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The wind mania
and its climatic consequences

A change in the climatic conditions in Germany - especially in the last **20 years** - is obvious, tangible and noticeable for all people. In addition to the slowly rising average temperatures, it is either the widespread lack of rain or regionally occurring heavy rainfall that is particularly unsettling for people.
Climate change" is generally and sweepingly blamed as the reason for the increase in temperatures as well as weather extremes. Climate change, in turn, is causally justified with the rising content of carbon dioxide in the atmosphere. German and, in part, European politicians only see a way out of the dilemma if the phase-out of fossil fuels is achieved as quickly as possible. Among other things, the use of wind energy is therefore proclaimed as an indispensable pillar for the success of the energy transition, especially in Germany. Wind seems inexhaustible; you can only see it indirectly in the movements of plants or feel it on your skin. When it blows, it is simply there. Energy at zero cost? Not at all! Wind energy is the energy of flowing air masses, and its use affects these flows in a striking way!
However, the effects of the **massive withdrawal of energy** on the wind and thus also on the weather directly associated with the wind (wind is slowed down) are neither questioned nor investigated.

The following article critically examines precisely this question. As a conclusion of this research, it can be stated that the massive intervention in the natural system through the use of wind energy for electricity generation, which has been carried out within the framework of the energy transition, has increasingly unbalanced the natural climatic system.

A critical technology assessment and scientific study of wind energy use, or rather of the effect of the "wind brakes", is more than necessary from this point of view!

Freedom of expression in Germany is enshrined as a fundamental right in Article 5-1 of the Basic Law: "Everyone has the right freely to express and disseminate his or her opinion in speech, writing and pictures and to inform himself or herself without hindrance from generally accessible sources. Freedom of the press and freedom of reporting by radio and film are guaranteed. Censorship does not take place. "
Freedom of opinion and freedom of information are thus also considered central features of a living and functioning democracy. Unfortunately, however, it has gone out of fashion in Germany to want or be allowed to take a critical look at something, especially if it differs from the mainstream.

As the author of this exposé, I am therefore aware that some people will immediately put me in the "denier's corner". However, I can live with that much better than if I had remained silent and stood idly by. I see this exposé as an informative contribution in the hope of initiating an exchange and discussion on this complex topic.

In any case, it is interesting to take an introductory look at what else has changed in the last **20 years:**

- According to the Bodenatlas 2015, every day in Germany alone around 77 ha (corresponding to the area of 100 football pitches) lose their natural function through conversion. Worldwide, 24 billion tonnes of soil are lost every year.
  Global forest areas (approx. 31% of the land area) shrank by around 100 million hectares (**decrease of** approx**. 2.5%**).
- The **CO_2 content in the atmosphere** increased from around 370 ppm to 410 ppm (around **11 % increase**).
- The **world's population** has increased from 6 to 8 billion people (around **33 % increase**).
- **Primary energy consumption** (84.3 % fossil, Germany's share 1.5 %) has increased almost exclusively in the Asian region from around 400 to 600 exajoules (around **50 % increase**).
- The worldwide installed **wind energy capacity** has increased from approx. 17.4 GW to 837 GW (as of the end of 2021), which corresponds to a factor of **48** (**approx. 4,810 % increase**).

Service for quick readers and cross readers:

1. A **model calculation** based on a realised wind park in Africa can be found in the appendix under point 13.1. The result of this calculation shows very impressively how water transport and wind power use are directly connected.
2. Point 9 describes the global water cycle. Here the function of the wind in maintaining the water cycle becomes visible.
3. Point 11.3 describes the real situation of precipitation changes using the example of Paderborn.
4. The other chapters contain important basic information for better understanding.

Short summary:
Without electromagnetic radiation from the gigantic fusion reactor Sun, there would be no light, no heat, no wind and no life on Earth.
The source of the radiation is the energy released during the nuclear fusion of hydrogen into helium, which is sent into space as a radiation mix. When the radiation hits matter, some is absorbed, some is converted into heat, and some is reflected. Through the Earth's atmosphere or the gases that form it, part of the solar radiation is absorbed directly, a large part is reflected back into space and only about half is converted into heat.
To prevent the Earth from heating up because of this process, the same amount of heat must radiate into space as is generated by the radiation. According to the general narrative, it is - precisely this re-radiation into space that is prevented by the so-called greenhouse gases. Greenhouse gases are primarily water vapour, as well as carbon dioxide CO_2, ozone O_3, nitrous oxide N_2O and methane CH_4 .

The radiation on the earth does not occur evenly everywhere, which has the consequence that temperature differences form. The air masses warm up, absorb water as water vapour, rise and draw cooler air to equalise the pressure. This simply creates wind, which transports the water vapour from the sea to the mainland, where it becomes visible as precipitation in the cooler layers of the atmosphere. This atmospheric cycle has mostly functioned safely and smoothly over thousands of years.
In recent years, weather extremes such as local heavy rains or long local droughts are increasingly occurring. A connection between these weather extremes and the use of wind energy seems extremely obvious, as described in detail below.
For example, the number of severe weather events worldwide, such as heavy rain, hail, flooding, etc., has increased continuously since 1990 from around 100 to more than 400 (various sources).
The reason is probably that the wind increasingly lacks the power to evenly distribute the huge masses of water in the air (heavy rain) or to transport them from the sea over land (drought). In the case of drought, the situation is aggravated by the fact that the necessary supersaturation through deceleration, heating and turbulence no longer takes place, and the continuous rainfall fails to occur.

Content

1. Introduction

The topic of climate plays a major role in the political discussion, but also in general. Not a day goes by without the word climate change appearing in the media channels. Driven by greens and climate activists and supported by weather capers and so-called fact checkers, everyone currently sees this topic as a fertile field of activity. Fact-checkers because they often look at facts in isolation and present them as correct and incontestable in the world of information. It is not the supposed facts, but the questions about certain contexts that ultimately bring us further.
Albert Einstein (*1879, †1955) commented:
"***Problems can never be solved with the same way of thinking that created them.*** "

Doomsday hysteria and proposals to save the climate are booming around the world. One of these proposals is the call for a massive expansion of renewable energies and here in **particular wind energy**, without thinking about their adverse climatic consequences for the environment or examining what effects on the environment are or at least could be associated with this in the long term.

To start with: Even if the introduction might suggest it, this article is not about denying anything or glossing over facts. No, it is about important questions and approaches to the topic of wind energy use and possible connections and effects on weather patterns and negative developments in the environment. **The questions themselves are the focus of this article and the reader is called upon to form his or her own opinion.**
All data referred to in this research come from publicly accessible sources. By way of introduction and for better understanding, however, first some important basic explanations.

2. What is climate, what is weather?

Simplified, climate is the average of thermodynamic processes (weather) in the Earth's atmosphere over a longer period of time (at least 30 years according to the World Meteorological Organization), as determined by meteorological methods. [1]
Consequently, the **climate** cannot be changed or influenced in the short term, but the weather possibly can.

It is therefore the totality of all weather events over a long period of time in a larger area (or globally) that is referred to as climate. On our planet Earth, which is about 4.6 billion years old, ice ages alternated with warm periods. For example, in the early Middle Ages we tended to have a small warm period, and in the late Middle Ages up to the 19th century we had a small ice age. In terms of Earth history, we are now living in an ice age. [2]
In any case, it is interesting and worth noting that very large climatic changes took place on Earth in the last 2000 years **before the beginning of industrialisation** - i.e. completely without human intervention - **with an almost constant carbon dioxide content of** around 280 ppm. [3]
Today, however, this fact is usually completely ignored by simply ignoring the pre-industrial period.

With the term **weather,** on the other hand, we describe the current or, in the weather report, the probable coming thermodynamic state of the troposphere in a certain area or region.

3. Energy from the sun

The sun, which is about 150 million km away from the earth, is a huge nuclear fusion reactor in which hydrogen fuses into helium. The energy released by this fusion is emitted into space (in simplified form) in the form of electromagnetic radiation. At the outer edge of the Earth's atmosphere, the radiation power, which was defined as the solar constant in 1982, is around 1,365 W/m² (incident

vertically). However, the earth's sphere is not irradiated evenly, which is why only about 342 W/m² reach the earth as a global annual average. But even this radiation energy, at **173 million GW per hour,** is still enormous and the question arises why we still need so much additional fossil energy on Earth to generate heat. **If we were to get the heat for free, so to speak, and push hot water production through thermal use by means of simple collectors, large amounts of energy could be saved**.
Of the solar radiation energy that reaches the earth in different wavelengths, about 19 % is already absorbed by the atmosphere and clouds. Around 26 % is reflected directly in the atmosphere and 4 % from the Earth's surface and sent back into space. Around 51 % of the incident radiation is used for photosynthesis or is absorbed by the Earth and, in particular, the short-wave radiation is converted into heat (The radiation energy stimulates the atoms to move). We all know the pleasant warmth in spring when the sun shines on our skin, but also the feeling of how quickly it can become cool when the sun is covered by a cloud. But heated objects also give off energy again by emitting radiation. All in all, about the same amount of energy is emitted from the Earth into space every day as is radiated onto the Earth. If this were not the case, the Earth would heat up continuously.
The fact that this does not happen - despite the daily exchange of around 4,156 million gigawatts (4,156,000,000 GW) of energy - is nothing short of a miracle. It is the **lower layers of the troposphere in particular,** and **here especially the water vapour, which prevent the** earth from cooling rapidly by reflecting the emitted thermal radiation. This property is called the greenhouse effect. The water vapour content in the air depends on the temperature. Cold air can only absorb a small amount of water vapour. This is also the reason why, for example, it usually cools down considerably on a windless, cold, and clear winter night.

4. Structure of the atmosphere

To better understand the following relationships, a short excursion into the structure of the air envelope surrounding the Earth is necessary.

In doing so, we will find that the essential events take place in the lower **1 - 1.5 per mille of** the entire air envelope!

If you enter the term "structure of the atmosphere" in an Internet image search engine, you will immediately find a huge number. It is striking that almost all sources show a distorted structure to **scale**. It is well known that images are much more memorable than words or information written in text, and the question arises as to the reason for these distorted representations.

