steps are important:

Transformative change to a sustainable economic system. The economic development of countries and companies must also be measured by their management of natural resources.

No subsidies harmful to the climate and biodiversity. Countries around the world spend much more on environmentally harmful subsidies than on measures to protect the climate and biodiversity.

Radical reduction of greenhouse gas emissions. Only rapid decarbonisation can curb climate change. Agricultural GHG emissions from land-use change are also to be minimised.

Overcoming land-use conflicts. The use of land for buildings, transport, food production, climate protection and biodiversity conservation needs to be coordinated.

Environmental regulations for the financial sector. The financial sector has a major influence on economic activities which are harmful to biodiversity and the climate.

Reduced consumption of meat and dairy products. Natural ecosystems must no longer be converted to plantations, arable land or livestock farms. The agricultural, forestry and fishing sectors must sustainably manage those areas already in use. This also requires changes in dietary habits.

More funding for conservation. To achieve conservation goals, Countries around the world need to invest many times the amount that is currently expended.

Ismail SA et al. (2021) Tackling climate change and biodiversity loss jointly. Swiss Academies Factsheet 16 (3). PDF

Pollution

» Along with climate change and biodiversity loss, the pollution of air, water and soil is one of the major environmental crises of our time.

When ecological boundaries are exceeded, this also has significant health impacts. Despite recent heat waves, droughts, heavy rainfall events and the COVID-19 pandemic, policymakers and society still do not take this connection seriously enough.

The multiple environmental crises require profound change. Policymakers and society need to rethink approaches to these issues and recognise how strongly human health and the environment are interconnected.

SRU German Advisory Council on the Environment. For a Systematic Integration of Environment and Health. Summary 2023. PDF

» Ambient air pollution, chemical pollution, and soil pollution - the forms of pollution produced by industry, mining, electricity generation, mechanised agriculture, and petroleum-powered vehicles - are all on the rise.

In the most severely affected countries, pollution-related disease is responsible for more than one death in four.

Like climate change, biodiversity loss, ocean acidification, desertification, and depletion of the world’s fresh water supply, pollution endangers the stability of the Earth’s support systems and threatens the continuing survival of human societies.

Pollution is now a substantial problem that endangers the health of billions, degrades the Earth’s ecosystems, undermines the economic security of nations, and is responsible for an enormous global burden of disease, disability, and premature death.

Philip J. Landrigan etal. The Lancet Commission on pollution and health. www.thelancet.com Vol. 391 February 3, 2018

» Water quality will continue to decline in the future if the discharge of inadequately treated wastewater – currently about 80 % of the world's wastewater – and with it pathogens, persistent chemicals, nutrients and solid waste continues.

WBGU. German Advisory Council on Global Change. Water in heated world. Summary. 2024. PDF

» According to a new study, it is estimated that over four billion people worldwide do not have an adequate supply of drinking water. That is more than half of the world's population.

Esther E. Greenwood etal. Mapping safe drinking water use in low- and middle-income countries. Science 15. Aug 2024. Vol 385, Issue 6710 pp. 784 - 790

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» The political silence on one of the most worrying findings of current climate impact research is astonishing. This is the question of how progressive climate change will affect human health and whether the corresponding changes in environmental conditions could even make certain regions of the world uninhabitable.

Translated from: Hans Joachim Schellnhuber. Kurze wissenschaftliche Stellungnahme zur sich verschärfenden Klimakrise. WissenLeben 14.02.25

» Because the increasing environmental and health problems often have common roots, synergies can be found in approaches to solving them. We are at a crossroads.

Planetary Health: What we need to talk about. German Advisory Council on Global Change (WBGU). 2021. PDF

» Climate change, biodiversity loss and global pollution must be halted in order to maintain the health of people and the planet.

Important, hitherto neglected starting points include stopping the exploration of fossil energy sources and strengthening the biosphere on land, in freshwater and in the sea - also to prevent zoonotic pandemics.

Health and environmental risks from emissions and the dumping of persistent wastes and chemicals in the air, soil and water should be prevented with a *controlled circular economy* and *emissions regulations*.