Figure 1 shows the structure of the complete air envelope surrounding the Earth in the actual relations. The indicated heights of the layers vary - depending on the source - e.g., for the tropopause (transition from the troposphere to the stratosphere) between 8 and 18 km, for the mesopause (transition from the mesosphere to the thermosphere) between 80 and 120 km. However, these variations are irrelevant for the following considerations, as these boundaries do not appear as actual boundary layers.

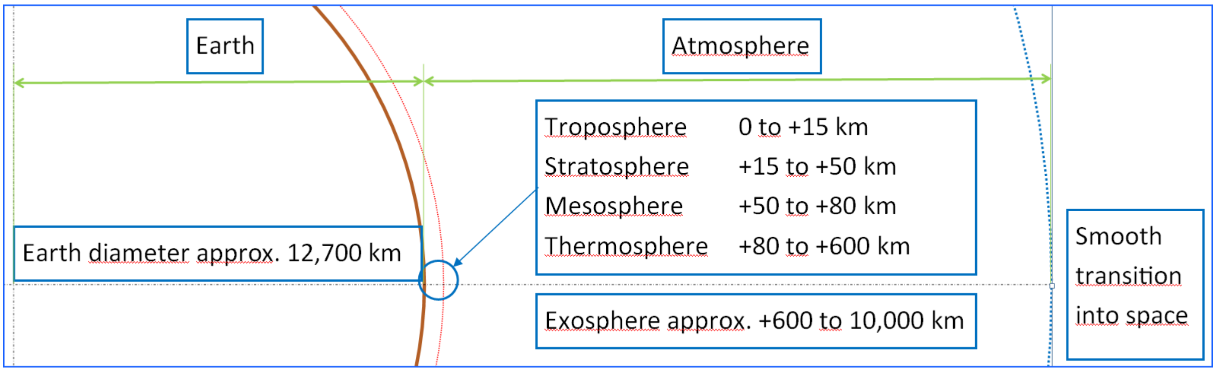


Figure 1: Structure of the atmosphere

The entire atmosphere is therefore a continuous mixture of gases that weighs down on the earth's surface due to gravity and becomes thinner and thinner in density from the bottom to the top. The main gases are nitrogen with approx. 78 %, oxygen with approx. 20 %, noble gases with 1 % and the rest trace gases such as water vapour, carbon dioxide (CO_2), methane (CH_4) and ozone (O_3).

4.1. Exosphere

The outermost and spatially most powerful envelope of the atmosphere is the exosphere. The exosphere merges smoothly into interstellar space, according to the general description. Due to the extremely low gas density and the high intensity of the electromagnetic radiation from the sun, the gas molecules move at high speed and at a great distance due to the very low density. Theoretically, the temperatures would be far above 1000° Celsius, provided there was **appropriate matter there for absorption.** Due to the high UV radiation intensity, all gas molecules are ionised. Electromagnetic rays can pass through the exosphere in all directions without standing. On the sunny side to the Earth and in the shadowed area from the Earth into space.

4.2. Thermosphere

Let's leave the exosphere and look at the thermosphere, i.e., the area between 80 and approx. 600 km above the Earth's surface (**Fig. 2**). The air density here is still very low and the theoretical temperatures are 300 °C at night and about 1500 °C during the day, i.e., conditions like those in the exosphere. Spacecraft and satellites such as the Space Shuttle and the ISS orbit the Earth in the thermosphere. The thermosphere is also no obstacle for electromagnetic radiation. So let's dive further down in the atmosphere, into the mesosphere, i.e. the middle layer between 50 and 80 km altitude.

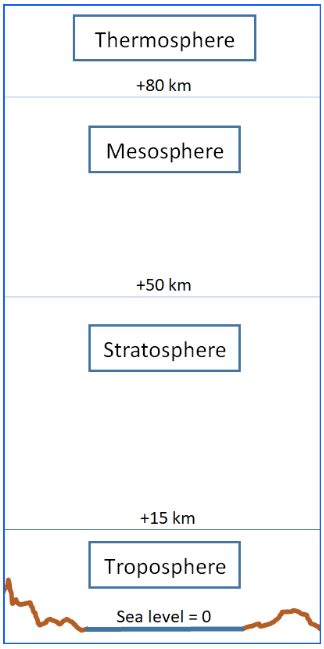


Figure 2: Structure of the lower atmosphere

4.3. Mesosphere

In the mesosphere, the gas envelope slowly begins to become denser. Its density is given as about 1 per mille of the air density at sea level. However, this density is already sufficient to cause smaller meteorites that enter the Earth's gravitational field at very high speed to burn up due to friction, which we can then see as shooting stars. In the mesosphere, it can get as cold as - 100 °C in the higher layers, which is why this layer is considered the coldest layer in the atmosphere.

4.4. Stratosphere

In the stratosphere, the temperature increases from about - 80 °C at the tropopause (layer close to the Earth) to about 0 °C at the stratopause (layer far from the Earth). The vital ozone layer, which is responsible for the temperature increase in the stratosphere, is located in the middle to upper area of the stratosphere. Energy-rich UV radiation from the sun is absorbed here and converted into heat, thus protecting our habitat from harmful UV radiation.

4.5. Troposphere

The troposphere is the thinnest layer spatially, but 80-90% of the total air mass and almost all of the water vapour in the atmosphere is found here. [4]
It is the layer in which we live, our habitat.
This habitat on earth receives the necessary heat from the sun. With increasing altitude (e.g. in the mountains), the temperature decreases further and further to as low as - 80 °C at the tropopause.

But how then can it get warm and stay warm in the lower layer of the troposphere when temperatures as low as -80° C already prevail at an altitude of 10 to 15 km and warm air masses are known to rise? This is where the so-called greenhouse gases come into play.

5. Greenhouse gases

Water vapour is the most important natural greenhouse gas and its **influence on the greenhouse effect is considerably stronger than that of CO_2.** [5] It is this natural greenhouse effect that has made the Earth what it is. A significantly higher water vapour content in the atmosphere could also be responsible for the temperature fluctuations in the pre-industrial age. Without the natural greenhouse effect, the average temperature would be in the double-digit minus range (according to literature, around -18 °C)! According to general narratives, other greenhouse gases besides carbon dioxide are CO_2, ozone O_3, nitrous oxide N_2O and methane CH_4 (see also **point 9. Global water cycle**).

Here, too, the question arises: Why is the water vapour content not taken into account anywhere in all the considerations, although it is known that warm air can absorb considerably more water vapour than cold air? In addition, there is the reinforcing feedback effect: Warm air ⇨ Water vapour increase ⇨ Further warming ⇨ Even higher water vapour content.

Ultimately, the combustion of all substances containing hydrocarbons produces not only CO_2, but also substantial amounts of water vapour. Natural gas consists essentially of methane. When 1 kg of methane (CH_4) is burnt with 4 kg of oxygen (O_2), 2.75 kg of carbon dioxide (CO_2) and 2.25 kg of water (H_2O) are produced. Hydrogen burns exclusively to form water vapour (1 kg of hydrogen burns with 8 kg of oxygen to form 9 kg of water) and here too the question inevitably arises as to whether hydrogen technology can provide a solution for mobility in the future.

For a long time, the global (natural) carbon cycle was considered balanced: The CO_2 released naturally per year (approx. 750 gigatonnes) was also reabsorbed by nature. Since industrialisation, anthropogenic CO_2 (approx. 29 gigatonnes/a) has been added, which is only partially absorbed in the cycle and therefore causes a continuous increase in the atmosphere, according to general narratives and sources.

CO_2 is generally described as by far the most problematic greenhouse gas. In addition to huge natural sources, it is mainly produced by the combustion of fossil fuels such as oil, coal, and natural gas. While the CO_2 content in the air was around 315 ppm in 1960 (**Figure 3**), it rose to around 390 ppm by 2010. Currently, the value is approx. 415 ppm (= 0.0415% vol.). [6]

The focus is on carbon dioxide, as this is the only greenhouse gas whose **concentration** could **presumably be influenced by humans** and thus possibly reduced again.
CO_2 is heavier than oxygen and nitrogen and its content should theoretically be much higher near the Earth than it actually is. However, CO_2 is evenly distributed in the atmosphere, which is good because it makes our life possible. But it is also bad because it makes it difficult to clearly detect the individual polluters.

Note: Despite intensive research, no reliable data on the (altitude-dependent) distribution of CO_2 could be found on the web, although these measurements should actually be easy to carry out. Instead, it is always assumed that the CO_2 concentrations measured at the measuring stations are evenly distributed. Where is the evidence for this? CO_2 is very soluble in water and is washed out of the atmosphere again in large quantities via rainwater. Declining water levels, amounts of snow on the mountains and receding glaciers release additional CO_2. Couldn't this mean that the increase in heat is also partly responsible for the rising CO_2 content in the atmosphere?

Figure 3 shows the development of CO_2 concentration in the atmosphere over the last 60 years. The annual fluctuations are attributed to the temperature-dependent solubility of CO_2 in seawater.

Due to the gaps in knowledge about the spatial origin and distribution of CO_2, is the increase in CO_2 content mainly attributed to the combustion of fossil fuels? Does this mean that the discussions mainly revolve around electricity consumption or its generation, the transport sector and housing?
Couldn't other factors also play a role in the CO_2 increase?