German Advisory Council on Global Change WBGU. Factsheet No. 8, 2023. Healthy Living. PDF

Environmental Policy

» Peace and security depend on a sound climate and environmental policy. Without this, there can be no peace.

Quote from: Josep Borrell. In: European Commission Press Release 28/06/2023. Addressing the impact of climate change and environmental degradation on peace, security and defence.

Environmental policy not only serves to protect nature, but is also increasingly understood as a central component of *social security policy*.

Environmental policy secures the foundations for social stability, health and peace: protecting people and nature, conserving natural resources, promoting a sustainable economy and assuming global responsibility.

» The great fallacy of the environmental debate in recent decades has been the hope that an ecological turnaround can essentially be implemented with *some technological innovation programme within the existing economic order*.

However, the continuing impressive growth in prosperity has not been able to slow down climate pollution, resource consumption or the loss of biodiversity - on the contrary, all these pressures have increased massively.

Translated from: Uwe Schneidewind. Book: Die Grosse Transformation - Eine Einführung in die Kunst gesellschaftlichen Wandels. 2018

» That the transition to sustainability can be achieved through innovation and technology alone is a hypothesis for which there is insufficient evidence - on the contrary, there are many arguments against it.

Sufficiency as a «Strategy of the Enough». German Advisory Council on the Environment. 2024. PDF

» Technological innovation is absolutely important. It is vital, in fact. We're going to need all the innovations and efficiency improvements we can get to drastically reduce the resource and carbon intensity of our economy.

But the problem we face doesn't have to do with technology. The problem has to do with *growth*. Over and over again, we see that the *growth imperative* wipes out all the gains our best technology delivers.

Jason Hickel. Book: Less is more. How degrowth will save the world. 2020

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» Today, Europe continues to consume more resources and contribute more to environmental degradation than many other world regions. We do not only have to do more; we also have to do things differently.

We now need completely different answers to environmental and climate issues than those of the past 40 years.

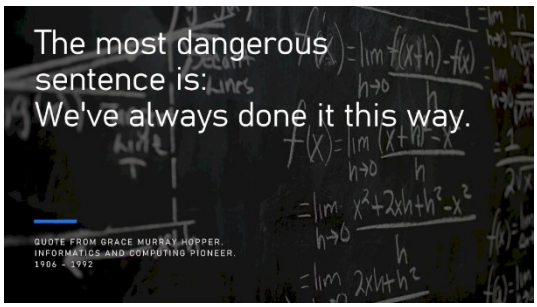
The European Environment - State and Outlook 2020. European Environment Agency. 2019

» Because problems can never be solved with the same way of thinking that created them.

Quote from: Albert Einstein. 1946 - in light of the new threat of atomic weapons.

» The longer one tries to apply the solution strategies that fit yesterday's problems to today's problems, the bigger they become, the problems.

Translated from: Harald Welzer. Book: Zeiten Ende – Politik ohne Leitbild, Gesellschaft in Gefahr. 2023



Ai generated image | Microsoft pilot 2025

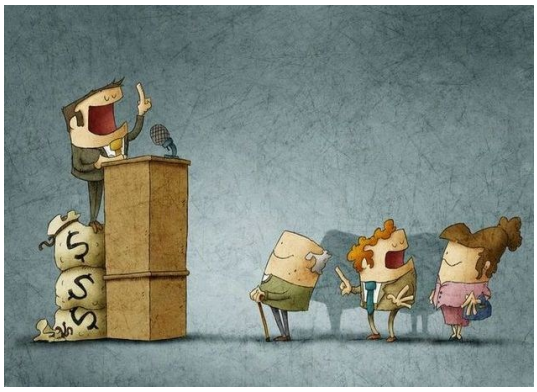
» It is quite simply a fact that the current ways of life and economic activity have a comprehensive and deep impact on various ecosystems. Future generations therefore face drastic and irreversible disadvantages.

To date, climate, environmental and sustainability policy has far from succeeded in achieving a *sufficiently* strong reduction in ecological burdens.

Translated from: Institut für ökologische Wirtschaftsforschung (IÖW): Gesellschaftliches Wohlergehen innerhalb planetaren Grenzen,Texte 89/2018

» The climate crisis is actually a *climate policy crisis*, as we are sliding - insignificantly slowed down - towards a climate catastrophe as a result of inadequate action.

Translated from: Prof. Andreas Fischlin. Farewell lecture from 2 December 2024. Swiss Federal Institute of Technology Zurich.



© JrCasas | Shutterstock, Inc. [US] 2019

» The experience of decades of climate warming shows that political intervention in the market has never been sufficient, and indeed was never even genuinely intended to stop climate change.

This is why we also speak of the climate crisis as the greatest *state* failure of all time, one which has calmly and quietly run its course notwithstanding all the provisions of environmental law.

Beckert Jens. Book: How We Sold Our Future. The Failure to Fight Climate Change. 2025

» We need a *policy shift* that does not treat sustainability as a possible by-product of an economic growth agenda, but aims directly at sustainable consumption, production and investment.

Translated from: Maja Göpel. Book: Unsere Welt neu denken - Eine Einladung 2020

Digitalization

© Geza Farkas | Shutterstock, Inc. [US] 2018

» Digitalization and sustainability are often referred to as two megatrends that are shaping the economy and society. However, the two phenomena are very different:

Digitalization is massively changing reality and influencing almost every aspect of our lives, while sustainability is a normative goal that has not yet become a reality in most areas.

Maike Gossen and Otmar Lell. Sustainable consumption in the digital age. A plea for a systemic policy approach to turn risks into opportunities. GAIA 32/S1 (2023): 71 – 76

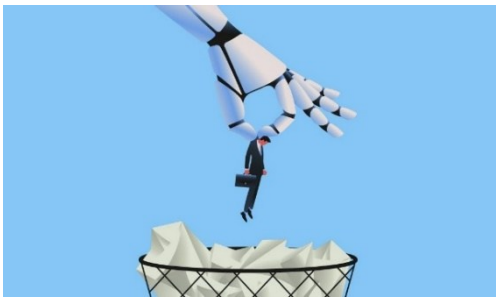
» The combination of digital progress and capitalist ideology in a fully monetarised society obviously leads to a concentration of power among a few, mostly private, actors.

Translated from: Jonas Lüscher, Writer - Interview in the newspaper Tages-Anzeiger, 06.01.2018

» We will end up with «digital by default» unless we choose «digital by design». We shouldn't view technology through the lenses of Big Tech where the role of algorithms is to replace humans.

We should start by valuing the outcomes that we want technology to help achieve such as reducing carbon and improving the returns to labour.

Mark Carney. Book: Value(s) – Building a Better World for All. 2021.



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» Overall, digitalization processes today tend to act as *«fire accelerants»*, exacerbating existing non-sustainable trends such as the overuse of natural resources and growing social inequality in many countries.

On the one hand, it must be plainly stated that the digitalization of business and everyday life has so far been marginally oriented towards sustainability aspects.

On the other hand, digitalization offers an enormous range of possibilities for supporting the Great Transformation towards sustainability.

German Advisory Council on Global Change. Towards our Common Digital Future. 2019. PDF

» The three main objectives of ecological sustainability are *decarbonisation*, *dematerialisation* and *renaturalisation*. In theory at least, the growth of digital services can be compatible with the goals of ecological sustainability. But today's reality is far-removed from that ideal.

The consumption of energy and material is actually increasing as digitalisation expands. This situation will not change unless the majority of affected companies adopt the three ecological objectives as binding principles.

Ortwin Renn, et al. The opportunities and risks of digitalisation for sustainable development: a systemic perspective. GAIA 30/1(2021): 23–28

» The energy consumption of digital infrastructure is increasing, because the intensity of use is growing faster than efficiency. It is true that microchips have become more energy-efficient by a factor of at least one billion over the last five decades.

This means that you can now calculate a billion times more for a kilowatt hour of electricity than fifty years ago. There is no other technical field in which energy efficiency is increasing so rapidly. But utilisation is growing even faster, which is why overall consumption is increasing sharply.