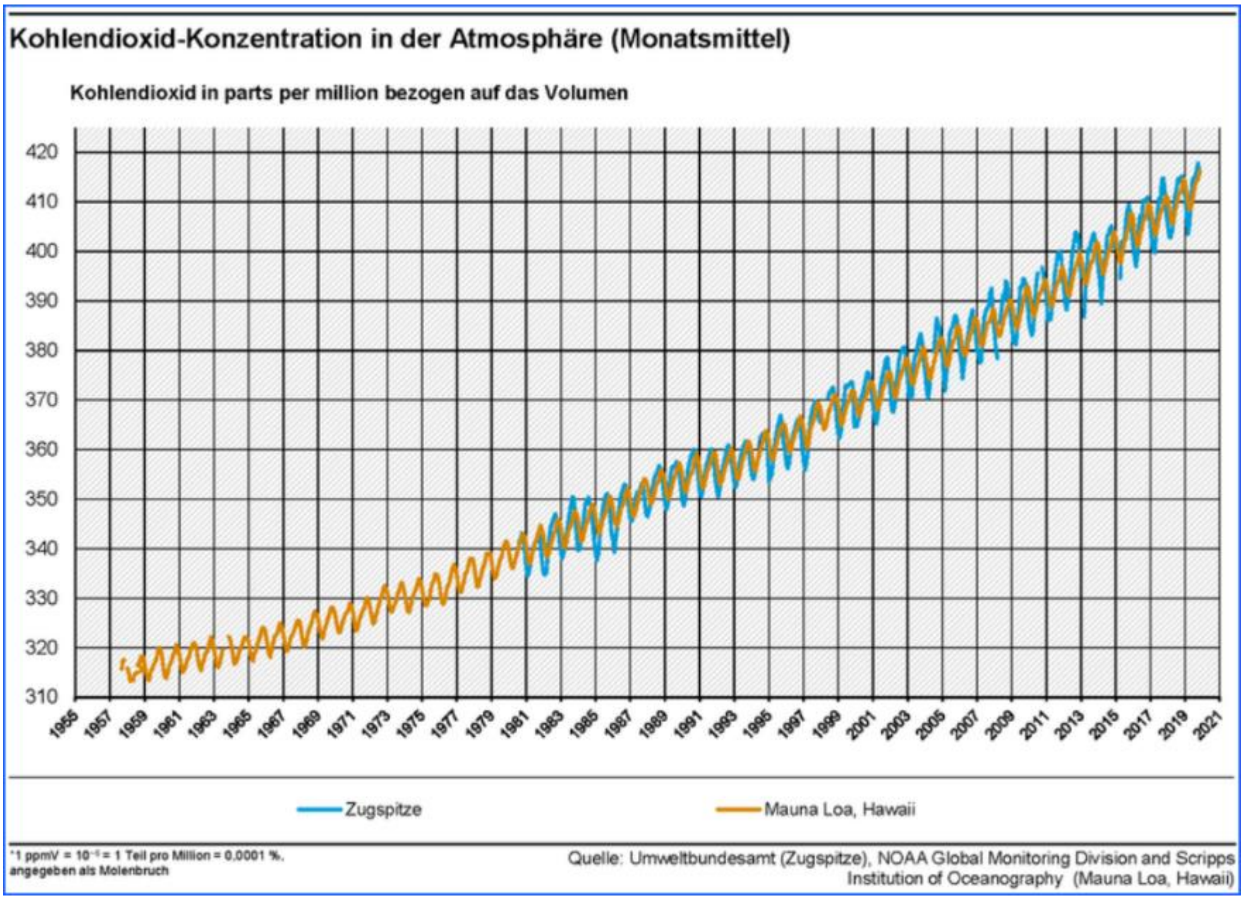
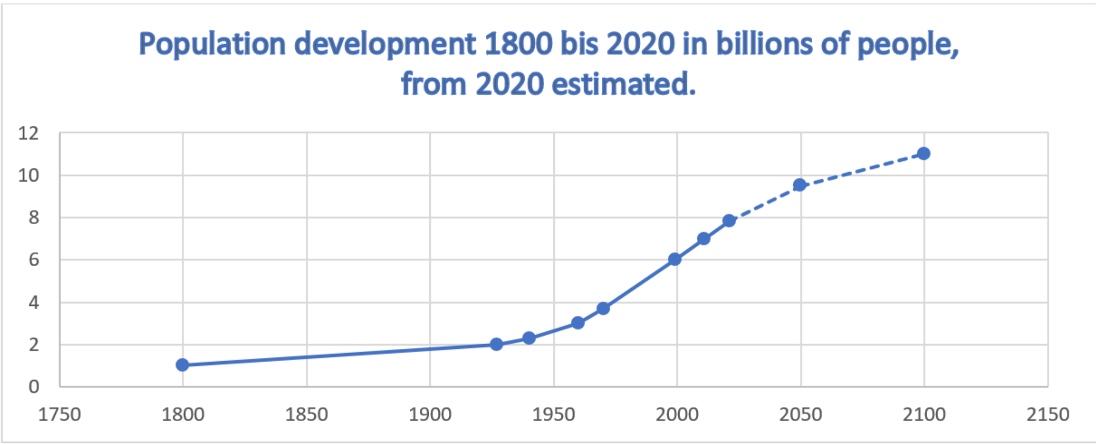


Figure 3: Increase in carbon dioxide concentration in the atmosphere (source UBA)

This is precisely the question that will be explored in the following text. After all, the world is not a place where everything runs according to static guidelines but is highly dynamic.

6. Humanity

Global energy demand (**Figure 6**) is directly linked to technological development **and** population growth (**Figure 4**).



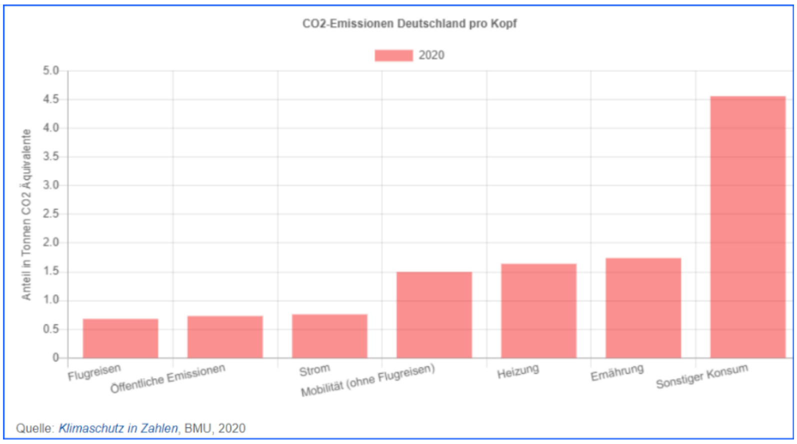
Source: Stiftung Weltbevölkerung (www.dsw.org)

Figure 4: Development of the world population

Industrial society has developed over the **last 150** years. In the same period, the world's population has grown by a **factor of 4-5**, from just over 1.2-1.3 billion people to almost 8 billion people now, **around 3 billion of them in the last 30 years alone**!
The number is growing by around 2.6 people per second, which corresponds to an annual increase of around 80 million, or roughly the population of Germany.

Why is this annual growth not adequately discussed? Why are humans themselves not included in the considerations and, above all, not the production of animal and plant foods, which ultimately also had to grow strongly so that food could be ensured?

The CO_2 emissions of a human being through respiration alone range from around 200 kg/a to 2,000 kg/a, depending on activity and age. [7]
Based on a rough assumption of an average of **1 t/a per person,** this means annual CO_2 emissions of around **8 gigatonnes** (around 1/3 of anthropogenic CO_2!) from **human respiration alone**. Added to this is the production of animal food, which accounts for about 18 % of the total greenhouse gas emissions caused by humans. [8]



The emissions caused by human activity are not even considered here.
If one examines the CO_2 emissions per capita in Germany (**Figure 5**), the emissions caused by electricity consumption account for only a very small share.

Figure 5: CO2 emissions in Germany per capita (Source: Climate Protection in Figures, BMU 2020)

Gigantic deforestation of rainforests and slash-and-burn agriculture (according to the Global Forest Resources Assessment 2020 report, approx. 4.7 million ha per year) and forest fires are added to this, as are the smouldering coal seam fires in coal mining areas, whose annual CO_2 emissions are estimated to be at least four times that of German road traffic. [9]
Coal seam fires smoulder for decades or even centuries and emit incessantly!

According to estimates, forests probably no longer contribute to CO_2 reduction due to fires and deforestation (after all, they cover about 30 % of the mainland area).

All in all, the carbon turnover must therefore inevitably also increase massively, which must also be reflected in the rising CO_2 content in the air.

In view of these facts, why is the focus for CO_2 reduction in Germany so much on the electricity sector? Why have the security and stability of a still very good energy and electricity supply in Germany been carelessly put at risk, even though they are the blood of the economy? If the electricity stops flowing, there will be a collapse. Why is this eminently important topic not duly addressed and discussed in detail in politics, but left to the streets? Why is an entire generation allowed to develop a fear of the future and take to the streets to demonstrate in fear?

As will be shown further below, the important questions are becoming more rather than less!

7. Primary energy consumption

Currently, around **84.3 %** of global primary energy use comes from fossil fuels!
The amount consumed in 2018 was around 584 exajoules or 162,352 terawatt hours TWh (equivalent = 162,352,000,000,000 kWh). If we look at the last 30 years, we see the following:

Between the year **1990** and the year **2020,** global fossil primary energy consumption has increased by **about 50 %** (largely exclusively in Asia), from about **400** to about **600 exajoules!**
Interestingly, however, this is not reflected to the same extent in the CO_2 content of the air, as **Figure 3** (see p. 8) shows. The CO_2 increase over the same period is only 16 - 17%.

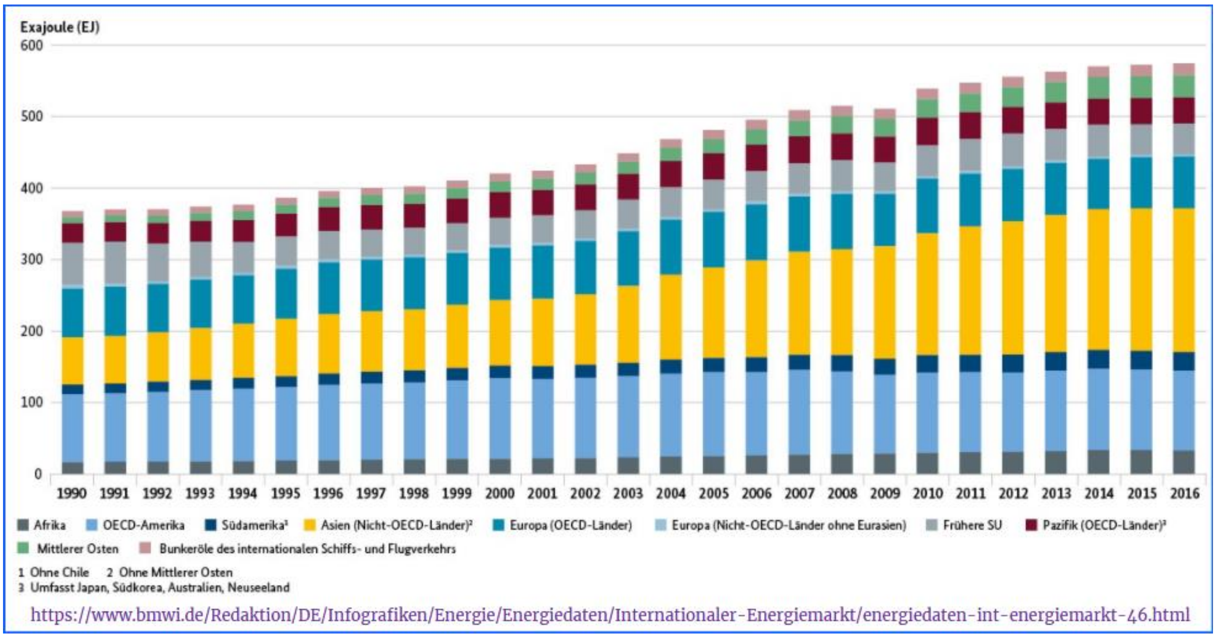


Figure 6: Global primary energy consumption (Source: BMWI)

The graph (**Figure 6**) shows global energy consumption in exajoules by sector. Total energy consumption in Germany fluctuates around 2,500 TWh, which is only about **1.5 % of world energy consumption**. The main consumers are industry and transport, each with about **30 %**. Private households follow with about **25 %** and trade, commerce, and services with **15 %**.

The largely **constant** values in Germany over the **past 30 years are** interesting. Based on these figures, it borders on a denial of reality if people in Germany think, communicate and are sure that they can influence or better save the global climate with regional measures. Of course, we can make a contribution, but it is and remains extremely marginal.

The attitude of a high German court to the planned emission reductions under the Climate Protection Act, which were found to be too low in the ruling, does not change these facts any more than if we were to completely cover Germany with wind turbines.

But you may ask: **Why are temperatures rising everywhere like this? Warming and climate change are a fact and visible every day, aren't they?**

7.1. Primary energy use and infrastructure

Fossil energies are mainly used for heat generation and power production. If one assumes that the efficiency of engines and power plants is around 50 % at best and further takes into account that all the waste heat in the cooling towers or at the consumer is emitted back into the environment as heat, roughly estimated around 2/3 of primary energy consumption ends up as additional heat directly in our troposphere. **With about 400 exajoules, we heat up our atmosphere additionally every year.**
In addition, we increase the earth's surface by building houses, factories, roads etc. all over the world (especially in and around cities). All these facilities heat up due to the daily solar radiation. This additionally increases the short-wave radiation at night.

This development has also increased strongly in the **last 30 years due to pure population growth. Higher air temperatures in turn mean higher water vapour content and thus delayed radiation/cooling at night (feedback effect)!**

The fact that the wind near the ground plays a central role in terms of cooling is completely concealed.

Thus, the next question arises: How do these basic correlations fit with the fact that strongly rising mean area temperatures are observed in many regions? This development should therefore first be scrutinised more closely.

Note:
Weather stations measure weather data at a height of 2 m and register it at fixed times. Even though the stations usually do not change much, the environment around the stations often changes a lot. Massive buildings (heat islands), industry and buildings, roads and e.g., wind turbines can influence weather stations and lead to incorrect values.

8. Area mean temperatures

Area mean temperatures show air temperatures near the ground (2 m height) as a time series. The known data from the recent past are direct measurements.
Let's start with the best-known monitoring station on Mauna Loa in Hawaii. In a scientific study, [10] published in 2011, hourly temperature records from 1977 to 2006 were analysed. The values at 12 noon were compared with those at 0 midnight. The result: During the day, a very slight cooling of -0.014 °/a and at night a very slight warming of 0.040 °/a could be determined. In total, a small warming trend of 0.021 °/a was recorded. The researchers suspected a connection with the CO_2 content but did not fundamentally rule out other influences such as wind, currents, etc., since a clear trend - at least on Mauna Loa - was not discernible, as **Figure 7** shows. [11]

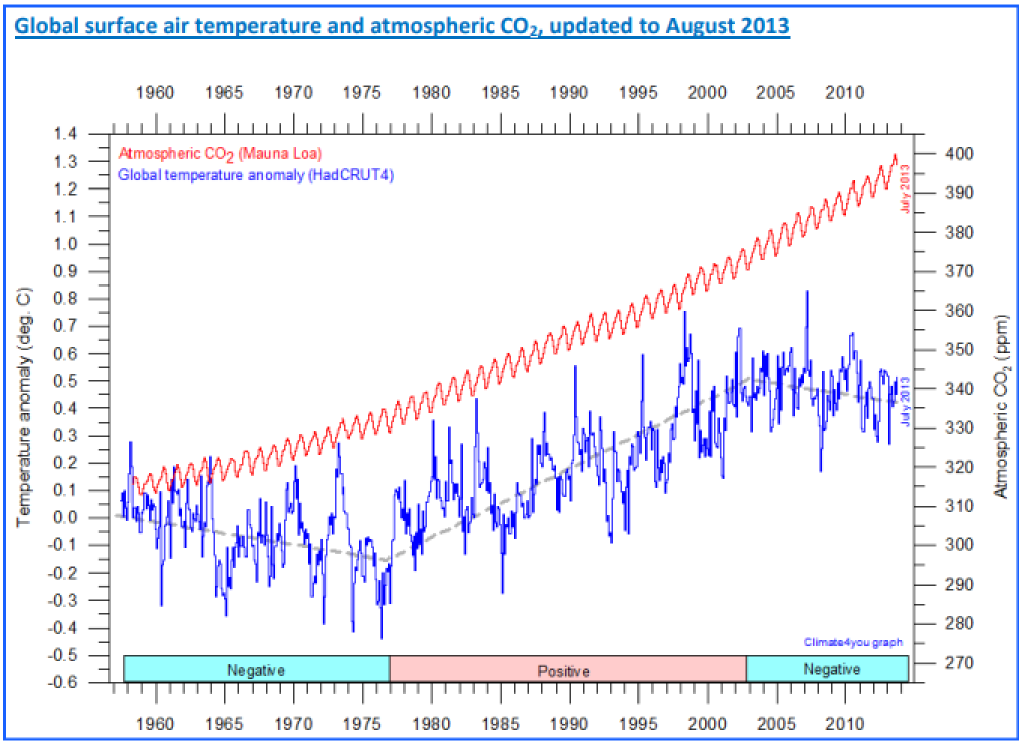


Figure 7: Global temperature fluctuations [11]

How does this fit in with the regionally recorded record average temperatures in other regions?
How does this fit in with the extreme weather conditions occurring in various places, such as heavy rainfall on the one hand or a lack of rain on the other, which are always immediately associated with climate change?
Or could other factors, which have not been considered so far, play a decisive role?

The values for the area mean temperature of Mauna Loa station shown in **Figure 7** are not absolute values, but temperature anomalies. Their determination or, better, estimation is a complex process based on the data of about 39,000 weather stations, whose distribution over the earth is not homogeneous and cannot be homogeneous either since most of the stations are not located in the same area [12] and cannot be homogeneous either, since most of the stations are on land. However, land only accounts for about 30 % of the Earth's surface. Nevertheless, regional mean temperatures over land are often regarded and evaluated as globally valid data.

Current data in **Germany** can also be found, for example, in the Climate Monitor Report published at the end of 2021. [13]

On page 24 of this report, area mean temperatures were given for three regions. The Mosel-Sieg region is shown here as an example (**Figure 8**). In the left chart, which reflects the actual temperature course, a linear black trend line was drawn by the authors. The black trend line suggests that there has been a continuous temperature increase over 90 years, which is definitely not correct. The green line in the right chart rather shows the actual course.

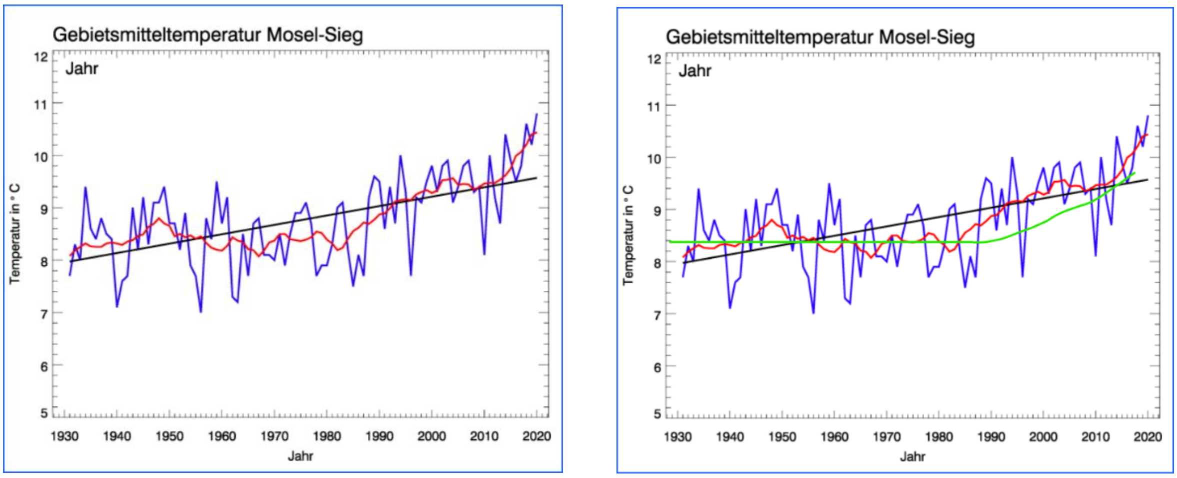


Figure 8: Area mean temperature | Left linear (?) trend as black line, right actual trend as green line. [13]

According to this, the temperature has remained constant for about 60 years. Only from about 1990 / 2000 onwards is a continuous increase clearly discernible. This observation can also be derived from other records and regions worldwide and the question inevitably arises: **What has changed so much on our planet in the last 30 years and what could explain these increases?** Obviously, it cannot be the rising CO_2 levels alone. The massive increase in the world's population over the last 30 years has already been pointed out, as has the massive increase in primary energy consumption and the associated increase in waste heat. Are there other possible causes?