Translated from: Mathias Plüss. Interview mit Prof. Lorenz Hilty. Fussabdruck der Digitalisierung. Newsletter Planet Plüss. Tages-Anzeiger. 02.06.2024

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» The relation between digitalization and environmental sustainability is ambiguous. On the whole, the form of digitalization we have witnessed in the past decades has not solved any of the pressing environmental issues of our time: Despite innovative small-scale initiatives, it can be noted that in none of the key sectors – transport, energy, agriculture, housing, consumer goods – did the introduction of digital tools so far spur transformation towards sustainable alternatives.

T. Santarius etal. Digitalization and Sustainability: A Call for a Digital Green Deal. Environmental Science and Policy 147 (2023) 11–14

» The report «AI for a planet under pressure» raises a critical question:

Can artificial intelligence (AI) be applied both responsibly and effectively to address complex and interconnected sustainability challenges?

These challenges include climate change, biodiversity loss, ocean acidification and other transformations of our living planet.

In conclusion, it shows that:

(1) AI offers vast potential to accelerate progress across the sustainability sciences.
(2) AI can sharpen our decision-making and clarify complex environmental challenges for researchers and the public alike.
(3) However, realizing this promise requires careful navigation of the risks, including AI's own environmental footprint, inherent biases, and the challenge of unequal access.
(4) Despite these hurdles, responsible and ethical applications of AI in sustainability research are not just a possibility - they are an urgent necessity.
(5) Pioneering these uses can unlock the breakthroughs we need to build a more sustainable future.

Galaz, V. and M. Schewenius. AI for a planet under pressure. Stockholm Resilience Centre, Potsdam Institute for Climate Impact Research, Google DeepMind. November 2025

» In fact, we will need artificial intelligence (AI) for a world worth living in. After all, we will not be able to predict floods, better manage droughts, understand the melting of glaciers or adapt agriculture to changing conditions without IT and AI.

The big breakthroughs are not that ChatGPT can write an essay, but that AI can improve personalised medicine or that it can be used as a technology to take action against climate change. It is therefore necessary to make artificial intelligence sustainable.

We have various stages of industrialisation: mechanisation, electrification, computerisation and now we are in the digitalisation stage. The fifth stage is the ecologisation and the personalisation of our systems - and we need to get to this Industry 5.0 quickly.

It will not work without an economic transformation. We will move from *efficiency* to *sufficiency* and ask ourselves what and how much needs to be digitalised in order to develop a balanced life for people.

Translated from: Ivona Brandić, Professor for High Performance Computing Systems at TU Wien. Warum KI beim Thema Nachhaltigkeit nachsitzen muss. Profil 25. März 2025

Growth + Resources

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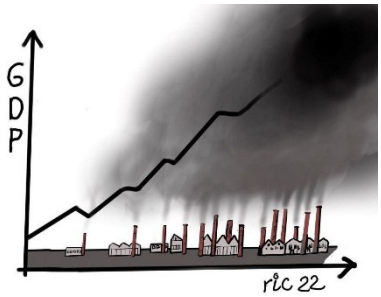
» It's a dilemma: it does not work without growth, there is no completely green growth, and normal growth inevitably leads to ecological disaster.

Translated from: Ulrike Herrmann. Book: Goodbye, Kapitalismus: So kann der Übergang zu einer neuen Wirtschaftsordnung gelingen. 2022

» Three per cent growth means doubling the size of the global economy every twenty-three years. This might be OK if GDP*) were just plucked out of thin air. But it's not. It is coupled to energy and resource use.

Jason Hickel. Book: Less is More. How degrowth will save the world. 2020

***) GDP** stands for gross domestic product and represents the total monetary value of all final goods and services produced and sold within a country during a period of time.*



© Ueli Hafner 2022

» Continued growth isn’t a fairy tale, it’s a necessity. But not *just any growth*.

The power of the market needs to be directed to achieving what society wants. That requires measures of income and welfare that reflect our values.