An increasing number of extreme weather events, such as intense, prolonged regional heat with no rain, or heavy rainfall events with flooding, indicate that something must have changed. Both extremes are usually immediately associated with man-made climate change. Demands are made for an immediate reduction of CO_2 emissions as part of the energy transition towards so-called renewable energies. However, anyone who has read this far carefully will probably realise that sustainable changes in CO_2 concentrations are hardly realistically possible under global conditions.
Wind energy is proclaimed as one of these so-called ecological measures and its expansion is massively demanded and promoted. For many - especially among the proponents of wind power - wind is considered free and an inexhaustible source of energy. But hardly anyone here asks the question of how ecological and sustainable the use of wind energy is.
Or vice versa: can wind energy use also have harmful effects? After all, we should know that if someone somewhere gains, someone else loses or this happens at the expense of others. To be able to assess the answer to this question, we first have to look at the global water cycle.

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9. Global water cycle

The global water cycle (**Figure 9**) describes the circulation of water on a global and regional level. [14] The basic principle is based on the fact that water can easily change its state of aggregation. Simplified, the circulation of water begins at the sea surface, where large quantities of water evaporate, rise as water vapour into the troposphere and are carried away by the wind. With increasing altitude, it becomes colder, the water vapour condenses and clouds form. The denser the clouds become, the more water they contain. As the clouds continue to rise and cool, rain or snow falls. **Figure 9** shows the global water cycle in rough figures - it is simply impossible to determine exactly. According to generally accessible sources on the global water cycle, approx. 470,000 - 480,000 km³ of water evaporate over the oceans every year (for comparison, the volume of Lake Constance is approx. 50 km³). Only about **7-8 % of** these water masses - corresponding to about 40,000 km³ - arrive over the mainland in the form of clouds, the rest rains back down over the sea. Approximately the same amount of water flows back into the sea via the rivers. This cycle has functioned stably for centuries, and it is undisputedly true that the sun and wind are the basis for this functioning water cycle.

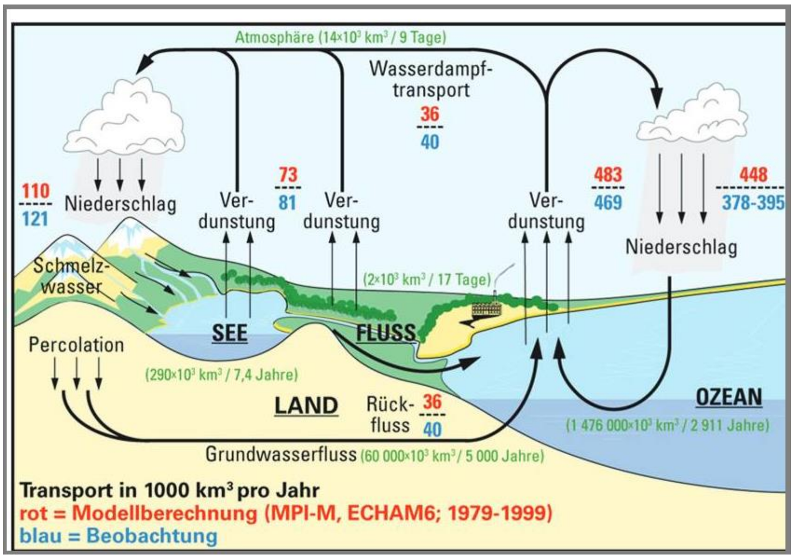


Figure 9: Global water cycle [14]

As an interim result, it can be stated that wind arises as a result of the pressure equalisation between high-pressure and low-pressure weather conditions. Only a **fraction of the global wind** (consider water/land distribution) transports **7-8 % of the water vapour or water-containing clouds over the mainland, over which these clouds and water masses must be transported over thousands of km and distributed widely and evenly.**

To be able to do this, the wind must be free to do its job!
And this is exactly where the problem lies:
Nowadays, wind is only seen as a virtually inexhaustible source of energy and no one thinks about its main functions, namely the transport of water vapour and its distribution, cooling and temperature equalisation in the troposphere. **See also the model calculation in the appendix under point 13.1!**

10. Wind

About 70% of the earth's surface is covered by water and only about 30% is land. The solar energy radiating onto the earth leads to stronger warming on the land surfaces than on the water. In addition, in the equatorial region the radiation hits the earth's surface perpendicularly and thus the warming is much more pronounced than at the poles with flat irradiation. This leads to unequal temperatures of the water surfaces and the land surfaces and thus also to unequal heating of the air. Warm air can absorb more water vapour than cold air. Due to the heating, the volume increases and the air rises and displaces colder air, which in turn flows back down somewhere. In higher layers, the warm air cools down quickly, water vapour condenses and forms clouds. This is how high- and low-pressure areas are formed. The pressure differences are balanced out by wind, the direction of which is determined by

the Coriolis force caused by the Earth's rotation. This is particularly noticeable at the water/land interfaces, where the temperature differences / pressure differences and thus the pressure equalisation are strongest. Global wind systems and wind belts will not be discussed further here, as they are only of secondary importance for the following considerations.
It is known, however, that there have always been windless and windy areas on land due to the relationships described above. The windy areas, wind corridors, coasts, mountain ranges and high altitudes are also sought-after locations for the erection of **wind** turbines, because wind turbines require a constant minimum wind speed of 4-5 m/s for economic operation.

In the Global Wind Atlas (**Figure 10**), wind speeds are shown very clearly: The darker the red areas, the higher the wind speeds. [15]

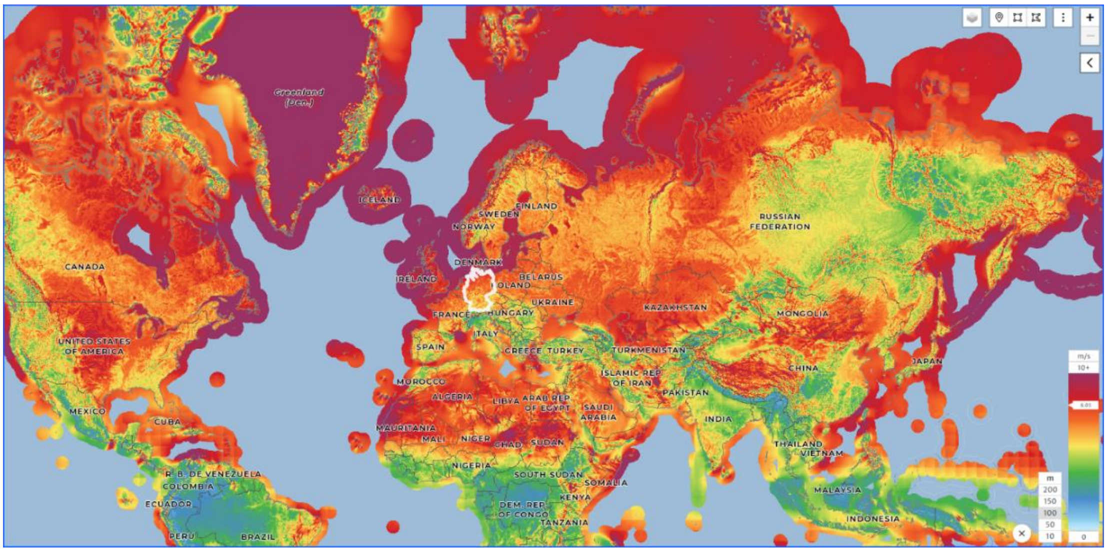


Figure 10: Wind speeds by region (source Global Wind Atlas) [15]

Wind turbines convert the kinetic energy of the wind into electrical energy. According to general physics, the kinetic energy of flowing air (E_{kin}) is half the product of mass (m) and velocity (v) squared:
$\mathbf{E_{kin} = \frac{1}{2} m*v^2}$.
The air mass (m) is the product of the flow volume (V) and the density (ρ): **m = V*ρ**. Since the air mass cannot change when passing the wind turbine, the **energy generation** results from **the decrease of the velocity of the flowing air mass**. A wind turbine can only convert part of the kinetic energy of the wind, because otherwise it would come to a standstill.

11. Wind energy

The energy of the wind is not infinite, as many people think. If energy is extracted from it by wind turbines (WKA), it is slowed down. Since the mass flowing through the turbine remains the same, the speed must be reduced to generate energy (see the formulas above). The wind speed after a wind turbine is therefore much lower than before the wind turbine! The influence of a single wind turbine can certainly be neglected. The situation is completely different for a wind farm. The braking function cannot be determined directly, as the wind still blows after the turbine, but is energetically strongly reduced and swirled.

Can the wind thus still fulfil its tasks - namely the transport of water vapour and the distribution of clouds - as it should?

A study by the Helmholtz Centre Hereon in June 21 investigated whether neighbouring offshore wind turbines can slow each other down. [16]

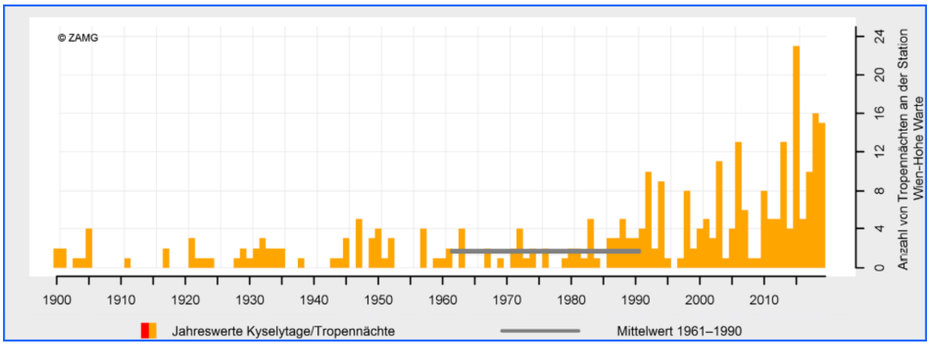
As a conclusion, it was found that the airflow in a large wind farm slows down and this effect reaches on average 35 to 40 km - up to 100 km in certain weather conditions.