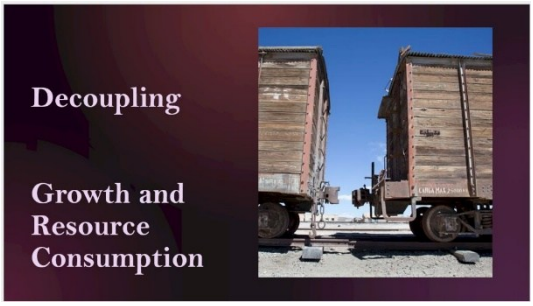
We need a world where we are no longer guided solely by measures like gross domestic product GDP.

Mark Carney. Book: Value(s) – Building a Better World for All. 2021

» We urgently need a *clear vision*, a *bold policy,* and a truly *robust strategy* to find the way out of the growth dilemma.

The growth dilemma is barely taken into account by the normal policy-makers and is mentioned only marginally in public debate.

Tim Jackson. Book: Prosperity without Growth - Foundations for the economy of tomorrow. 2016



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The *conventional* response to the growth dilemma is the call to decouple economic growth from resource consumption by means of more efficient production processes.

However, more efficient production means an increase in productivity, and this results in additional growth with corresponding resource consumption.

» In the capitalist economy, all efficiency gains are in principle translated into additional economic activity. This reinvestment of efficiency gains is the basic economic principle unterlying growth and profits.

Beckert Jens. Book: How We Sold Our Future. The Failure to Fight Climate Change. 2025

» So far, global environment and climate policies have at best achieved *relative decoupling**) between GDP and resource use respectively greenhouse gas emissions.

Helmut Haberl et al 2020. A systematic review of the evidence on decoupling of GDP, resource use and GHG emissions, part II: synthesizing the insights. Environ. Res. Lett. 15 065003.

****) A relative decoupling** of resource consumption and economic growth means that although resource consumption increases less strongly in a more sustainable but still growing economy, it still increases.*
*In the case of an **absolute decoupling**, resource consumption would no longer increase despite a growing economy.*

» It is a cause for great concern about the prevailing focus of policy makers on *green growth*, this focus being based on the flawed assumption that sufficient decoupling can be achieved through increased efficiency without limiting economic production and consumption.

Parrique T. etal. 2019. European Environmental Bureau. Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability. PDF

However, if you look at CO_2 emissions in isolation, i.e. disregarding resource consumption and harmful environmental impacts such as biodiversity loss, it is found that an *absolute* decoupling between growth and CO_2 emissions is already taking place regionally, but not globally:

» In fact, over the past decade, some rich countries have reduced their CO_2 emissions while increasing their gross domestic product and hence achieved an absolute decoupling. But, at the achieved rates, these countries would on average take more than 220 years to reduce their emissions by 95%.

Jefim Vogel and Jason Hickel. Is green growth happening? An empirical analysis of achieved versus Paris-compliant CO2 – GDP decoupling in high-income countries. www.thelancet.com/planetary-health Vol 7. September 2023

» The analysis of data from 1,500 regions over the past 30 years showed that 30 percent have managed to lower their carbon emissions while continuing to thrive economically. The authors caution that the current pace of decoupling is insufficient to meet the global climate target of net-zero carbon emissions by 2050.

Green growth: 30 percent of regions worldwide achieve economic growth while reducing carbon emissions. Potsdam Institute for Climate Impact Research. October 2024

» Circularity is important in advancing a sustainable and just development agenda. Ensuring economic and social development without exceeding our planetary boundaries is the challenge of the 21st century.

By reducing the need for primary materials and the associated greenhouse gas emissions linked to the extraction and processing of those resources, circular economy actions can make an important contribution to climate action.

The circular economy in motion. European Investment Bank. 2024

» Increasing resource use is the *main driver* of the triple planetary crisis.

A projected 60 per cent growth in resource use by 2060 could derail efforts to achieve not only global climate, biodiversity, and pollution targets but also economic prosperity and human well-being.

Reducing the resource intensity of food, mobility, housing and energy systems is the best and only way of achieving the sustainable development goals (SDGs), the climate goals, and ultimately a just and liveable planet for all.