Further calculations on the movement of the wind over the North Sea showed that the braking effect of the wind farms reaches very far, especially in stable weather conditions (March and April). The comparison with real measurements showed that the researchers were correct with their calculations.

The fact is, however, that wind farms are not isolated, but usually cover a large area.
As a consequence of this flow disturbance, there is either drought and a lack of water (too little water vapour is transported from the sea over the mainland, the sea air is mixed with warm mainland air and there is no condensation and thus no rain) or heavy rain (the wind lacks the power to distribute larger water masses evenly over the land, which can lead to local torrential rain if there are large amounts of water in the clouds).

Low-pressure and high-pressure areas that are stuck for a long time are also likely to be an effect of wind brakes (which wind turbines definitely are), as are the increasing area mean temperatures or the rising temperatures in cities, as shown in the following examples.

11.1. Example Vienna



The Austrian capital Vienna has operated a weather station on the Hohe Warte since 1872. In the Climate Review 2019, the adjacent graph can be found **(Figure 11)**. [17]

Figure 11: Number of tropical nights in Vienna (Source: Climate Review 2019) [17]

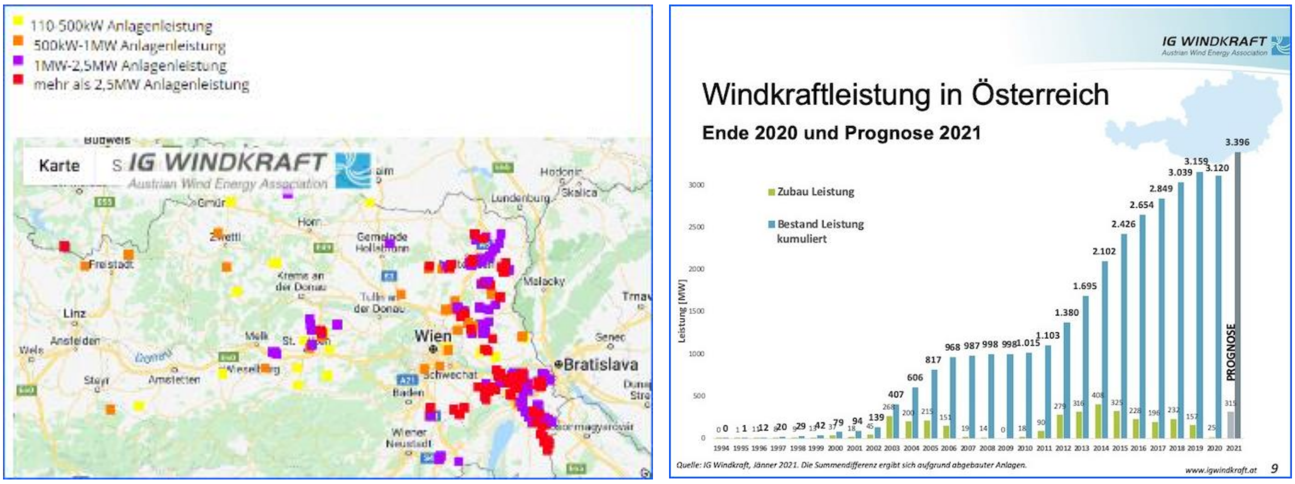


Figure 12: Placement of wind turbines around Vienna (left) and expansion of wind turbines in Austria (right) (Source: IG Windkraft)

Up to the year 1990 / 2000, no abnormalities were noticeable. In the last 20 years, however, tropical nights have increased strongly. The Austrian capital Vienna is and was known as a draughty city. Today, when driving past Vienna in the direction of Hungary, one immediately notices a huge number of wind turbines spread over a large area. After all, wind turbines are erected where the wind blows continuously and at a high speed. **Figure 12** shows the locations and turbine capacities of the wind farms around Vienna.

Comparing **Figure 12** with the expansion of wind power on the right to **Figure 11 of** tropical nights, it is noticeable that from 1995 to 2000 there is only a slight increase, until 2010/12 a moderate increase and from around 2012 a clear increase, **both in tropical nights and in the number of wind turbines**. Although Figure 12 covers the whole of Austria, by far the most wind turbines were erected in the area around Vienna, so that this error has only a marginal effect, if any.

Is this correlation between wind turbine expansion and temperature increase just pure coincidence? Or could it also be that the increasing number of tropical nights is the result of slower cooling due to decreasing wind, which is known to strongly support cooling?

11.2. Example Germany

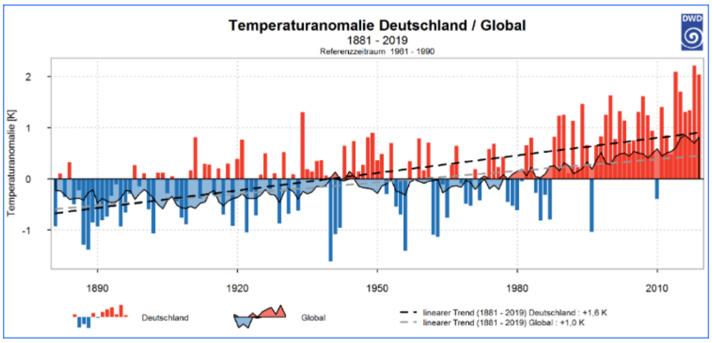


Figure 13: Temperature anomaly Germany / Global (Source DWD) [19.)]

In 2020, the German Weather Service DWD published an interesting paper on the temperature development in Germany in a global context. [19] Conclusion: The observed temperature increase over land in **Germany was, at + 0.37° C/a, more than twice as** pronounced as the global average of + 0.18° C/a (**Figure 13**).

The last 30 years are particularly striking in this development. How this strong increase can possibly be explained or attributed to what was left open in the DWD article. Another graph can be found on the website of the Free University of Berlin. Here the land temperature and the combined land-ocean temperature are compared **(Figure 14)**. [20]

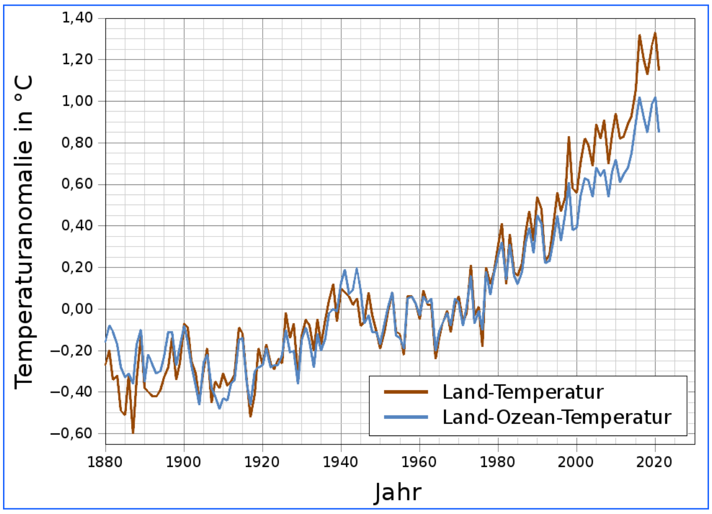


Figure 14: Mean temperature anomaly land/water [20].

Here, too, it is striking that the two curves have only drifted apart in the last 30 years.
Since the land surfaces on Earth only make up **one third,** and the composition of the atmosphere is the same everywhere, **the answer to this question must be found on land**. Also, the answer to the question why Germany has just such high values, and that combined with a continuously rising trend.

A conclusive explanation for this is likely to be the use of wind power.

Finally, wind farms are not built in the oceans, but near the coast or on the mainland. By 2007, Germany land had the highest installed wind power capacity in the world with over 22 GW. [21]

At the end of 2020, the value was already over 63 GW and according to the plans of politicians, wind power capacity in Germany should already exceed 90 GW by 2030. [22]

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A further strong rise in temperature thus seems pre-programmed. And, it must be emphasised here, this temperature rise has nothing whatsoever to do with the CO_2 content of the atmosphere and also nothing to do with harbingers of the often-cited climate change. **It is a man-made temperature rise that is simply due to the fact that massive amounts of energy have been removed from the natural wind system and natural convection has been permanently disrupted.**

11.3. Example Paderborn

Before we are left high and dry" is the title of a report describing the adaptation strategies of Wasserwerke Paderborn GmbH to a changed precipitation trend (**Figure 15**). [23] The long-term average over 30 years (green bar on the left) served as the starting point. Since 2008 in particular, there has been a precipitation deficit in the Paderborn region - with the exception of 2017.

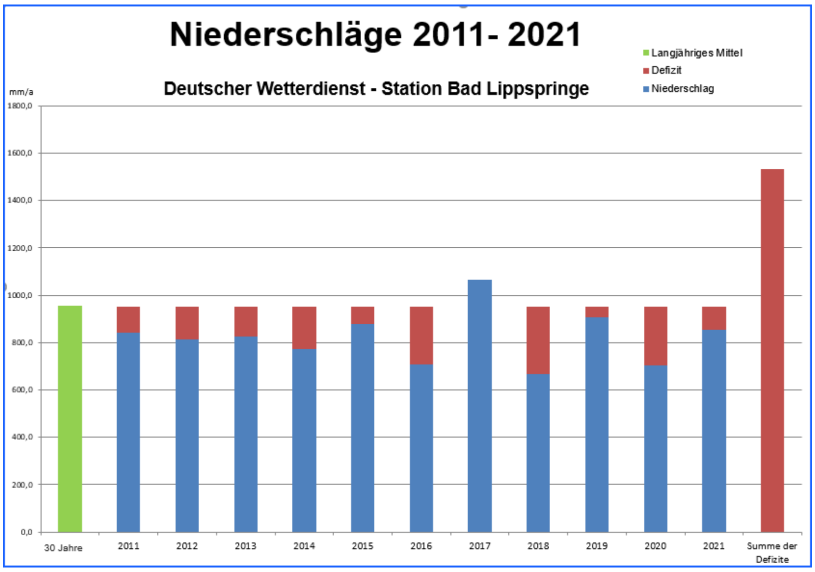

Figure 15: Precipitation deficits (source Wasserwerke Paderborn GmbH) [23].