United Nations Environment Programme. Global Resources Outlook 2024 Summary. Bend the Trend – Press Release. March 2024

» Resource extraction and processing are responsible for 90% of global biodiversity loss, 50% of global greenhouse gas emissions, and over 30% of air-pollution-related health impacts.

Piotr Barczak. How a circular economy can cure globale resource overconsumption. Meta from European Environmental Bureau. July 16, 2024.

Despite efforts to move towards a circular economy, the proportion of recycled materials in the total consumption of all materials has decreased in recent years.

» The share of secondary materials*) consumed by the global economy has decreased from 9.1% in 2018 to 7.2% in 2023, a 21% drop over the course of five years.

The Circularity Gap Report 2024. Executive Summary. Circal Economy Foundation.

***) Secondary materials** originate from collected, disposed materials and differ from **primary materials** extracted from nature.*

Wallpapers © Aleutie + © Anson0618 | Shutterstock, Inc. [US] 2019/2024

» There will be no one simple solution for decoupling prosperity and the destruction of nature, but if we don't manage it, we will have to adapt to the new conditions. And they'll be tough.

Translated from: Interview with Harald Lesch. Digitale Welten riechen nicht. GeoPlus 29.09. 2021

» The environmental challenges we face are massive. If we don't tackle them, the consequences will be devastating and cruelly unequal. We must act. It must be large-scale. And so much quicker than we have done before.

Hannah Ritchie. Book: Not the End of the World. Surprising facts, dangerous myths and hopeful solutions for our future on planet Earth. 2024

We are now faced with the Herculean task of satisfying the basic needs of what will soon be 9 to 10 billion people while *at the same time* respecting the Earth's ecological limits.

In this context, it is important to remember the great inequality.

» Over the past four decades, global production as measured by GDP has increased more than threefold.

The richest 1% have claimed 54% of total gains from growth, while the richest 5% have claimed 70%.

The richest 1% now control 42% of the world's wealth. The richest 5% control 69% of the wealth.

Wealth is not just about consumption, it is about power. Power in the world economy is far from equitable or democratic; it is concentrated in the hands of a few.

Sullivan, D., Hickel, J., & Zoomkawala, H. (2025). "Global income inequality", Global Inequality Project. Global/Inequality

» The world's wealthiest 10% are responsible for two thirds of observed global warming since 1990 and the resulting increases in climate extremes such as heatwaves and droughts.

International Institute for Applied Systems Analysis. The world's wealthiest 10% caused two thirds of global warming since 1990. 07 May 2025

»15 to 20 % of the world's population account for around 80 % of global resource consumption.

Various sources: There are no exact data on this.

» 80 percent of the world's population has never boarded an aircraft and only 1 percent of the world's population is responsible for half of all flight emissions.

Stefan Gössling, Andreas Humpe. 2020. The global scale, distribution and growth of aviation: Implication for climate change.

Economy

The incentives in today's economic system are still *one-sidedly* promoting the exploitation of nature and man.

» The great promise of unlimited progress - the promise of domination of nature, of material abundance, of the greatest happiness for the greatest number, and of unimpeded personal freedom - has sustained the hopes and faith of the generations since the beginning of the industrial age.

Erich Fromm. Book: To Have or to Be? 1976

» The development of the economic system is no longer determined by the question: What is good for Man? but by the question: What is good for the growth of the system?

Erich Fromm. Book: To Have or to Be? 1976.

» A realistic assumption is that only very far-reaching changes in the economy, and even in human civilisation, can enforce a reasonably tolerable future for our planet.

Translated from: Ernst Ulrich von Weizsäcker. Book: So reicht das nicht! Was wir in der Klimakrise jetzt wirklich brauchen. 2022

» It is an *epochal contradiction* that the idea of sustainability and the hectic quarterly thinking emerged almost simultaneously in corporations: The conviction that politics and business should be laid out very long-term, and the compulsion to report higher profits from quarter to quarter.

Translated from: Roger de Weck. Book: Nach der Krise – Gibt es einen andern Kapitalismus? 2009

» The world's leaders are correctly fixated on economic growth as the answer to virtually all problems, but they're pushing with all their might in the wrong direction.

Hence, we end up with global economic policy that was crafted to alleviate poverty but many decades later has morphed into a poverty trap, economically enslaving whole nations, destabilizing democracies, and «crowdfunding» environmental catastrophe.

We have watched the purpose of our economy morph from valuing our future to discounting it entirely.

Dixson-Declève S. et.al. Earth for All. A Survival Guide for Humanity. Summary. 2022: PDF

» To detach Nature from economic reasoning is to imply that we consider ourselves to be external to Nature.

We may have increasingly queried the absence of Nature from official conceptions of economic possibilities, but the worry has been left for Sundays. On week-days, our thinking has remained as usual.

The fault is not in economics; it lies in the way we have chosen to practise it.

Partha Dasgupta. 2021. The Economics of Biodiversity: The Dasgupta Review. Abridged Version. 2021

» The malaise in corners of finance can be remedied only by a combination of regulatory measures and true cultural change.

Market standards were poorly understood, often ignored and always lacked teeth. Too many participants neither felt responsible for the system nor recognised the full impact of their actions.

Bad behaviour went unchecked, proliferated and eventually became the norm.

Mark Carney. Book: Value(s) – Building a Better World for All. 2021

© mipan | Shutterstock, Inc. [US] 2020

» The current economic organisation, which is based on uncontrolled capital movements without social and ecological targets, is often enough tantamount to a kind of neo-colonialism in favour of the richest. Politically and ecologically, the development is untenable.

Piketty Thomas. Book: Brief history of equality. 2022

» Leading economists are proposing an economic turnaround:

Politicians should say goodbye to neoliberalism and take more care of the people. Decades of poorly managed globalisation, over-reliance on market self-regulation and austerity have eroded governments' ability to respond effectively to the current crises.

To avert greater damage to humanity and the planet, we urgently need to address the causes of people's discontent.

Translated from: Forum New Economy. Appell international führender Ökonomen für eine Agenda gegen Populismus. Pressemitteilung vom 29. Mai 2024

» Liberal democracies are today confronted with a wave of popular distrust in their ability to serve the majority of their citizens and solve the multiple crises that threaten our future.

We are living through a critical period. Markets on their own will neither stop climate change nor lead to a less unequal distribution of wealth. Trickle-down has failed.

What is needed is a new political consensus addressing the deep drivers of people’s distrust instead of merely focusing on the symptoms, or falling into the trap of populists who pretend to have simple answers.

The Berlin Summit Declaration – Winning back the people. Forum New Economy. May 2024. PDF

» Economic growth based on exploitation - the business model of the rich West for 400 years - has reached its limits. The exploitability of people and the ecosystems leads to migration in millions and catastrophic environmental impacts.

Translated from: Philipp Blom. Book: Was auf dem Spiel steht. 2017

» It is the conditions of any future economy that need to be redeveloped: For all the great achievements that we can look back on have only been at the price of not taking into account either the natural conditions or the living situations of people in other parts of the world.

Translated from: Harald Welzer. Book: Alles könnte anders sein - Eine Gesellschaftsutopie für freie Menschen. 2019

» The ecological problems will increase and so will the social and economic upheavals. We need to ask ourselves what kind of economic system will serve the people and also maintain the ecological foundations. Today's does not.

Translated from: Interview with the economist Irmi Seidl. Der ökologische Umbau wird die Arbeitswelt verändern. Tages-Anzeiger. 15.02.2020

Time is short

Wallpapers © JIL Photo + © F-Focus by Mati Kose | Shutterstock, Inc. [US] 2021

» Human development has ushered in an era of converging crises: climate change, ecological destruction, disease, pollution, and socioeconomic inequality.

Propelled by imperialism, extractive capitalism, and a surging population, we are speeding past Earth's material limits, destroying critical ecosystems, and triggering irreversible changes in biophysical systems that underpin the Holocene*) climatic stability which fostered human civilization.