In total, the annual deficits over 10 years amount to more than 1.5 times the mean annual precipitation.

What is striking about Figure 15 is that a slight trend towards lower annual precipitation is discernible over the years. However, these data are not yet meaningful enough for a long-term and reliable forecast, and possible causes for the changes in precipitation were not addressed in the report. **The author concludes, however, with the assumption that the topic of precipitation changes will probably remain a topic for the future**. And he could be right about that.

If one looks at the development of wind farms in the Paderborn area (**Figure 16**), the direct connection is also obvious here, which further proves the effects already discussed. The Paderborn district will have 140.6 MW of wind power in 2021.

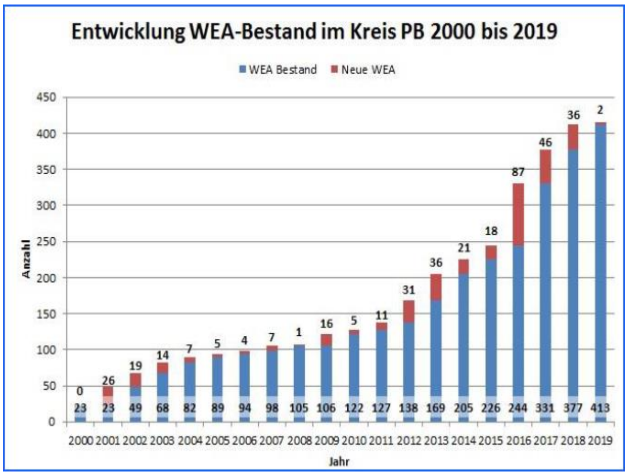

Figure 16: Development of wind turbines (Source ARSU, Tim Aussieker [25]

Kreis/ kreisfreie Stadt	WEA Inbetriebnahmen im Jahr 2020 Anlagen	WEA Inbetriebnahmen im Jahr 2020 Leistung [MW]	Genehmigte WEA (Stand 31.01.2021) Anlagen	Genehmigte WEA (Stand 31.01.2021) Leistung [MW]
Borken	7	20,5	10	47,8
Coesfeld	5	18,0	24	96,2
Düren	3	9,6	28	119,3
Euskirchen	2	4,7	10	40,8
Gütersloh	1	3,6		
Hamm			2	7,0
Heinsberg	5	21,3	3	13,5
Hochsauerlandkreis	22	90,8	23	91,2
Höxter			4	14,4
Kleve			7	29,4
Lippe	7	20,3	16	61,4
Märkischer Kreis			8	22,7
Minden-Lübbecke	4	12,8	6	18,3
Mönchengladbach, Stadt			1	5,7
Münster			3	9,7
Paderborn	18	40,5	39	140,6
Recklinghausen	3	11,3	5	21,5
Rhein-Kreis Neuss			13	59,7
Siegen-Wittgenstein			9	31,5
Soest			4	18,0

Figure 17: WKA in NRW (source www.fachagentur-windenergie.de) [26]

Another particularly meaningful figure is the installation density or capacity per area. The district of Paderborn is in third place here (as of 31.12.2021) in the absolute top field in Germany with **811 kW/km².** Higher installation densities are only found in the Schleswig-Holstein districts of Nordfriesland with 1,052 kW/km² and Dithmarschen with 1,300 kW/km². [26]
In the same report, the future wind turbine capacity (as of 24.01.2022) for the district of Paderborn is given as 250.1 MW instead of 140.6 MW (**Figure 17**) and the number as 64 instead of 39 (**Figure 17**).

You don't need to be a fortune teller to be able to estimate what effects a 77 % increase in wind turbines is likely to have on the development of precipitation in Paderborn and beyond. In any case, not good ones!

11.4. Wind power worldwide

Worldwide, wind energy use currently stands at just under 837 GW (as of the end of 2021). Germany's share is currently only 8.5 %. The frontrunners in 2022 are China and the USA. As the curve shows, a steep upward trend is currently underway. The capacity installed from the first plants until 2010 (around 200 GW) has almost quadrupled in the last 10 years.

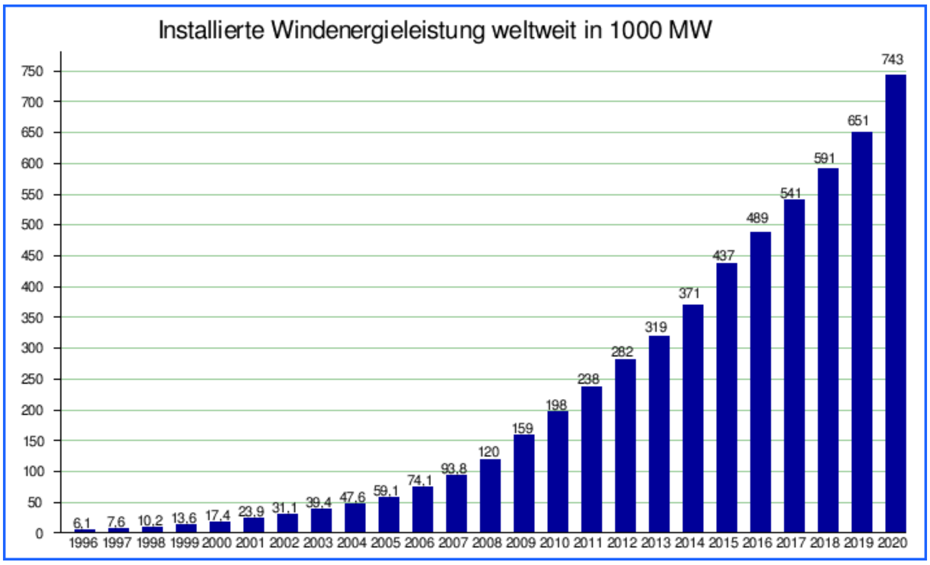

Figure 18: Development of wind turbines worldwide (source Wikipedia) [22]

But this is only the beginning of the flagpole. Optimists see the achievable European offshore wind expansion potential in 2030 at at least 64 GW, i.e., roughly the current total German wind capacity. [27]

Extensive papers on the expansion of wind power present economic studies on the possible financial return and make recommendations for policy action without even considering the ecological and climatic consequences.

I am coming to the end of the literature review here, although many examples of the enormous climatic effects that presumably already exist are not yet described. In the appendix, further examples are described that are also likely to be causally related to the use of wind power, as are the following:

- In May 2020, a wind farm with 55 turbines and 99 MW went into operation on Vancouver Island (British Columbia). In the summer of 2021, a heat record was noted in British Columbia in Lytton (wind to cool down was missing). In 2021 and 2022, there were several floods on Vancouver Island (rain clouds stop on the island and no longer reach the mainland).
- More and more wind turbines are being built on Australia's east coast. Large-scale off-shore plants are now also planned. However, the record floods of 2022 in this region are clearly being blamed on climate change and this is even being used as an argument that the expansion of wind turbines must be accelerated. But it is likely to be a consequence of this?
- Durban/South Africa: Mudslide due to heavy rain, around 350 dead, Durban is located on the east coast exactly in the area of the highest wind turbines in the region.

- The list could be continued endlessly. Critics of these lines will not want to believe it. **But they have to ask themselves why, for example, the strongholds of wind turbines (China / USA / Australia and Germany) are at the centre of the catastrophes.**

Conclusion

At the beginning of 2022, we are not at the end of the energy turnaround, but still at the very beginning or tween. If all coal-fired power plants are to be taken off the grid as planned, according to information from research circles, twice the number of wind turbines will be needed in Germany alone. [28] To this end, all the sites still available somewhere and somehow will certainly be developed and the existing ones expanded even more. Baden-Württemberg alone wants to build 1000 additional wind turbines by 2026. In addition to the climatic impacts mentioned here, the effects of wind turbines on birds and insects are already enormous: around 8 % of the population of buzzards already die annually at wind turbines in northern Germany. In addition, there are 250,000 bats and billions of insects. [18].

Is this what a sustainable form of energy looks like?

12. Epilogue

I have been professionally connected with water for 35 years. In this respect, I have been observing developments in precipitation, groundwater recharge, water qualities, the environment, the climate, etc. for decades.
The basis is a critical mind and an attitude not to believe everything said and written without contradiction, but to question everything, especially the mainstream. I always become sceptical especially when the most diverse problems that arise are always attributed to the same cause.

And this is exactly what this literature review is intended to do. All sources are publicly accessible and cited. The findings, correlations and conclusions presented here may be wrong, they may all be coincidences, but they may also be 100% correct, which is more likely to be the case.

I leave it up to the readers, i.e. you, to find the right answer. I am also available for serious discussion via the email address below.

Manfred Brugger

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13. Appendix - Wind and shadow sides - all just coincidences?

13.1. Model calculation

The following model calculation is based on realistic estimated values. The inaccuracy can be +/- 20%. The aim here is not to determine absolute values. Rather, realistic reference values are to be determined to make the dimensions more tangible. The values from the example in point 13.2, the Turkana Wind Farm, serve as a basis.

The total output of this wind farm is given as **310 MW.** Assuming an efficiency of max. **30%** for the conversion of wind energy (kinetic energy) into electrical energy incl. flow losses due to turbulence, this results in a required wind power of **1033 MW** (310 MW/0.3=1.0335 MW) or **$3.719*10^{12}$ Ws** ($1.033*10^6$ W * 3600 s = $3.7188*10^{12}$ Ws) in one hour.

The average wind speed in this area is given as 11.4 m/s. It is assumed that the wind speed is reduced by approx. 50%, to 5.4 m/s.
These leaves 6 m/s available for energy conversion. As already described, the kinetic energy of the flowing air mass is calculated according to the formula **$E_{kin} = ½ m*v^2$**. To be able to determine the flowing air mass **m**, the formula is converted: **$m = 2*E_{kin} /v^2$**.

This results in the required mass of wind being **$m = 206.6 *10^9$** kg
($2*3.719 * 10^{12}$ Ws/6^2 m²/s² -> 1 WS = 1J = 1 kgm²/s²).

Based on an altitude of 900 m above sea level, an air temperature of 20 °C and a relative humidity of 70 %, the air density is approx. 1.06 kg/m³. The air volume decelerated by the wind turbines is **$194.9 * 10^9$ m³** ($206.6 *10^9$ kg / 1.06 kg/m³).

The water content of the air in the above data is around 12 g/m³. This results in a considerable, **untransported amount of water of $2.34 *10^9$ l** ($194.9 * 10^9$ m³ * 12g/m³ = approx. 2,338,900,000,000 g = 2,338,900,000 l = 2,338,900 m³). This amount of water corresponds to the annual consumption of a city with about 35,000-40,000 inhabitants! **And that per operating hour!**

With one day of continuous operation of the wind farm at Lake Turkana, this means 56,160,000 m³, in one year 20.5 km³ of water not transported!

If this is extended to the currently installed 837 GW - i.e. 2700 times this model calculation - and assuming that all wind turbines run in parallel, the total would be gigantic: **55,345.7 km³,** which is already more than the amount that currently rains down globally on the mainland every year.

Now that the insane and ill-conceived development of wind power use is far from over, the problems that can currently be observed will increase massively. And these man-made problems cannot be blamed on climate change.
This is a race with open sights into the abyss!

Note:
I have added
this model calculation (which I hope is correct) because I had to realise during discussions that very few people could not and cannot imagine these gigantic dimensions and their effects at all.

Perhaps this can create a basis for making ideology-free decisions on a factual basis again.

13.2. "Our wells hardly give any water" - Ostkenia - 22.06.2022

The following appeal for donations by the German Welthungerhilfe dated 22.06.2022 states that there has been no or hardly any rain in the region (Marsabit in Kenya) for two years. Marsabit is located about 150 km east of the southern shore of Lake Turkana (200 km north of the equator) at an altitude of about 1000 m.

Sehr geehrter Herr Brugger, **22.06.2022**

als ich Saado mit ihrem Sohn Askari traf, sah ich die Augen einer verzweifelten Mutter, voller Angst, das eigene Kind nicht mehr ernähren zu können. Die beiden waren so geschwächt, dass sie den Weg zur nächsten Wasserstelle nicht mehr schafften. Sie lebten nur noch von dem, was ihre Nachbarn entbehren können.

Die Lage in Ostafrika ist dramatisch: Über 15 Millionen Menschen in Kenia, Äthiopien und Somalia leiden an Hunger, darunter 5 Millionen Kinder. Seit 2 Jahren bleibt der erhoffte Regen in vielen Regionen fast ganz aus – es ist eine der schwersten Dürren seit 40 Jahren. Die Felder vertrocknen und können nicht bewirtschaftet werden. Das Vieh findet keine Weiden. So nimmt die Dürre den Menschen ihre Lebensgrundlage. Wir müssen schnell handeln, sonst droht in vielen Regionen eine verheerende Hungersnot.

Saado haben wir Trinkwasser und Lebensmittel sowie einen nahrhaften Brei für ihren Sohn geben können. Einen defekten Brunnen in der Nähe konnte unser Team reparieren. Mit solchen Maßnahmen helfen wir bereits jetzt in Ostafrika und versorgen die Menschen in den am schwersten betroffenen Orten mit dem Nötigsten. Dafür leisten Sie mit Ihrer regelmäßigen Spende einen sehr wertvollen Beitrag. Vielen Dank! **Doch um unsere Hilfe auszuweiten und so eine Katastrophe abzuwenden, bitte ich Sie dringend um Ihre zusätzliche Unterstützung.**

Ihre Asenath Niva

Asenath Niva
Landesbüro Kenia

ONLINE SPENDEN

Since 2015, 365 wind turbines with a capacity of 850 kW each (total capacity approx. 310 MW) have been erected in the so-called Turkana Wind Corridor. There, a low jet stream blows with wind speeds around 11.4 m/s on average. The main driver is the pressure gradient between the sea and the Sahara. **The turbines were only gradually put into operation from the end of 2018, as a more than 400 km long connection line to the power grid still had to be built in parallel. Since 2019, the plants have been generating just under 15% of Kenya's electricity needs. According to the above information, it has not rained in the region since then. Is that what is meant by sustainable development?** The wind farm is said to be the largest in Africa and the largest private investment in Kenya's history. The European Union has granted a loan of 180 million euros for the wind farm. Kenya wants to increase the share of wind energy to 2000 MW by 2030.

Sources:
https://www.energieleben.at/der-groesste-windpark-afrikas-in-kenia/

https://ltwp.co.ke/

https://w3.windmesse.de/windenergie/news/29711-kenia-afrika-windpark-lake-turkana-vestas-strom-mix-erneuerbare-energie-windenergie-windgeschwindigkeit

13.3. Heatwave and floods: How climate change is affecting China - 26.06.2022

Reporting: Over 40 degrees Celsius in the north, floods in the south: China is hit by two natural disasters at the same time. Both are signs of climate change, which the government wants to counter with record investments in renewable energies.

In China these days, one can observe the different ways in which nature can rage. In the south of the country, torrential floods are tearing entire cities from the ground, and several hundred thousand people have already had to leave their homes. At the same time, the north of the country is experiencing a particularly severe heat wave. In some places, the asphalt of entire streets broke open as if after an earthquake. No wonder: Some weather stations measured more than 40 degrees in the afternoon sun......

..... For a long time, however, the government dismissed the consequences of climate change as a kind of luxury problem. Everything was subordinated to economic advancement, which was always also overexploitation of nature. The energy-hungry economy has long since consumed more coal than the rest of the world combined. But China is not only the biggest polluter, it is also the leading investor in renewable energies.

China is installing new wind turbines and solar cells at breathtaking speed. According to a state think tank, around 156 gigawatts of capacity are to be added in the current year alone. This would represent another 25 percent increase after the record year of 2021.

Source: Redaktionsnetzwerk Deutschland - https://www.rnd.de/wissen/china-hitze-und-ueber-schwemmungen-machen-dem-land-zu-schaffen-NQS53YEI6NH77DMI2EOY6Y23HM.html

Info:
At the end of 2021, 837 GW of capacity was installed worldwide by wind energy (onshore & off-shore), 338 GW of which in China. Heavy rain on the coasts and drought inland - exactly the effects described in the report. With a further expansion of wind turbines, the effects will become even more devastating!

Source: https://www.wind-energie.de/themen/zahlen-und-fakten/international/

13.4. Weather manipulation / Artificial rain. Common for 70 years | ZDF- 21.07.2021

The ZDF/Terra X clip reports on human manipulation of the weather: https://youtu.be/1DrLuI1sWnw

The clip shows that it does not take very many measures (here using silver iodide as an example) to be able to influence the weather regionally.

13.5. Can hydrogen be "green"? Spectrum 09.07.2022

When I read this report, I could only shake my head at the madness.

https://www.spektrum.de/news/gruener-wasserstoff-wettlauf-der-wuestenstaaten/2037880

Startseite » IT/Tech » Grüner Wasserstoff: Wettlauf der Wüstenstaaten

News
09.07.2022
Lesedauer ca. 7 Minuten
Drucken
Teilen

GRÜNER WASSERSTOFF

Wettlauf der Wüstenstaaten

In Saudi-Arabien und Namibia entstehen gigantische Produktionsanlagen für grünen Wasserstoff. Deutschland ist als Partner beteiligt. Doch auch der neue Energieträger birgt Risiken.

von Annika Brohm

© NARVIKK / GETTY IMAGES / ISTOCK (AUSSCHNITT)

Auch Staaten, die bisher auf dem Energiemarkt keine Rolle spielen, können mit Wind- und Solarenergie zu Wasserstofflieferanten werden.

According to the report, gigantic hydrogen production plants are to be built in Saudi Arabia and Namibia of all places. Both countries are known to be water-scarce regions.

The production of ultrapure water by reverse osmosis, e.g. from seawater, is possible, but it consumes enormous amounts of energy, the return of the concentrates places an enormous burden on the marine ecology, a huge amount of membrane modules (waste) is required and highly complex water treatment technology is needed.
And all this just to secure our individual mobility? Few people know that, and again, no one is talking about this madness. Hydrogen shares are already considered gold by speculators.

The combustion of one kg of hydrogen with 8 kg of oxygen produces 9 kg of water vapour. Water vapour has a much greater impact on the climate than CO2!

And everywhere Germany is among the leaders. Being at the top is not the problem, not questioning anything, that is the problem! No one will be held responsible for the coming and emerging massive problems.
And above all: No one in politics takes this information seriously. The hamster wheel effect has fully kicked in: for fear of the climate catastrophe and the end of the world, there is no view of the whole!

13.6. Colorado River ORF 26.07.2022


MILLIONEN ABHÄNGIG

Colorado River schwindet im Zeitraffer

Satellitenbilder der NASA zeigen den starken Schwund des Colorado River, der rund 40 Millionen Menschen in sieben US-Bundesstaaten versorgt. Für ein Gegensteuern bleibt kaum mehr Zeit. Fachleute sprechen von einer Klimakatastrophe für die USA.

26. Juli 2022, 23.06 Uhr

Teilen

AP/John Locher

Source: https://orf.at/stories/3278078/?utm_source=pocket-newtab-global-de-DE

There is nothing to add to this report. The cause is not climate change, but the thousands of wind turbines on the Rocky Mountains.

14. Further information and sources worth reading

- Jürgen Langeheine: Energiepolitik in Deutschland, ATHENEMEDIA
- Herbert Niederhausen (ed.): Generationenprojekt Energiewende