A critical paradigm shift must occur that replaces exploitative, wealth-oriented capitalism with an economic model that prioritizes sustainability, resilience, and justice.

Charles Fletcher etal. Earth at risk: An urgent call to end the age of destruction and forge a just and sustainable future. PNAS Nexus, Volume 3, Issue 4, April 2024

***)** The **Holocene** is a period in the Earth's history that began around 12,000 years ago and continues to the current day. Global temperature fluctuations during this period averaged only around 1° C.*

» It is very urgent. System collapse is a real danger. We face tremendous challenges due to rapid population growth, the overuse of resources and associated pollution, the loss of biodiversity, global warming and overall we are experiencing a gradual loss of our basis of existence.

Ernst Ulrich von Weizsäcker and Anders Wijkman. Book: Come on! - Capitalism, Short-Terminism, Population and the Destruction of the Planet. 2017

© Alexandros Michailidis | Shutterstock, Inc. [US] 2024

» Our planet has capacity limits for air pollution, biodiversity, the extent of climate change, and other factors. These are boundaries that must be respected if we are to preserve the basis for human life. We have already crossed seven out of nine planetary boundaries.

Seven of nine planetary boundaries now breached - ocean acidification joins the danger zone. Potsdam Institute for Climate Impact Research. 24.09.2025

» Given the *existential threat* of climate change, severe weather events, rising sea levels, loss of biodiversity, resource depletion and increasing economic inequality, we are reminded of the importance of developing a sustainable economy that balances economic issues with social and environmental responsibility.

Swiss National Science Foundation. National Research Programme 73: Transition to a Sustainable Economy. 2023

© Monkey Business Images | Shutterstock, Inc. [US] 2018

» The burdens – from mounting government debts, underfunded pensions, inadequate health and social care to environmental calamity – that we are pushing on to the next generation are *unfair*, *inequitable* and *irresponsible*.

Mark Carney. Book: Value(s) – Building a Better World for All. 2021

» Why does the endless number of widely known problem diagnoses, strategy proposals and calls for action have so little effect in practice and the socio-ecological transformation simply doesn't take place?

Translated from: Ingolfur Blühdorn. Haben wir es gewollt? Book: Nachhaltige Nicht-Nachhaltigkeit. 2020. Pages 31-45

» Since the Enlightment, and massively more so over the past fifty years, traditional ways of life with their associated restrictive norms have been increasingly called into question and replaced by unbounded individualist lifestyles.

Liberation from obligations and the convenience that comes with the new freedom are felt to be entitlements and contribute to our ignoring the ecological consequences of our way of life. This is especially the case since excess is the ultimate principle behind economic activity under capitalist modernity.

Unbounded individualism sells the future for the next quarterly figures, the next election result, or today's passing pleasure.

Jens Beckert - Director Max-Planck Institute for the Study of Societies Cologne. Book: How We Sold Our Future. The Failure to Fight Climate Change. 2025

» In other words: the economy can't and won't let go of its pursuit of profit. Politicians do not want to mess things up with the economy and be re-elected. Citizens do not want to give up their individual freedom and the prosperity they have acquired.

Translated from: Thomas Brandenburg. Rezension: Das Wissensbuch des Jahres? Verkaufte Zukunft. hpd Humanistischer Pressedienst. 21. Oktober 2024

» Limiting global temperature rise to 1.5 degrees C above pre-industrial levels is essential for avoiding increasingly severe and widespread climate change impacts.

Doing so requires cutting greenhouse gas emissions 42% by 2030 and 56% by 2035, relative to 2023. Current policies alone will achieve less than a 1% reduction by 2030 and 2035.

Sophie Boehm etal. 2024. By the Numbers: The Climate Action We Need This Decade. World Resource Institute

» Any further delay in forward-looking global action on adaptation and mitigation will miss a *narrow and rapidly closing window* of opportunity to secure a liveable and sustainable future for all.

IPCC Intergovernmental Panel On Climate Change. Climate Change 2022 – Impacts, Adaptation and Vulnerability.

Unlike financial crises or pandemics, the damage done to the climate is *irreversible*. What we fail to do now cannot be made up for later.